



Transnet SOC Limited
T/A Transnet Capital Projects

REQUEST FOR QUOTATION

TFR RME RFQ BOARD
TRANSNET FREIGHT RAIL RME
XXXXXX
XXXXXX

Registration Number: 1990/000900/06
Vat Number : 4720103177

Attention:
TFR RME BOARD
Telephone Number :
Fax Number :
Vendor Number :500000

Quotation Deadline Date : 07.08.2013
Quotation Deadline Time : 12H00

REQUEST for QUOTATION
Transnet Capital Projects
RFQ Number / Date
6000168367 / 25.07.2013
Contact Person / Telephone
Anne Mongie / 031 361 1759
Return to VAX Number/EMAIL
0318300001 / TCPtendersDurban@Transnet.net

"PREVIEW COPY ONLY"

Item	Material	Description	RFQ Qty	UoM	Required Del date	Confirm Del date	Unit Price Excl	Total Price Excl
00010		Supply and Deliver low	1	ea	21.08.2013			
Supply and Deliver low voltage switch board (KIOSK2) as per attached drawing and spec.								
00020		Supply and Deliver low	1	ea	21.08.2013			
Supply and Deliver low voltage switch board (KIOSK3) as per attached drawing and spec.								
00030		Supply and Deliver low	1	ea	21.08.2013			
Supply and Deliver low voltage switch board (KIOSK 4) as per attached drawing and Spec.								



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Item	Material	Description	RFQ Qty	UoM	Required Del date	Confirm Del date	Unit Price Excl	Total Price Excl
00040		Supply and Deliver low	1	ea	21.08.2013			
Supply and Deliver low voltage switch board (KIOSK 5) as per attached drawing and spec								
00050		Supply and Deliver low		ea	21.08.2013			

Supply and Deliver low voltage switch board (KIOSK 6) as per attached drawing and Spec
 FOR MORE INFORMATION CALL SITHEMBISO ON 0832797442

Transnet Limited t/a Transnet Freight Rail RME Durban, hereby invite you to supply a separate detailed quote to supply the above material.
 All technical queries to be directed to :
 Sithembiso on 0832797442
 All procurement queries to be directed to Anne on:031-361 1759
 E-mail : anne.mongie@transnet.net

The closing time for receipt of quotes are :
 7 August 2013 at 12h00. Telephonic and late quotes will not be accepted.
 All quotes should be submitted in our tender box at Queens Warehouse 237 Mahatma Gandhi rd (Point rd) or alternatively faxed to 031-361 1783 or mailed to :
 TCPtendersDurban@transnet.net



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The following details should appear on your sealed envelope :
 "Supply and Delivery of Switchboards"

The supplier's address and contact details must be clear.

Please supply the following documents with every quotation submitted:

Copy of latest BBBEE and Tax Clearance certificates

Failing to submit any of the above documents could result in your quotation being disqualified/not accepted.

Note : Transnet may not necessarily accept the lowest or any other offer and reserves the right to select in its favor any or, a portion of any offer made.

If you are unable to quote, please submit a "NO QUOTE" with a short reason.

Otherwise we look forward to receiving your quote by the date and time stated.

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 T/A Transnet Capital Projects
 TFR RME RFQ BOARD
 TRANSNET FREIGHT RAIL RME
 XXXXXX
 XXXXXX
 0000

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 Fax Number :
 Vendor Number :500000

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Quotation Deadline Time : 12H00

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Transnet Capital Projects

RFQ Number / Date

6000168367 / 25.07.2013

Contact Person / Telephone

Anne Mongie / 031 361 1759

Return to VAX Number/EMAIL

0318300001 / TCPtendersDurban@Transnet.net

Delivery Address

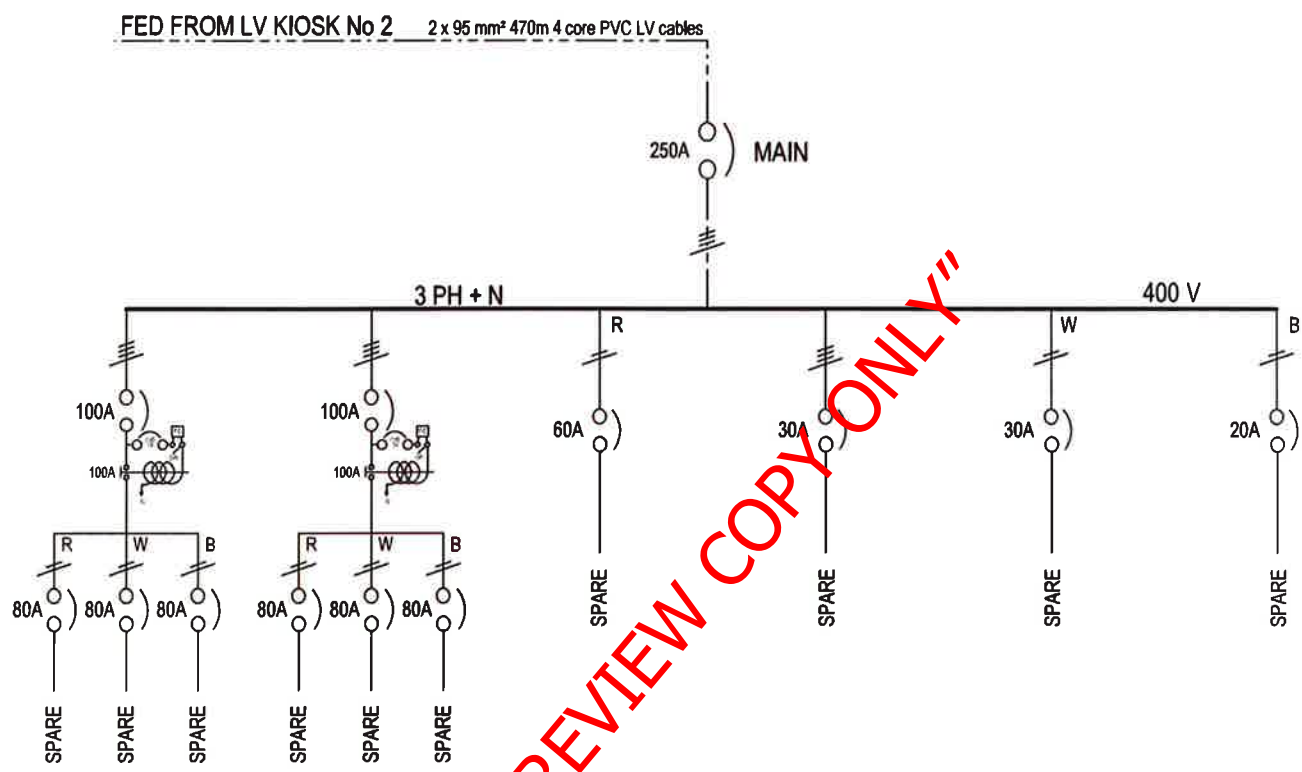
This RFQ is subject to the following conditions:

