



City Power Johannesburg

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## **CITY POWER JOHANNESBURG**

Bidders are hereby invited for the following RFQ,  
further details are available from CITY POWER,  
Tender Advice Centre, 40 Heronmere Rd, Rueven, Booysens  
Telephone 011 490-7000, Fax 011 490-7765/011 870-3688  
CITY POWER JOHANNESBURG (PTY) LTD.

### **RE- ADVERTISEMENT**

#### **REQUEST FOR QUOTATION FOR THE SUPPLY AND DELIVERY OF SDB POLE TOP SL TYPE 2 (115A): 631**

RFQ CLOSING DATE:	17 November 2021
RFQ CLOSING TIME:	11h00am
SITE MEETING VENUE:	N/A
SITE MEETING TIME:	N/A
DATE OF SITE VISIT:	N/A
VENUE:	City Power-Tender Advice Centre
CONTACT PERSONS:	Thabile Mahlangeni

Should you not receive an official Purchase Order from City Power within a period of fourteen (14) days from date of closing, consider your Request for Quotation unsuccessful

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**RFQ DOCUMENTS WILL BE AVAILABLE ON THE WEBSITE  
AS FROM 10 November 2021**

**40 HERONMERE ROAD REUVEN, BOOYSENS**

**SUBMISSIONS: QUOTATION BOX, TENDER ADVICE CENTRE**

**Please note:-**

**That we also advertise on our Website:**

**Website Address: [www.citypower.co.za](http://www.citypower.co.za) Available Bid's and RFQ'S**

# Request for Quotations

CP Reference Number: **11707452**  
Contact Person: Thabile Mahlangeni  
Tel: 011 490 7794  
Fax: 011 870 3717  
Email: tmahlangeni@citypower.co.za

**Company:** .....  
**Attention:** .....  
**Tel:** .....  
**Fax:** .....  
**Email:** .....

You are hereby invited to submit a quotation for the items listed below. Please provide a written quotation to the above named contact person on or before the closing date indicated below. Only quotations which contain the information listed below will be accepted. Prices should be shown both exclusive and inclusive of VAT and fixed and firm. Delivery will be direct to the relevant City Power store.

<b>Stock No.</b>	<b>Description</b>	<b>Estimated Qty</b> (Quantity may change at the time of placing an order)	<b>Unit Price</b>	<b>Total</b>
631	SERVICE DISTRIBUTION BOX, POLE MOUNTED, FOR PUBLIC LIGHTING, TYPE 2, COMPLETE WITH CONTROL GEAR AND 115A CONTACTOR.	25		
			<b>Sub Total</b>	
			<b>Vat</b>	
			<b>Total</b>	

	<b>Evaluation Criteria</b>	<b>Weight</b>
	<b>FIRST STAGE EVALUATION - 80% THRESHOLD MUST BE ACHIEVED</b>	
1.	Technical Schedule to be completed in full & Signed  <b>Max score points = 10 points</b> <ul style="list-style-type: none"> <li>• Technical schedule fully completed and signed = 10 points</li> <li>• Technical schedule not fully completed and signed = 0 points</li> </ul>	<b>40</b>
2.	Submit a complete Type test report  <b>Max score points = 10 points</b> <ul style="list-style-type: none"> <li>• Submit a complete type test report according to the specification tendering = 10 points</li> <li>• Incomplete type test report = 0 points</li> </ul>	<b>40</b>
3.	Provide proof of a valid ISO 9001 certificate from the manufacturer  <b>Max score points = 10 points</b> <ul style="list-style-type: none"> <li>• ISO certificate submitted = 10 points</li> <li>• No ISO certificate = 0 points</li> </ul>	<b>20</b>
	Total	<b>100</b>
	<b>SECOND STAGE EVALUATION</b>	
	<b>Price</b>	<b>80</b>
	<b>BEE</b>	<b>20</b>

**NB: Technical Schedule to be completed in full and 80% threshold should be met to be further evaluated.**

## **Closing date and time for submission of quotation: 17/11/2021 @ 11h00**

Vendors must supply written quotations that reflect the following information on the quotation:

- Quotation Validity Period: \_\_\_\_\_
- Delivery period: \_\_\_\_\_
- Company Name: \_\_\_\_\_
- Company Registration Number: \_\_\_\_\_
- VAT Registration Number: \_\_\_\_\_
- Physical Address: \_\_\_\_\_
- Contact Person: \_\_\_\_\_
- Telephone Number: \_\_\_\_\_
- Fax Number/Email Address: \_\_\_\_\_
- Company Income Tax Number (i.e. SARS No): \_\_\_\_\_
- Tax Clearance Certificate Attached or SARS Pin for City Power to ascertain from SARS whether your status is in order: \_\_\_\_\_
- Signed disclaimer (Attached to this RFQ): \_\_\_\_\_