1. Price/s : The price/s quoted in SA currency and is excluding of V.A.T
2. Delivery : The price/s quoted should include delivery cost to the delivery address stated on the RFQ
3. Returnables : A valid tax clearance certificate and BBBEE certificate from a SA/AS accredited verification agency attached to quotation for all quotes above R30 000.
Please note that only the official Transnet RFQ will be accepted and all other correspondence to be attached to the original
4. Safety : To confirm to Transnet Capital Projects Health & Safety plan and specification; HAS-std-0001, copy available on request.
5. Confirmation: To confirm your participation in this tender process please sign and return this document as immediate effect prior to the quotation deadline.
6. Negotiations: The Employer may elect to negotiate the final terms of the contract/order with the preferred tenderer in accordance with Clauses F.2.17 and F.3.13 of the CIDB Standard Conditions of Tender. A copy of which is available upon request.

 Signature

 Date

Req: 10332396



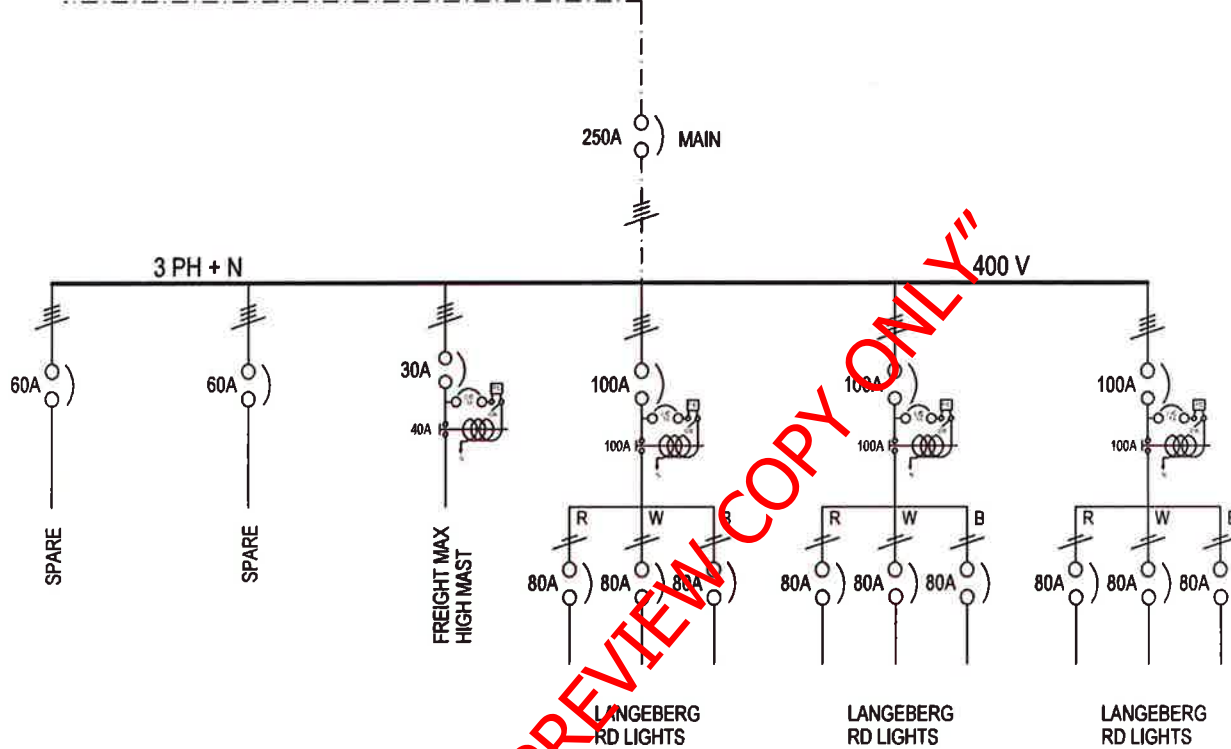
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LEGEND	
	CONTACTOR AND PHOTOCELL
	CIRCUIT BREAKER

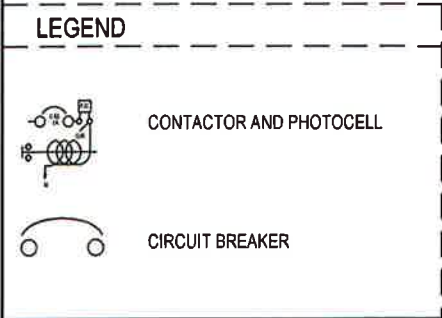
Notes		
REF	SCALE NTS	DRN S S GAMBUSHE
CKD	ENG	DATE:
ASSISTANT PORT ENGINEER ELECTRICAL PORT OF DURBAN		 <small>national ports authority</small>
PORT OF DURBAN		
PORT OF DURBAN KINGSREST YARD KIOSK No 6		
DRAWING NO. DHE- PED - 063 SHEET 5 Rev 0		


Req: 10332395

FED FROM LV KIOSK No 3 2 x 95 mm² 240m 4 core PVC LV cable



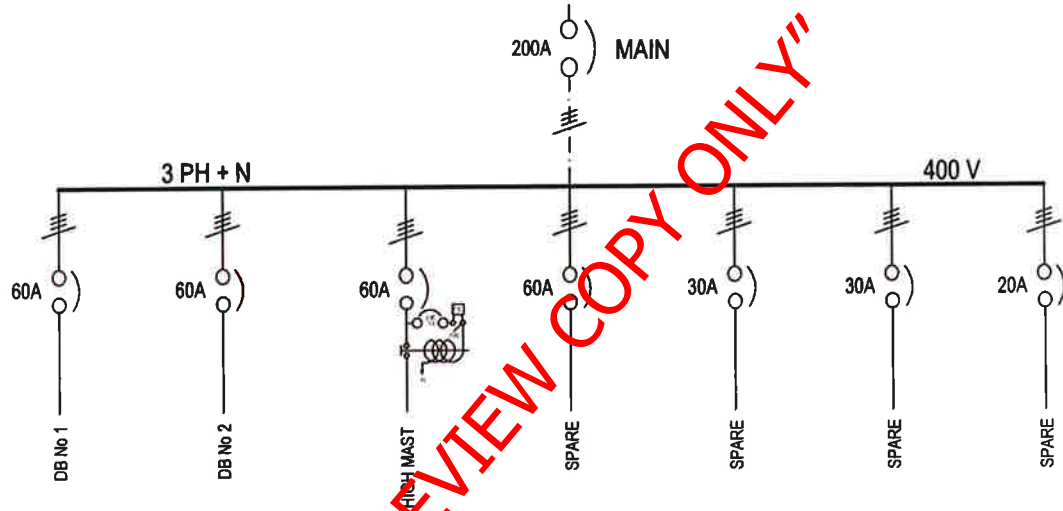
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Notes		
REF	SCALE NTS	DRN S S GAMBUSHE
CKD	ENG	DATE:
ASSISTANT PORT ENGINEER ELECTRICAL PORT OF DURBAN		 national ports authority
PORT OF DURBAN		
PORT OF DURBAN FREIGHT MAX KIOSK No 5		
DRAWING NO. DHE- PED - 063 Sheet 5 Rev 0		