**Please supply the following returnable documents to enable us to evaluate your submission:**

- 1. Valid Tax Clearance Certificate (SARS PIN)**
- 2. Signed Declaration of Interest form (MBD 4)**
- 3. Certificate of Independent Proposal Determination (MBD 9)**
- 4. Proof of CSD registration/MAAA Supplier Number**
- 5. A certified valid BBBEE certificate/sworn affidavit (Please note that the Sworn Affidavit must be compliant as per BBBEE Practice Guide 01 of 2018, NON-COMPLIANT AFFIDAVIT WILL BE DISQUALIFIED)**

## 2. Calculation of points for B-BBEE status level of contributor

B-BBEE Contributor	Status Level of	Number of points (80/20 system)
1		20
2		18
3		16
4		12
5		8
6		6
7		4
8		2
Non-compliant contributor		0

CP Reference Number: 11707452

**Disclaimer:** Supplier ( \_\_\_\_\_ ) hereby warrants that he/she/it has:

(Name of supplier)

1. Read, fully understood and hereby accept City Power's standard quotation Terms & Conditions as published on the official City Power website;
2. Submitted a true and accurate declaration of interests reflecting that the supplier has no immediate family relations and that none of its shareholders, directors, managers or stakeholders are in the employ of City Power or the state currently and that no such relatives, shareholders, directors, managers or stakeholders have been so employed in the previous 12 months;
3. Undertakes to complete a fresh declaration of interests should these circumstances have changed as at date of this quotation. (This declaration is obtainable from the City Power's website/ Commodity Managers and the abovementioned contact person).

<b>Name, Date &amp; Signature of Supplier</b> (Person responsible for the Quote)	<b>Name:</b>  <b>Signature:</b>	<b>Date</b>
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## DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state\*.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

- 3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name: .....

3.2 Identity Number: .....

3.3 Company Registration Number: .....

3.4 Tax Reference Number: .....

3.5 VAT Registration Number: .....

3.6 Are you presently in the service of the state\* **YES / NO**

3.6.1 If so, furnish particulars.

.....

.....

3.7 Have you been in the service of the state for the past twelve months? **YES / NO**

.....

.....

\* MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

- (i) any municipal council;
- (ii) any provincial legislature; or
- (iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of any national or provincial department, national or provincial public entity or

constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

3.8 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.8.1 If so, furnish particulars.

.....

.....

.....

3.9 Are you, aware of any relationship (family, friend, other) between a bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES/ NO**

3.9.1 If so, furnish particulars

.....

.....

3.10 Are any of the company's directors, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.10.1 If so, furnish particulars.

.....

.....

3.11 Are any spouse, child or parent of the company's directors, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.11.1 If so, furnish particulars.

.....

.....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.12.1 If yes, furnish particulars.

.....

.....

- 3.13 Are any spouse, child or parent of the company's directors trustees, managers, principle shareholders or stakeholders in service of the state?

**YES / NO**

3.13.1 If yes, furnish particulars.

.....  
.....

- 3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract.

**YES / NO**

3.14.1 If yes, furnish particulars:

.....  
.....

4. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	State Employee Number

.....  
**Signature**

.....  
**Date**

.....  
**Capacity**

.....  
**Name of Bidder**



**CERTIFICATION**

**I, THE UNDERSIGNED (NAME)** .....

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.**

**I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

.....  
Signature

.....  
Date

.....  
Position

.....  
Name of Bidder

**DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
  - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	<p>Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?</p> <p>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</p> <p><b>The Database of Restricted Suppliers now resides on the National Treasury's website(<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b></p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		

4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? <b>Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
<b>Item</b>	<b>Question</b>	<b>Yes</b>	<b>No</b>
4.4	Does the bidder owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

### CERTIFICATION

**I, THE UNDERSIGNED (FULL NAME) .....**

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS  
DECLARATION FORM TRUE AND CORRECT.**

**I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT,  
ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION  
PROVE TO BE FALSE.**

.....  
**Signature**

.....  
**Date**

.....  
**Position**

.....  
**Name of Bidder**

## CERTIFICATE OF INDEPENDENT PROPOSAL DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all proposals<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the proposal of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when proposal are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Proposal Determination (MBD 9) must be completed and submitted with the proposal:

<sup>1</sup> Includes price quotations, advertised competitive proposals, limited bids and proposals.

<sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

<sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

# **CERTIFICATE OF INDEPENDENT PROPOSAL DETERMINATION**

I, the undersigned, in submitting the accompanying proposal:

---

(Proposal Number and Description)

in response to the invitation for the proposal made by:

---

(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying proposal has been authorized by the bidder to determine the terms of, and to sign, the proposal, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying proposal, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) have been requested to submit a bid in response to this proposal invitation;
  - (b) could potentially submit a proposal in response to this proposal invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying proposal independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a proposal;
  - (e) the submission of a proposal which does not meet the specifications and conditions of the proposal; or
  - (f) bidding with the intention not to win the proposal.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this proposal invitation relates.
9. The terms of the accompanying proposal have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to proposal and contracts, proposal that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder



a world class African city



TITLE	<b>SPECIFICATION FOR POLE-MOUNTED SERVICE DISTRIBUTION BOXES FOR PUBLIC LIGHTING</b>	REFERENCE	REV
		<b>CP_TSSPEC_072</b>	<b>2</b>
		DATE:	<b>MAY 2016</b>
		PAGE: 1	OF 17

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**SPECIFICATION FOR POLE-MOUNTED  
SERVICE DISTRIBUTION BOXES FOR  
PUBLIC LIGHTING**

REFERENCE	REV
<b>CP_TSSPEC_072</b>	<b>2</b>
PAGE	2 OF 17

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## **FOREWORD**

Recommendations for corrections, additions or deletions should be addressed to the:

Technology Services General Manager

City Power Johannesburg SOC Ltd

P O Box 38766

BooySENS

2016

## **INTRODUCTION**

The provision of public lighting for the illumination of public thoroughfares, roadways and signs, contributes to road safety as well as public safety. The reliability and safety of the public lighting infrastructure has a direct impact on levels of customer satisfaction as well as quality of supply. Since experience has shown vandalism of ground-mounted infrastructure to impact negatively on levels of service, it has been decided to introduce pole-mounted infrastructure as an alternative. As the quality of infrastructure is difficult to manage within the present City Power business structures it has been decided that SABS and NRS support structures will be relied upon to manage compliance to specification as well as quality. The implication to suppliers is that City Power will only purchase equipment that bears (where applicable) the SABS mark.

## **1 SCOPE**

This specification covers City Power's requirements for pole-mounted service distribution boxes for public lighting in accordance with NRS 032 and other relevant standards.

## **2 NORMATIVE REFERENCES**

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

NRS 032, *Service distribution boxes: For overhead single-phase a.c. service connections at 230 V*  
SANS 1091, *National colour standard*

*SANS 60529, Degree of protection provided by enclosures (IP Code)*

*SANS 1186-1, Symbolic safety signs. Part 1: standard signs and general*

*SANS 1433-1, Electrical terminals and connectors- Part 1: Terminal blocks having screw and screw less terminals*

*SANS 60947, Low voltage switchgear and control gear – Part 2: Circuit breakers*

BS 5685, *Specification for class 0.5, 1 and 2 Single phase and Poly phase single rate and multi rate watt-hour meters.*

CP\_TSSPEC\_012, Photoelectric control units

CP\_TSSPEC\_016, Contactors

CP\_TSSPEC\_017, Miniature circuit breakers

CP\_TSSPEC\_030, Specification for metal cable glands

CP\_TSSPEC\_038, Single pole mounted service distribution boxes

CP\_TSSPEC\_059, Nylon cable glands

CP\_TSSPEC\_068, Specification for LV fuses

### **3 DEFINITIONS AND ABBREVIATIONS**

The definitions and abbreviations of NRS 032 shall apply to this specification.

## **4 REQUIREMENTS**

### **4.1 General**

- 4.1.1 The entire assemblies are required to be supplied fully assembled and ready to use.
- 4.1.2 The assemblies shall consist of an enclosure, housing several miniature circuit breakers (MCBs), a contactor, and one or more fuses, all of suitable rating, each of which shall be mounted onto one or more DIN rails. The coil of the contactor shall be connected to a NEMA base mounted on the top of the SDB. It is intended that a photoelectric control unit (PECU) will control the operation of the contactor. City Power will provide PECUs at the time of installation and therefore PECUs are not required.
- 4.1.3 The assemblies will be installed in areas subject to frequent and intense dust and lightning storms.
- 4.1.4 The assemblies will be installed in positions subject to high levels of ultra-violet radiation, and the SDBs must be UV-stabilised or have extra UV protection.
- 4.1.5 Two types of SDB are required to be supplied. Type 1, with a 40 A contactor as per CP\_TSSPEC\_016, is intended for use in residential areas. Type 2, with a 115 A contactor as per CP\_TSSPEC\_016, is primarily intended for use in large power applications i.e. motorway lighting.