Req: 1033 2394

FED FROM BHD RD MINI SUBSTATION 2 x 95 mm² 780m 4 core PVC LV cables



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LEGEND



CONTACTOR AND PHOTOCELL

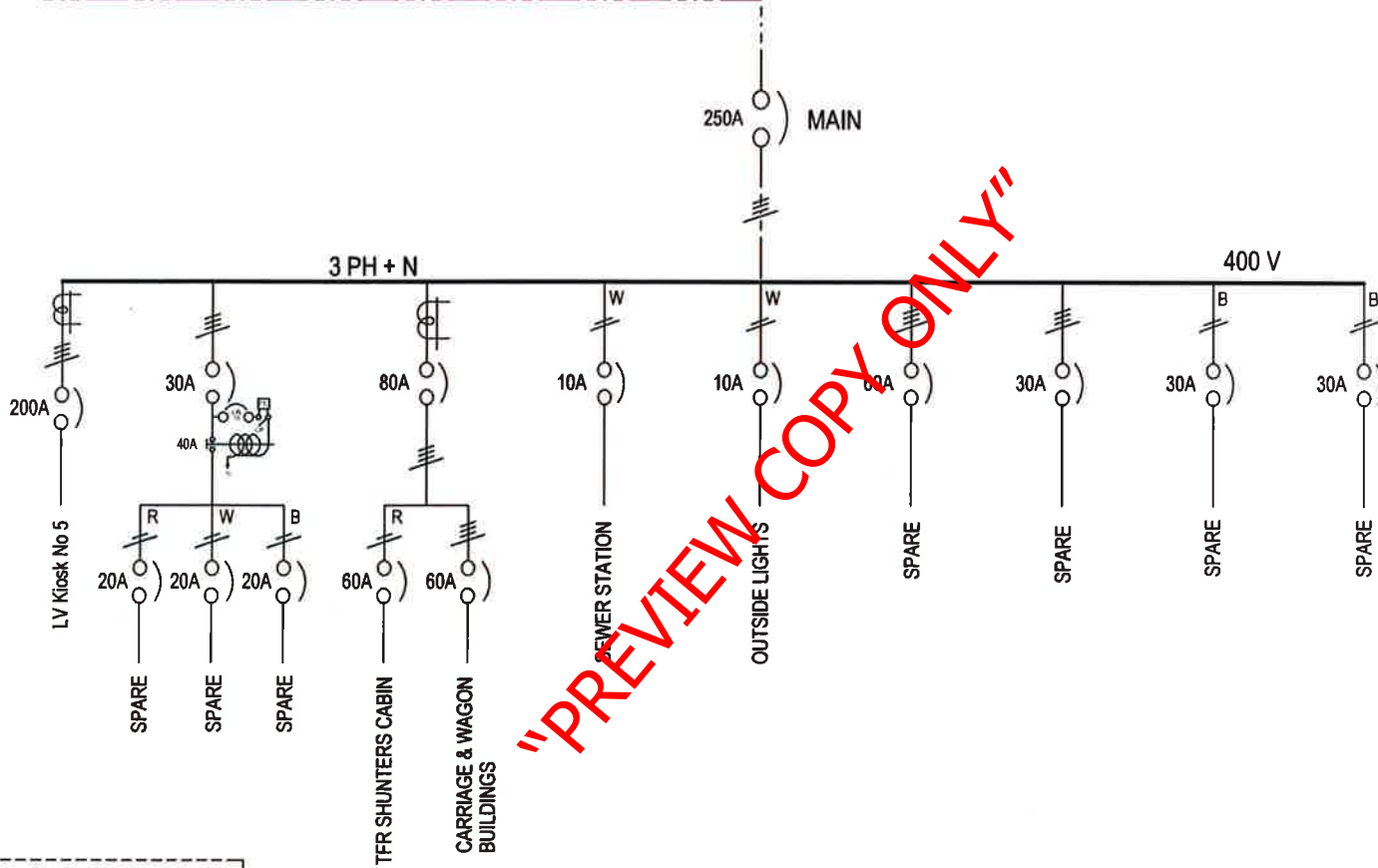


CIRCUIT BREAKER




Notes		
REF	SCALE NTS	DRN S S GAMBUSHE
CKD	ENG	DATE:
<small>ASSISTANT PORT ENGINEER ELECTRICAL PORT OF DURBAN</small>		 <small>national ports authority</small>
PORT OF DURBAN		
PORT OF DURBAN KRY NORTH END KIOSK No 4		
DRAWING NO.	DHE- PED - 063 Sheet 4 Rev 0	


Ref 10332393

FED FROM BHD RD MINI SUBSTATION 2 x 95 mm² 540m 4 core PVC LV cables



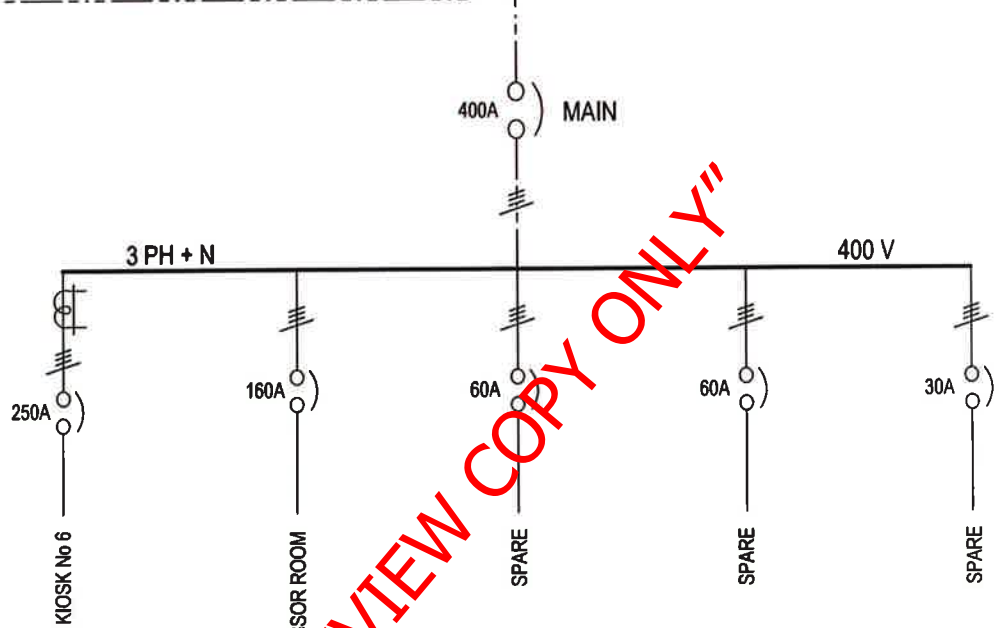
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LEGEND	
	ENERGY METER
	CONTACTOR AND PHOTOCELL
	CIRCUIT BREAKER



Notes		
REF	SCALE NTS	DRN S S GAMBUSHE
CKD	ENG	DATE:
ASSISTANT PORT ENGINEER ELECTRICAL PORT OF DURBAN		 national ports authority
PORT OF DURBAN		
PORT OF DURBAN KRY SOUTH END KIOSK No 3		
DRAWING NO.	DHE- PED - 063 Sheet 3 Rev 0	


Ref: 10332392

FED FROM BHD RD MINI SUBSTATION 2 x 95 mm² 700m 4 core PVC LV cables



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LEGEND	
	ENERGY METER
	CIRCUIT BREAKER

Notes		
REF	SCALE NTS	DRN S S GAMBUSHE
CKD	ENG	DATE:
ASSISTANT PORT ENGINEER ELECTRICAL PORT OF DURBAN		 national ports authority
PORT OF DURBAN		
PORT OF DURBAN KINGSREST YARD KIOSK No 2		
DRAWING NO.	DHE- PED - 063 Sheet 2 Rev 0	

TRANSNET



*national ports
authority*

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ELECTRICAL ENGINEERING
SPECIFICATION No. DHE D2-01-12
SPECIFICATION FOR THE PROVISION OF
LOW VOLTAGE SWITCHBOARDS
IN THE PORT OF DURBAN

THIS SPECIFICATION SUPERSEDES ALL OTHER ISSUES

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1. SCOPE

- 1.1 This specification covers TNPA requirements for the supply of low voltage distribution board consisting air circuit breakers, moulded case circuit breakers and auxiliary equipment.

2. REFERENCES

- 2.1 The following publications (latest edition) are referred to herein:-

2.1.1 SOUTH AFRICAN BUREAU OF STANDARDS Codes of Practice

- SANS 064 - Code of Practice for the preparation of steel.
SANS 0111 - Code of Practice for Electrical Drawings.
SANS 0142-1 - Code of practice for the wiring of premises.

Specifications

- SANS 1507 - Electric cables with extruded solid dielectric insulation for fixed installations
SANS 150 - Polyvinyl Chloride (PVC) insulated electrical cables and flexible cords
SANS 152 - Low voltage air-break disconnects, air-break switch dis-connecters and fuse combination units.
SANS 156 - Moulded-case circuit breakers
SANS 172 - Cartridge type fuse-links for LV fuses
SANS 1091 - National colour standards for paint.
SANS 1092 - Contactors
SANS 1195 - Busbars.
SANS 1274 - Coating applied by the powder coating process
SANS 1299 - Direct acting indicating electrical measuring instruments
SANS IEC 60044-1 - Current transformers.
SANS IEC 60947-4-1 - Contactors

2.1.2 INTERNATIONAL ELECTROTECHNICAL COMMISSION

- SANS IEC 60947-1 Degrees of protection of enclosures for low-voltage switchgear and control gear.
SABS IEC 60947-2 Switchgear and control gear for voltages up to and including 1 000 V AC and 1 200 V DC.
SANS IEC 60439-2 Busbars and busbar connections.
SANS IEC 60439-1 Factory-built assemblies of low-voltage switch gear and control gear

3. APPENDICES

The following appendices form an integral part of this specification:-

3.1 Appendix 1 Technical Data Sheet.

This appendix calls for specific technical information to be furnished with tenders.

3.1.1 Equipment offered in this appendix shall be supplied in terms of this specification and no changes or substitutes will be allowed without the written consent from TNPA.

3.1.2 Acceptance by a TNPA Electrical Engineer of the equipment offered in this appendix, in no way relieves the tenderer of his obligation to fulfil his statement of compliance with the specification.

3.1.3 Failure to complete this appendix may result in a tender being rejected.

3.2 Appendix 2 Schedule of Requirements

This appendix details special requirements.

3.3 Appendix 3 Electrical Drawings

This appendix lists the electrical drawings.

3.4 Appendix 4 Statement of Compliance

This Appendix shall be signed by tenderers at the time of tendering. Failure to do so may result in a tender being rejected.

4. METHOD OF TENDERING

4.1 Tenderers shall submit their main offers in accordance with the requirements of this specification. Deviations from the requirements of this specification which are of a minor nature and do not depart materially, will be considered at the discretion of the Electrical Engineer for TNPA, Port of Durban. The acceptance of alternative tenders will be considered only if a main tender is submitted.

4.1.1 Escalation may only be claimed for contracts with a duration in excess of 12 months.

4.1.2 TNPA will only accept tenders willing to comply with TNPA basic conditions of contract and payment.

4.1.3 Tenders must sign the tender document where indicated.

4.2 A statement to the effect that the equipment is in compliance with this specification or otherwise shall be furnished in APPENDIX 4.

- 4.3 The "Technical Data Sheet" forming Appendix 2 of this specification shall be completed in detail, for each offer. Alternative offers shall be clearly marked "Alternative Offer No. _____".
- 4.4 All Technical Data Sheets shall be signed by the Tenderer and returned as part of the Tender document.
- 4.5 All documents forming part of the Tender shall be firmly bound. No loose documents will be considered.
- 4.6 Failure to comply with the above requirements may preclude a tender from consideration.

5. SERVICE CONDITIONS

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

5.1.1 Ambient / Environment Conditions :

Altitude	:	Sea level.
Ambient temperature	:	-5°C to +40°C (daily average +35 °C).
Relative humidity	:	As high as 80%.
Lightning conditions	:	Severe, with a maximum lightning ground flash density of 11 flashes per km ² p/A.
Atmosphere	:	Salt laden and corrosive industrial atmosphere.

5.1.2 Electrical Conditions :

- 5.1.2.1 The system of supply will be three phase, 4 wire, 50 Hz alternating current with earthed neutral at a nominal voltage of 400 / 230V.
- 5.1.2.2 The voltage may vary within the range of 95% to 105% of the nominal and all equipment installed shall be suitably rated.

6. DRAWINGS AND INSTRUCTION MANUALS

- 6.1 All drawings shall be in accordance with SANS 0111.
- 6.2 The successful tenderer shall supply the following instruction manuals, all of which shall be included in the tender price and be to the satisfaction of TNPA.
- 6.2.1 TWO (2) sets of detailed drawings and instruction manuals, with illustrations where necessary and 2 sets of prints of the "As made" General Arrangement drawings and the schematic and wiring diagrams to facilitate erection and adjustment of the switchgear.

- 6.2.2 These instruction manuals and drawings shall be supplied as soon as possible after placing of the order, but before delivery of the equipment.
- 6.3 Preliminary drawings shall be submitted 2 weeks after receipt of order. Allowance must be made for at least 5 working days for the approval of drawings. Construction shall not commence until approval has been obtained.
- 6.4 Until all relevant drawings called for in the contract are delivered the contract will be considered incomplete.

7. STANDARD OF WORK, EQUIPMENT & MATERIALS

- 7.1 The distribution board shall conform to the requirements of the latest edition and amendments of SANS 0142 part 1 Code of Practice for the Wiring of Premises and any additional requirements thereto, described in this specification.
- 7.2 All equipment and material used shall be of high quality and the work shall be of a high standard of workmanship carried out by qualified staff under proper supervision by experienced and competent officers.