### **4.2 Construction of enclosure**

- 4.2.1 The enclosures (boxes) shall comply fully with NRS 032, except where modified by this specification.
- 4.2.2 The enclosures shall be constructed from non-corrosive, non-conductive, flame-retardant, water-resistant and insect-resistant material such as glass-reinforced polyester (GRP) that complies with SANS 141 for type F laminate products.
- 4.2.3 The design of the enclosure for the type 1 assembly (dimensions; clearances; positioning and grouping of knockouts; etc.) shall comply with **Figure C.3** of NRS 032.
- 4.2.4 The design of the enclosure for the type 2 assembly (clearances and grouping of knockouts; etc but with the exception of dimensions) shall *generally* comply with **Figure C.3** of NRS 032. Since it is envisaged that one incoming and four outgoing circuits will be required, the enclosure shall be of suitable size and shall have one 50 mm diameter hole and four 32 mm diameter holes, with either knock-outs or grommets. Glands are not required to be supplied with type 2 assemblies.
- 4.2.5 The boxes shall be of colour C37 (Light Stone) of SANS 1091 or other equivalent colour.
- 4.2.6 The boxes shall be of the side-hinged type. Each enclosure shall have the words "Danger/Gevaar/Ingozi" embossed thereon.
- 4.2.7 The boxes shall be designed to be attached to a pole by means of 20 mm stainless steel strapping and shall be supplied complete with pole mounting hardware.
- 4.2.8 A means shall be provided for securing the cover/lid onto the base of the boxes.

- 4.2.9 The boxes shall be protected against the ingress of moisture and shall have a minimum IP rating of 43.
- 4.2.10 Any unused knockouts at the base of the enclosures shall have a means to provide suitable sealing to prevent the ingress of water, reptiles, insects, etc.

### **4.3 Miniature Circuit Breakers**

- 4.3.1 All miniature circuit breakers (MCBs) shall comply fully with CP\_TSSPEC\_017.
- 4.3.2 Notwithstanding the requirements of 4.3.1, only DIN-mounted MCBs may be used in the SDB.
- 4.3.3 For safety reasons, preference will be given to MCBs with “touch-safe” terminals i.e. minimum rating of IP 2X as per CP\_TSSPEC\_017.
- 4.3.4 The MCBs used for the control and circuit functions shall have a normal tripping characteristic (C curve).
- 4.3.5 The MCBs used for the bypass function shall have a differently coloured toggle to the other MCBs to distinguish it (and its separate function) from the other MCBs whilst in service. Alternatively, the bypass MCB shall be clearly marked to achieve this distinction. In any event, the bypass MCB shall be of a D curve (slower tripping) characteristic.
- 4.3.6 Two sections of DIN-type copper bus bar shall be supplied with the MCBs. Each section shall be able to connect two MCBs together. The bus bar shall be rated at a minimum of 100 A. In the case of the type 2 assembly, suitable and sufficient bus bar shall be supplied as necessary. The bus bar shall be covered or insulated in order to prevent inadvertent contact by personnel.
- 4.3.7 MCBs for the all assemblies shall be rated at 6 kA.
- 4.3.8 The MCBs in the type 2 assembly shall be capable of the termination of copper conductors of at least 35 mm<sup>2</sup>.

### **4.4 Contactors**

- 4.4.1 The contactors shall comply fully with the requirements of CP\_TSSPEC\_016.
- 4.4.2 The contactors shall have an **AC3** rating of 40 A and 115 A **per pole** for type 1 and 2 assemblies respectively. This requirement is not negotiable and any contactor (or assembly) failing to meet this specification will be rejected.

### **4.5 NEMA base**

- 4.5.1 The NEMA bases (intended for the insertion of a photoelectric control unit) shall comply fully with the requirements of CP\_TSSPEC\_012.

### **4.6 Other requirements**

- 4.6.1 The cable glands shall comply with CP\_TSSPEC\_030 and CP\_TSSPEC\_059.
- 4.6.2 The glands shall be suitable for securing onto a plate having a maximum thickness of 6 mm and a 20 mm diameter hole, and shall provide a watertight seal while in use. In the case of the

type 2 assembly, the glands shall be suitable for the termination of 16 mm<sup>2</sup> 4-core PVC SWA cables and shall be secured onto a plate with a 32 mm diameter hole.