8. DISTRIBUTION BOARDS

- 8.1 The distribution board shall be of the multiple type and shall comply with IEC Publication 439.
- 8.2 The degree of protection shall be IP 54 to IEC Publication 144.
- 8.3 The distribution board shall consist of either a framework of substantial steel sections covered with heavy gauge steel plates or of folded sheet steel sections, forming a robust construction. (minimum thickness of sheet steel 2mm).
- 8.4 The board shall be so designed that a separate compartment (wireway) is provided between each section (zone) of the board, the board shall allow easy access to any one compartment (control units, wiring, etc.). This shall be possible by means of hinged or removable panels, secured to the framework by captive type screws or latches.
- 8.5 The board shall have a separate hinged or removable front cover secured to the board by means of suitable captive type screws or bolts. When the cover is removed / opened, easy access to that compartments components and wiring shall be possible.
- 8.5.1 The control units shall be mounted flush with the front cover so that only the operating handles protrude.
- 8.5.2 Large removable panels shall be supplied with handles for easy handling.
- 8.5.3 No possibility should exist for panels to come into contact with live parts.

- 8.6 The board shall be equipped with a set of 3 phase and neutral copper busbars. The 3 phase busbars shall be continuously rated for the full load of the incoming supply switch. The neutral shall not be less than 50% of the phase busbars.
- 8.6.1 All busbars shall be designed, manufactured, marked and tested in accordance with SANS 1195
- 8.7 The busbars shall be adequately braced and supported and shall be covered with a sufficient number of layers of high quality insulating tape or heat shrinkable sleeving and finished in standard colours.
- 8.7.1 Where busbar joints and terminations have not been covered, a kit must be provided for covering during installation.
- 8.8 Alternatively, busbars shall be suitable enclosed in a busbar chamber or behind a protective barrier for protection against inadvertent contact with "live" busbars with access panels removed.
- 8.9 Inter-connectors between the busbars and control units shall be by means of fully insulated, adequately rated conductors firmly bolted to the busbar and secured to the appropriate terminals of the control units using crimped-on terminal lugs. Solid flat conductors shall be used if the rating exceeds 200 A or if the fault current exceeds 10kA rating.
- 8.10 The other terminals of the incoming and outgoing panel units shall be connected by means of conductors conforming to clause 8.9, i.e. they shall be robust, insulated, easily accessible terminals, of adequate size, conveniently located in the distribution board near the incoming and outgoing cable entries but with sufficient clearance and space to enable the incoming and outgoing cables to be connected to their corresponding terminals without difficulty or strain.
- 8.11 All the outgoing connections of M.C.C.B'S greater than 60 amp 3 phase shall be done by means of copper bus bars, securely clamped using approved busbar clamping insulators, fixed to a robust metal section of adequate size, conveniently located in the rear of the distribution board, to enable the incoming cables to be terminated in the back of the distribution board cubical behind each respective M.C.C..B.
This is to allow for the easy termination of the larger incoming cables, with sufficient clearance and space to enable the outgoing cables to be connected to their corresponding busbar terminals without difficulty or strain to the M.C.C.B'S.
- 8.12 Outgoing cables tails that connect to the busbars in clauses 8.11 will have securing places to enable the cable to be secured with nylon type cable fasteners in an approved manner.
- 8.13 The busbars that protrude into the back compartment of the distribution board shall be covered with a perspex type barrier and shall have danger signs on each section.
- 8.14 All cable entries shall be from the bottom of the distribution board unless stated otherwise. Glands shall not be less than 300mm above floor level, unless otherwise stated.

- 8.15 The terminals of all incoming and outgoing cables shall be firmly connected to the terminals on the lugs or ferrules, unless they are of a type that will grip the cable without splaying the strands of the conductor.
- 8.16 A substantial earthing terminal shall be firmly attached to the metal work of the distribution board and connected to an earth bar of cross sectional area not less than 50% of the phase bars, running the full length of the distribution board to which all earthing conductors of the incoming and outgoing circuits shall be firmly connected.
- 8.17 A removable link shall be provided in the Neutral busbar to ensure that the neutral busbar can be split in two sections for testing purposes. The link shall be secured in position with a bolt and nut arrangement.

9. AIR CIRCUIT BREAKERS (ACB)

- 9.1 Air circuit breakers for use on the incoming supply side of the distribution board shall comply with IEC publication 157-1.
- 9.2 The circuit breakers shall have a continuous enclosed current rating as indicated on the relevant drawings with a minimum fault capacity of 50kA at 415 volts for 1 sec. and be tested for category P.2, unless specified otherwise.
- 9.3 The air circuit breakers shall be of the enclosed, ventilated, independent manual spring, draw-out type rated for 660 volts and be suitably equipped for shunt tripping from a 115 V DC battery supply supplied by TNPA.
- 9.4 Where applicable, the shunt tripping facility shall be wired so that the ACB will trip when it's associated high voltage transformer circuit breaker trips.
- 9.5 Adjustable inverse definite minimum time (IDMT) overcurrent release facilities are required in addition to the instantaneous fault trip for the air circuit breakers.

10 MOULDED CASE CIRCUIT BREAKERS (MCCB)

- 10.1 Moulded case circuit breakers shall comply with SANS 156 and have a breaking capacity suited to their respective protective device. All others shall have a minimum breaking capacity of class SANS 5kA.
- 10.2 Moulded case circuit breakers shall be of the fixed pattern and non-adjustable.

11 CONTACTORS

- 11.1 Contactors shall comply with SABS 1092 or IEC 60947-4-1.
- 11.2 Duty cycle shall be AC3 and the contactor coil voltage may be either 230V or 415V, unless otherwise stated.

12 ANTI-CONDENSATION HEATERS

- 12.1 Anti-condensation heaters shall be provided when called for in the schedule of requirements, Appendix 2, to ensure that no condensation can occur in any of the compartments. A suitable MCCB shall be provided to control the heaters and protect the circuit.
- 12.2 The wiring from the heater elements to terminals shall be high temperature insulation covered, a suitable compression type gland shall be fitted for the Incoming 230V supply.