- 4.6.3 The cable glands shall be marked with the manufacturer's name or logo.
- 4.6.4 The wires shall be rated at 600/1000 V and shall comply with Table 2 of SANS 1411 - Part 2 and Table 8 of SANS 1507.
- 4.6.5 The polyvinyl chloride (PVC) type to be used for the insulated wire shall comply with SANS 1411 - Part 2.
- 4.6.6 The PVC outer sheath of the wire shall be marked in accordance with the requirements of SANS 1507, clause 5.2.1.
- 4.6.7 All PVC wiring used shall be suitable for use in continuous outdoor applications and shall be UV stabilised.
- 4.6.8 The fuses and fuse holders shall comply with CP\_TSSPEC\_068.
- 4.6.9 The combined neutral/earth blocks shall comply with SANS 1433 – Part 1. The blocks shall be combined as City Power operates a TN-C-S system. Preference will be given to blocks which avoid direct contact between the screw thread and the conductor strands e.g. tightening by means of a plate, etc.

## **4.7 Assembly**

- 4.7.1 The tenderer shall supply all items required in terms of the construction of the control box. These instructions are to be read in conjunction with the relevant drawings and diagrams, as detailed in Figure 1. Unless otherwise specified, the instructions below are applicable to both type 1 and type 2 assemblies.
- 4.7.2 The enclosure shall have a DIN rail fixed in the upper section and a section of DIN rail mounted in the lower section. In the case of the type 2 assembly, the contactor is fixed to a backing board or plate in the enclosure and a DIN rail for the mounting of the contactor is not required. However, a DIN rail is still required for the mounting of the protective devices.
- 4.7.3 The NEMA socket shall be mounted, with its gasket, to the top of the box, in a hole previously drilled for this purpose. The wire tails connected to the base shall be red and black 1,5 mm<sup>2</sup> PVC-insulated stranded copper house wire.
- 4.7.4 The entire installation shall be protected by one (or three in the case of the type 2 enclosure) 100 A HRC fuses.

For the type 1 assembly, the MCBs shall be mounted to the DIN rail, in the following order, from left to right (ratings given for type 1 assembly):

50 A (6 kA) MCB for the outgoing circuit;  
5 A (6 kA) MCB for the control circuit; and  
100 A (6 kA) MCB for the bypass function.

For the type 2 assembly, the MCBs shall be mounted to the DIN rail/s, as dictated by design and space considerations (ratings given for type 2 assembly):

Twelve (12) x 100 A (6 kA) single-pole MCBs for the outgoing circuits;  
5 A (6 kA) MCB for the control circuit; and  
Three (3) x 125 A (6 kA) single-pole MCBs for the bypass function.

**Note:** Banked single-pole devices are required instead of triple-pole devices. The reason for this is to minimise the effect of circuit malfunctions/faults on the lighting installation. Typically on highways the luminaires are fed in

sequence on a three-phase system. If a fault on the blue phase causes the supply MCB to operate, the lights fed from the red and white phases will still burn, with only every third light out (i.e. those fed from the blue phase). Conversely, the same fault would cause a triple-pole device to operate, extinguishing all the lights in the entire installation and leading to greater risk of accidents, crime and vandalism.

In both cases, the bypass MCB(s) may be mounted adjacent to the contactor. The bypass circuit breaker(s) shall be labelled "BYPASS".

- 4.7.5 Provision shall be made for the future mounting of one or two extra outgoing (load) MCBs for the type 1 assembly.
- 4.7.6 The outgoing and control circuit MCBs shall be bridged by means of a DIN-type bus bar for the type 1 assembly (see 4.3.5).
- 4.7.7 The contactor shall be mounted onto the DIN rail in the case of the 40 A contactor, and fixed to a plate mounted to the enclosure, or a backing board, in the case of the 115 A contactor.
- 4.7.8 Two of the 20 mm diameter holes at the bottom of the box shall be knocked out and glands fitted to each of these holes.
- 4.7.9 A 2-metre length of 16 mm<sup>2</sup> red PVC insulated stranded copper house wire (for the type 1 assembly), and a 2-metre length of 1,5 mm<sup>2</sup> black PVC insulated stranded copper house wire shall be fed through one of the glands. The red wire shall be connected to the top of the contactor, through the fuse holder, and the black wire to the A2 terminal of the coil of the contactor.
- 4.7.10 The black 1,5 mm<sup>2</sup> tail from the neutral terminal of the NEMA base shall also be connected to the A2 terminal of the contactor coil.
- 4.7.11 The red 1,5 mm<sup>2</sup> tail connected to the L1 terminal of the NEMA base shall be connected to the bottom of the 5 A MCB.
- 4.7.12 The red 1,5 mm<sup>2</sup> tail connected to the L0 terminal of the NEMA base shall be connected to the A1 terminal of the coil of the contactor.
- 4.7.13 The contactor and the bypass MCB shall be wired in parallel i.e. the top of the contactor connected to the top of the bypass MCB by means of a length(s) of colour-coded 16 mm<sup>2</sup>/35 mm<sup>2</sup> PVC insulated stranded copper house wire, and the bottom of the contactor connected to the bottom of the bypass MCB in a similar fashion. The effect of this shall be that if the contactor is non-operational for any reason, the bypass MCB may be switched ON, energising the outgoing circuit(s) independently of PECU or contactor operation.
- 4.7.14 The bottom of the contactor shall be connected to the top of the outgoing MCB(s) by means of a suitable length(s) of 16 mm<sup>2</sup>/35 mm<sup>2</sup> PVC insulated stranded copper house wire.
- 4.7.15 A 2-metre length of 16 mm<sup>2</sup> house wire, as described above, shall be passed through the second gland and connected to the bottom of the outgoing MCB in the case of the Type 1 enclosure only.
- 4.7.16 When complete, there shall be minimum clearance of 20 mm between phase to neutral and phase to earth at any point within the enclosure. There shall also be a minimum clearance of 50 mm above and below the MCBs.
- 4.7.17 All connections shall be checked for tightness, correct polarity, etc before the box is closed, the protruding tails neatly coiled and the entire assembly packaged.
- 4.7.18 No incoming or outgoing tails are required in the case of the type 2 assembly since typically cables will be provided for the incoming and outgoing circuits. These cables will be glanded and connected by City Power personnel and hence only the intermediate (colour coded) jumpers are required.

- 4.7.19 If any doubt exists as to the exact requirements of City Power with respect to the enclosures, confirmation shall be sought from the Manager: Public Lighting. All enclosures will be subject to inspection before acceptance and any enclosures not meeting the requirements of City Power will be rejected.

## **5 TESTS**

Full results of type tests shall be submitted to confirm that the SDBs and enclosures meet or exceed all applicable requirements of NRS 032.

## **6 MARKING AND PACKAGING**

- 6.1 Assembled units shall be carefully packed and the wires neatly rolled up, into a suitable corrugated cardboard box. The wire tails shall be neatly bound to prevent any stress on the cable gland during transportation:
- 6.2 The box shall be labelled with information pertaining to the contents of the box, which will be specified by City Power at the time of order.

## **7 DOCUMENTATION**

- 7.1 Detailed type test reports from a recognised (by City Power) test authority confirming compliance with NRS 032 and detailing the test procedures and test results shall be provided.
- 7.2 In addition to the documentation required above, full technical information relating to the performance, construction, installation, etc of the assembly and its components shall be supplied. Circuit diagrams and circuit layout diagrams must be supplied.