13 INDICATING INSTRUMENTS

- 13.1 A flush mounted, industrial grade, 96 mm square voltmeter and ammeter conforming to SABS 1299 shall be mounted near the centre top of the front panel and connected to measure the busbar voltage and current flow. These meters shall be marked as such.
- 13.2 The calibrated scale length shall be a minimum of 70 mm. Means shall be provided for zero adjustment from the front without any dismantling of the indicating instrument.
- 13.3 A voltmeters selector switch with phase to phase, phase to neutral, and "off" position shall be provided.
- 13.4 An ammeter selector switch shall be provided with an "off" position.
- 13.5 Ammeters shall indicate the relevant phase that it is measuring by means of colours.

14. CURRENT TRANSFORMERS

- 14.1 Current transformers shall comply with SABS IEC 60044-1

15 MECHANICAL CABLE GLANDS

- 15.1 Cable glands shall be of the compression type, manufactured in brass and/or bronze, and suitable for termination of earth-continuity conductor type cables where applicable.
- 15.2 The gland body shall incorporate a knurled cone for clamping the armouring and an integrally cast earth lug, complete with earthing screw.
- 15.3 All metal portions of the gland shall be electroplated for corrosion resistance.
- 15.4 The glands shall be supplied complete with weatherproof neoprene shrouds.

- 15.5 Entries for multi-core PVC, PVC, wire armoured, PVC sheathed cables shall comprise cone grip mechanical type glands mounted on robust gland plates.
- 15.6 The board shall be supplied complete with all glands for all outgoing and incoming circuits as indicated on the drawing.

16 LIGHT SENSITIVE CONTROL UNIT

- 16.1 Light sensitive control units will be supplied by others.
- 16.2 A suitably rated single pole over-riding switch, for over-riding the unit in 16.1 and moulded case circuit breaker shall be provided, when called for in the drawings or attached appendices.
- 16.3 The switch and circuit breaker shall be wired to a suitable terminal strip, mounted within the distribution board, to facilitate connection of the light sensitive control unit when installed.

17 EARTHING

- 17.1 The components shall be effectively bonded to the main frame of the distribution board which shall also be bonded to the main earth bar. Earthing shall comply with SABS-0142-1 code of practice for the wiring of premises.

18 CABLING AND WIRING

- 18.1 All cables and wires used shall be stranded, 600/1000 V grade and comply with SABS 150, except where special cables have been otherwise specified.

19 LABELS

- 19.1 Labels shall be provided comprising conspicuous engraved black lettering on white background secured with rivets or screws on or adjacent to the items concerned, and worded in English. Labels of embossed tape or labels secured with adhesive are not acceptable.
- 19.2 All circuit breakers, isolators, contactors, relays, etc., shall be clearly designated.
- 19.3 The terminals of all outgoing circuits shall be provided with labels to correspond with the labelling of the units on the panel of the distribution board.
- 19.4 All terminal connections shall be provided with durable tags or clips, on which shall be clearly and indelibly marked, the identifying code letters of each wire. Such code letters shall correspond to those used on the wiring diagram.

20 PAINTING

- 20.1 All surfaces of the distribution board shall be light orange to SABS 1091, Colour No. B26. (Transnet orange; Pantone 165C / 021U; Coats 50/50; Vermilion MW52; RAL 2004 rein orange; Trichromatic 70% magenta, 90% yellow)
- 20.2 All surfaces shall be cleaned according to the appropriate method described in SABS 064 for the particular surface to be cleaned, the contamination to be removed and the primer to be applied.
- 20.3 Blast cleaning of components shall be in accordance with clause 4.3 of SABS 064 to a degree of cleanliness of at least Sa2 for inland exposure components and Sa 1/2 for coastal exposure components. See Table 1 of SABS 064 for the appropriate profile.
- 20.4 Sheet metal that cannot be blast cleaned shall be cleaned by pickling according to clause 4.6 of SABS 064.
- 20.5 Components that will be powder coated shall be cleaned and prepared by the surface conversion process according to clause 5 of SABS 064 to a medium-weight classification of table 2 of that specification.
- 20.6 Oil and accumulated dirt on steel components where no rusting is present shall be removed according to clause 3 of SABS 064.
- 20.7 The powder-coating process shall be in accordance with SABS 1274 - 1979 type 4:
Corrosion resistant coatings for interior use and using the thermosetting type high gloss coating.
- 20.8 All specified coatings shall be applied according to the relevant specification and the manufacturer's instructions shall be followed.
- 20.9 Coatings shall not be applied under conditions that may be detrimental to the effectiveness of the coating or the appearance of the painted surface.
- 20.10 When examined visually the finished products shall have a uniform appearance as far as gloss is concerned and shall show no sign of damage. Damaged areas shall be repaired coat for coat to obtain the desired finish.

21 INSPECTION BY TNPA

- 21.1 TNPA reserves the right to carry out inspection of any items of equipment and work at any time during the manufacture at manufacturer's works and to be present at any tests.
- 21.2 A final inspection by TNPA before delivery to site is required.

22 TESTS

- 22.1 All prescribed tests as referred to in the standard specifications may be called for at the discretion of TNPA.
- 22.2 TNPA also reserves the right to carry out any check tests on the equipment.
- 22.3 Notwithstanding the successful completion of tests, the tenderer will still be responsible for the efficient operation of the equipment.
- 22.4 The tenderer shall bear all costs for any tests which will be required.