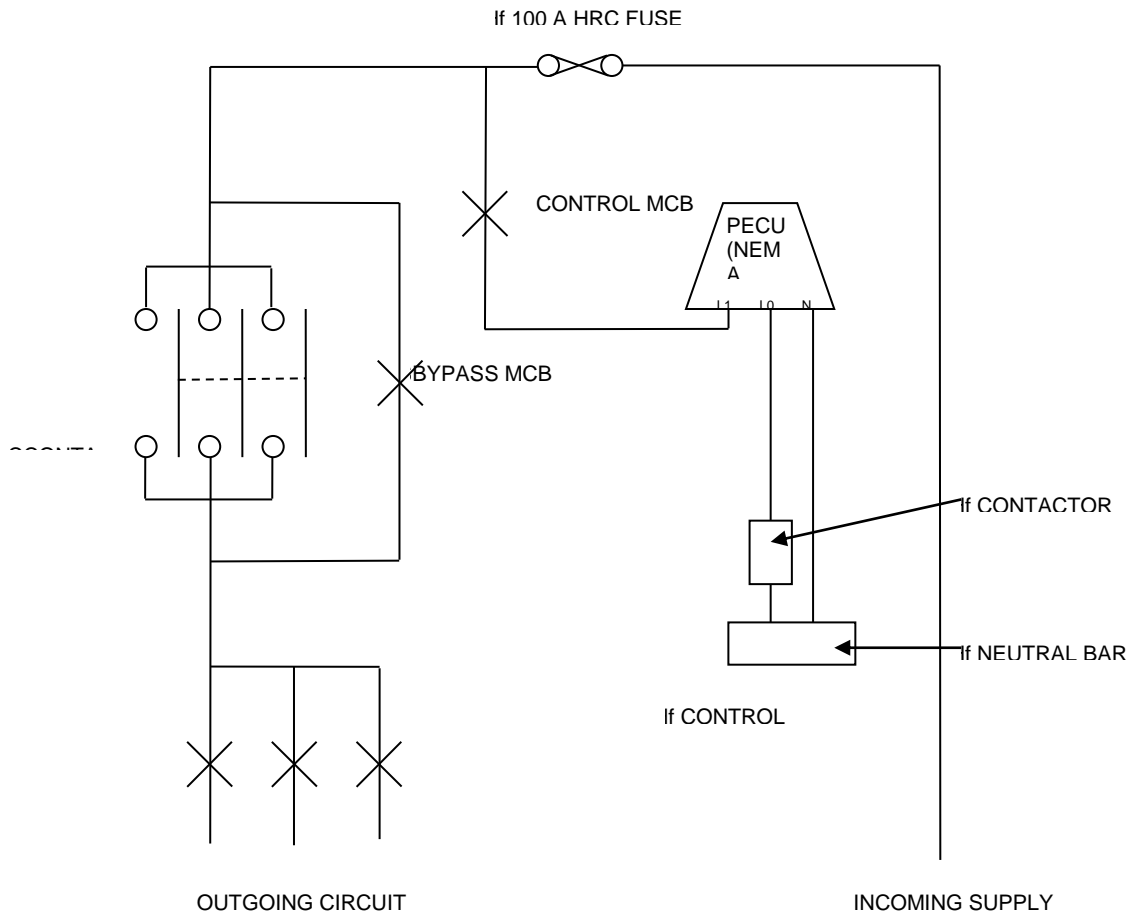
## **8 QUALITY ASSURANCE**

A quality management system shall be set up in order to assure the quality the SDB's during design, development, production, installation and servicing. Guidance on the requirements for the requirements for a quality management system may be found in the following standards: SANS 9000, SANS 9001, and SANS 9004. The details shall be subject to agreement between the purchaser and supplier.

## **9 ENVIRONMENTAL MANAGEMENT**

An environmental management plan shall be set up in order to assure the proper environmental management of the pole-mounted service distribution boxes for public lighting throughout its entire life cycle (i.e during design, development, production, installation, operation and maintenance, decommissioning and disposal phases). Guidance on the requirements for an environmental management system may be found in SANS ISO 14001 standards. The details shall be subject to agreement between City Power and the supplier. This is to ensure that the asset created conforms to environmental standards and City Power SHEQ policy.

**SCHEMATIC OF PECU CONTROL**



**NOTE: THE ABOVE DIAGRAM SHOWS THE CIRCUIT DIAGRAM FOR THE TYPE 1 ENCLOSURE WHICH IS A SINGLE PHASE INSTALLATION. THE TYPE 2 ENCLOSURE REQUIRES A THREE-PHASE CIRCUIT IN A SIMILAR CONFIGURATION TO THAT DETAILED ABOVE. ALL FUSES AND CIRCUIT-BREAKERS WILL BE REPLACED BY APPROPRIATELY RATED BANKS OF SINGLE-**

**Figure 1 – Circuit Diagram**



## **Annex A - Bibliography**

None.

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## **Annex B - Revision information**

<b>DATE</b>	<b>REV. NO.</b>	<b>NOTES</b>
July 2003	0	First issue
Mar 2004	1	Amended requirements for Type 2 assemblies after feedback from users. SDB enclosure size increased and number of outgoing circuits increased.
May 2016	2	Normative references amended
		Inclusion of Environmental management

## **Annex C - Technical schedules A and B**

**for**

### **Type 1 Pole mounted SDB**

**Schedule A: Purchaser's specific requirements**

**Schedule B: Guarantees and technical particulars of equipment offered**

<b>Item</b>	<b>Sub-clause of CP_TSSPEC_072</b>	<b>Description</b>	<b>Schedule A</b>	<b>Schedule B</b>
<b>1</b>		Name of manufacturer of SDB	XXXX	
<b>2</b>		Place of manufacture of SDB	XXXX	
<b>3</b>		Manufacturer's identification reference	XXXX	
<b>4</b>	4.2.1	Specification to which SDB complies	NRS 032	
<b>5</b>	4.2.4	Colour of SDB	Light Stone (C37 of SABS 1091)	
<b>6</b>	4.2.2	Material of SDB	XXXX	
<b>7</b>	4.1.4	Is the SDB UV-protected?	Yes/No	Yes
<b>8</b>	4.2.3	Dimensions of SDB (HxWxB)	mm	600 (max) x 400 (max) x 200 (min)
<b>9</b>	4.2.8	IP rating of SDB	53	
<b>10</b>	4.7.2	Mounting rail type	DIN	
<b>11</b>	4.7.4	Maximum number of MCBs that DIN rail can accommodate	5	
<b>12</b>	4.3.5	Is bus bar supplied with SDB?	Yes/No	Yes
<b>13</b>	4.2.3	Electrical clearances (minimum)	mm	20
<b>14</b>	4.2.3	Is the design of the SDB in accordance with Figure C.3 of NRS 032?	Yes/No	Yes
<b>15</b>	4.3	Do MCBs comply with clause 4.3?	Yes/No	Yes
<b>16</b>	4.4	Does contactor comply with clause 4.4?	Yes/No	Yes
<b>17</b>	4.5	Does NEMA base comply with clause 4.5?	Yes/No	Yes
<b>18</b>	6	Marking and packaging as per clause 6	Yes/No	Yes
<b>19</b>	7	Is all the information requested in clause 7 supplied?	Yes/No	Yes

Tender Number: \_\_\_\_\_

Tenderer's Authorised Signatory: \_\_\_\_\_  
Name in block letters Signature

Full name of company: \_\_\_\_\_

**Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.**

<b>Item</b>	<b>Sub-clause of CP_TSSPEC_072</b>	<b>Proposed deviation</b>

Tender Number: \_\_\_\_\_

Tenderer's Authorised Signatory: \_\_\_\_\_

Name in block letters Signature

Full name of company: \_\_\_\_\_

**Annex C - Technical schedules A and B  
for  
Type 2 Pole mounted SDB**

**Schedule A: Purchaser's specific requirements**

**Schedule B: Guarantees and technical particulars of equipment offered**

Item	Sub-clause of CP_TSSPEC_072	Description	Schedule A	Schedule B
1		Name of manufacturer of SDB	XXXX	
2		Place of manufacture of SDB	XXXX	
3		Manufacturer's identification reference	XXXX	
4	4.2.1	Specification to which SDB complies	NRS 032	
5	4.2.4	Colour of SDB	Light Stone (C37 of SABS 1091)	
6	4.2.2	Material of SDB	XXXX	
7	4.1.4	Is the SDB UV-protected? Yes/No	Yes	
8	4.2.3	Dimensions of SDB (H×W×B) mm	600 (min) × 450 (min) × 250 (min)	
9	4.2.8	IP rating of SDB	53	
10	4.7.2	Mounting rail type	DIN	
11	4.7.4	Maximum number of MCBs that DIN rail can accommodate	5	
12	4.3.5	Is bus bar supplied with SDB? Yes/No	Yes	
13	4.2.3	Electrical clearances (minimum) mm	20	
14	4.2.3	Is the <i>general</i> design of the SDB in accordance with Figure C.3 of NRS 032? Yes/No	Yes	
15	4.3	Do MCBs comply with clause 4.3? Yes/No	Yes	
16	4.4	Does contactor comply with clause 4.4? Yes/No	Yes	
17	4.5	Does NEMA base comply with clause 4.5? Yes/No	Yes	
18	6	Marking and packaging as per clause 6 Yes/No	Yes	
19	7	Is all the information requested in clause 7 supplied? Yes/No	Yes	

Tender Number: \_\_\_\_\_

Tenderer's Authorised Signatory: \_\_\_\_\_  
Name in block letters Signature

Full name of company: \_\_\_\_\_

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by City Power.

Item	Sub-clause of CP_TSSPEC_072	Proposed deviation

Tender Number: \_\_\_\_\_

Tenderer's Authorised Signatory: \_\_\_\_\_  
Name in block letters Signature

Full name of company: \_\_\_\_\_

## **Annex D – Stock Items**

### **Material Group: STL-ACCS**

<b>Item</b>	<b>SAP No.</b>	<b>SAP Short Description</b>	<b>SAP Long Description</b>
1	6480	SDB POLE TOP SL TYPE 1 (40 A)	SERVICE DISTRIBUTION BOX, POLE MOUNTED, FOR PUBLIC LIGHTING, TYPE 1, COMPLETE WITH CONTROL GEAR AND 40 A CONTACTOR. ITEM SPECIFICATION CP_TSSPEC_072.
2	631	SDB POLE TOP SL TYPE 2 (115 A)	SERVICE DISTRIBUTION BOX, POLE MOUNTED, FOR PUBLIC LIGHTING, TYPE 2, COMPLETE WITH CONTROL GEAR AND 115 A CONTACTOR. ITEM SPECIFICATION CP_TSSPEC_072.