23 GUARANTEE

- 23.1 The Contractor shall undertake to repair all faults due to bad workmanship and / or faulty materials and to replace all defective apparatus or materials during a period of twelve (12) calendar months, calculated from the date of delivery.
- 23.2 Any defects that may become apparent during the guarantee period must be rectified to the satisfaction of, and of free cost to TNPA.
- 23.3 The Contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7 days of his being notified by TNPA of such defects.
- 23.4 Should the Contractor fail to comply with the requirements stipulated above, TNPA will be entitled to undertake the necessary repair work or effect replacement of defective apparatus or materials, and the Contractor shall reimburse TNPA the total cost of such repair or replacements, including the labour costs incurred in replacing defective material.

24 SPARES

- 24.1 The tenderer shall state whether a complete range of spares is held in stock by their local representatives for subsequent purchase by NPA as and when required.

SIGNATURE OF TENDERER : _____ DATE : ____/____/____

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APPENDIX 1

TECHNICAL DATA SHEET

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

- 1.0 Name of manufacturer:
- 2.0 Distribution board
 - 2.1 Type / catalogue No
 - 2.2 Thickness of sheet steel utilised:
 - 2.3 Degree of protection to IEC 144
 - 2.4 Form of segregation of circuits
 - 2.5 Standard to which the following have been tested:
 - 2.5.1 Thermal Rating:
 - 2.5.2 Short Time Rating:
 - 2.6 Test Certificate number:
 - 2.6.1 Thermal Rating:
 - 2.6.2 Short Time Rating:
 - 2.7 Dimensions:
 - 2.7.1 Length:
 - 2.7.2 Height:
 - 2.7.3 Depth:
- 3.0 Busbars
 - 3.1 Size:
 - 3.2 Enclosed current rating:
 - 3.3 One second fault rating:
- 4.0 Fuse switches
 - 4.1 Type / catalogue No:
 - 4.2 Continuous current rating:

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5.0 Fuses

- 5.1 Type / catalogue No:
- 5.2 Current rating:
- 5.3 Category of Duty:
- 5.4 Fusing factor:

6.0 Air circuit breakers

- 6.1 Type / catalogue No:
- 6.2 Symmetrical breaking capacity:- kA at volts for seconds.
- 6.3 Asymmetrical breaking capacity:- kA at volts for seconds.
- 6.4 Tested for category P1 or P2:
- 6.5 Short time current for 1 second:
- 6.6 Making capacity (Peak in kA):
- 6.7 Continuous enclosed current rating:
- 6.8 Range of overcurrent protection (amps):
- 6.9 Type of overcurrent protection:
- 6.10 Undervoltage release setting:

7.0 Moulded case circuit breakers

- 7.1 Type / catalogue No:
- 7.2 Symmetrical breaking capacity:- kA at volts for seconds.
- 7.3 Asymmetrical breaking capacity:- kA at volts for seconds.
- 7.4 Short time current for 1 second:
- 7.5 Making capacity (Peak in kA):
- 7.6 Continuous enclosed current rating:
- 7.7 Range of overcurrent protection (amps):

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8.0 Contactors

- 8.1 Type / catalogue No:
- 8.2 AC Duty:
- 8.3 Breaking/Making capacity:- kA at volts for seconds.
- 8.4 Short time current for 1 second:
- 8.5 Number of switching operations:
- 8.6 Continuous enclosed current rating:
- 8.7 Control voltage:

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9.0 Isolators

- 9.1 Type / catalogue No:
- 9.2 Continuous current rating:

10.0 Drawings to be submitted with documentation at time of tendering.

- 10.1 Busbar clamping arrangement : (excluding insulators) : YES / NO
- 10.2 Drawing of distribution board with dimensions: YES / NO
- 11.0 Delivery of distribution board will be weeks
after drawing approval by TNPA.

SIGNATURE OF TENDERER :

DATE :

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DURBAN.

APPENDIX 2

SCHEDULE OF REQUIREMENTS

1. This tender calls for the manufacture; supply and delivery of one 5 x low voltage switchboard suitable for 400 volts, three phases, 50 Hertz.
 - 1.1 The switchboards will be positioned at: **“Kingsrest Yard”**
 - Detail according to drawings: **DHE - PED – 063 sheet 2 - 6**
 - (a). The switchboards are required for general distribution of low voltage power in an industrial environment.
 - (b). The switchboards will typically be used as the upstream protection and control of supplies to local buildings, larger motor controls, air-conditioning, security lighting and area high mast lighting.
 - (c). The switchboards shall make provision for all outgoing circuits as depicted on the attached circuit diagram.
2. Drawings as called for in “ Appendix 1 Clauses 10.0 “ must be submitted at the time of tendering. Failure to submit drawings could lead to tenders not been considered.
3. Where circuits are labelled as "spare", these shall be supplied with the control switch where showed on diagrams.
4. All designation labels for the switchboards shall comply with the requirements of clause 21.0 of the main specification and the diagram.
 - 4.1 Main designation labels for the switchboard shall be 30 mm high.
 - 4.2 All other labels shall be 12 mm high.
 - 4.3 The successful tenderer shall confirm label designations with TNPA prior to manufacture of the labels.

5. INFORMATION

- 5.1 Tenders are to be in accordance with this updated issue of this specification document. “Specification No DHE D2-01-12 and attached Appendices.

6. COMPLETION DATE

The completion date for this contract is

However preference may be given to tenderer's who offer a considerably earlier completion date. Extensions to the completion date will not be considered. Confirmation that this completion date can be met must be provided on your tender document at the time of tendering.

7. For further information regarding this tender, or site inspections, which the tenderer considers necessarily;
may be contacted on Tel. No
.....

SIGNATURE OF TENDERER :

DATE :

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APPENDIX 3

ELECTRICAL DRAWINGS

TITLE	DRAWING NUMBER
KRY low voltage Distribution Board layouts	DHE-PHB-063 sheet 2 - 6

SIGNATURE OF TENDERER :

DATE :

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