

	USER REQUIREMENTS SPECIFICATION TEMPLATE	User Specifications
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INTRODUCTION

This document relates to the Supply, Delivery and Installation of Smart Meters to reduce number of customers affected by Load reduction within the Gauteng Cluster.

1.1 PURPOSE

The purpose of the document is to record the user requirements Supply, Delivery and Installation of Smart Meters to reduce number of customers affected by Load reduction within the Gauteng Cluster. The CIDB grading of the suppliers must be CIDB5 and above.

1.2 SCOPE OF WORK

- Supply, Delivery and Installation of Smart Meters to reduce number of customers affected by Load reduction which includes but not limited to:
 - Conduct technical survey
 - Conduct pre-task planning
 - Remove rotten poles
 - Install new poles
 - Decommission broken kiosks and old fibre glass kiosks
 - Remove old plinth
 - Install new plinth where necessary
 - Install new meter kiosks
 - Install labels or Stencil kiosks
 - Decommission old split or basic meters
 - Install and commission new smart meters
 - Remove faulty cables
 - Install new cable
 - Make terminations
 - Make cable joints
 - Implement bulletin as and when required
 - Label new meter with customer stand number
 - Install Data Concentrators
 - Record DC IP Address and transformer label
 - Submit DC data electronically
 - Collect customer data and network data
 - Capture Meter Movement Form (MMF)
 - Submit customer and network data electronically
 - Complete installation sheet (IC Sheet)
 - Conduct re-instatement of pavements, concrete, grass, paving and tar as and when needed
 - Remove or clear excess rubble including removed plinths
 - Scrap old, dismantled material (*i.e. Kiosks, poles,*)
 - Return replaced faulty cable, circuit breakers and old meters back to CNC

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1.3 BASIC LIST OF REQUIRED INSTALLATION MATERIAL

SAP Number	Material Description
0168279	Gland.cable:adjustable;no 2;brs ni pltd
0168280	Gland.cable:adjustable;no 3;brs ni pltd
0168575	Clamp.str wedge 35-50sq b/ntrl abc d3060
0168744	CLAMP.STRAIN O/H CONC 4/10mm CABLE D3067
0171268	Cond elec:al;abc;1 kv;70 mm ² ;xlpe;4c
0175797	Joint kit.2-4c 600/1000v 16-25 sq d8014
0175798	Joint kit.2-4c 600/1000v 35-50 sq d8014
0175799	Joint kit.2-4c 600/1000v 70-95 sq d8014
0175800	Joint kit.2-4c 600/1000v 120-150sq d8014
0175859	Gland.cable:adjustable;no 5;brs ni pltd
0175871	Lug. Crimp cu 350sqxm12 f/h d3102
0175872	Lug. Crimp cu 500sqxm12 f/h d3102
0180205	Ferrule.crimp cu 35sq d8020
0187151	Padlock:master stl restr-a orange gou
0400641	Cable elect:1 kv;4c;cu;70 mm ² ;stl wire
0403353	Cable elect:1 kv;4c;cu;50 mm ² ;stl wire
0403461	Gland.cable:adjustable;no 4;brs ni pltd
0404422	Lug. Crimp cu 700sqxm12 f/h d3102
0404766	Cable elect:1 kv;4c;cu;16 mm ² ;stl wire
0404767	Cable elect:1 kv;4c;cu;25 mm ² ;stl wire
0569536	Ksk mtr:1ph;14 kva;4 way secure
0569545	Ksk mtr:1ph;14 kva;4 way pm
0569546	Ksk mtr:1ph;14 kva;6 way pm
0571155	Ksk mtr:3ph;0 kva;dc secure pole mount
0615215	Ksk mtr:1ph;16 kva;8 way prepay
0615216	Ksk mtr:1ph;16 kva;12 way prepay
0632881	Cable.elect:1000 v ;tcu gsw;6 mm ²
0632881	Cable.elect:1000 v ;tcu gsw;6 mm ²
Above listed material shall comply with Eskom specification as provided.	

1.4 TECHNICALLY EVALUATED AND APPROVED PRODUCTS

Refer to annexure A for Technically Approved and Evaluated Products

1.5 APPLICABILITY

This scope of work is applicable to residential customers (PPU) including SPUs within the Dx Gauteng Cluster.

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NORMATIVE/INFORMATIVE REFERENCES

1.6 NORMATIVE REFERENCES

240-149521909 - list of acceptable single and three phase meters

240-76628289 - standard for single and three phase energy meters: whole current single rate

240-70427065 - standard for single phase programmable energy meters

240-126910106 - particular requirements for eskom smart metering system

240-75659760 rev 4 - pole-mounted service distribution boxes for split prepayment metering standard

240-61704085 - the standard for concentric service cable with tinned copper and coated steel

DEFINITIONS AND ABBREVIATIONS

1.7 DEFINITIONS

1.7.1 Classifications:

1.7.1.1 **Public domain:** published in any public forum without constraints (either enforced by law, or discretionary).

1.7.1.2 **Controlled disclosure:** controlled disclosure to external parties (either enforced by law, or discretionary).

1.7.1.3 **Confidential:** the classification given to information that may be used by malicious/opposing/hostile elements to harm the objectives and functions of Eskom Holdings Limited.

1.7.1.4 **Secret:** the classification given to information that may be used by malicious/opposing/hostile elements to disrupt the objectives and functions of Eskom Holdings Limited.

1.7.1.5 **Top Secret:** the classification given to information that may be used by malicious/opposing/hostile elements to neutralize the objectives and functions of Eskom Holdings Limited.

1.8 ABBREVIATIONS

Abbreviation	Description
TEAP	Technically Evaluated and Approved Product
IP	Internet Protocol

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Abbreviation	Description
IC	In-commissioning
SM	Smart Meter
DC	Data Concentrator
URS	User Requirements Specification

2. ROLES AND RESPONSIBILITIES

Role	Description
End-user	Provide user specification requirements
Functional Manager	Support
Portfolio Managers	Recommend
Senior Manager M&O	Support
Snr Manager Asset Creation	Authorise/Approve

3. PROCESS FOR MONITORING

- Installation completion sheets or handover documents
- PCS Files with location information
- Meter Movement Forms

4. RELATED/SUPPORTING DOCUMENTS

Not applicable

5. REQUIREMENTS

All installations should be done accordance with the applicable Eskom Standards

6. COST BENCHMARKING

Costs analysis be completed by the Quantity Surveyor

7. RECORDS

All records to be managed in compliance to the Eskom records management policy.

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8. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Paul Segwe	Portfolio Manager Asset Creation

9. DEVELOPMENT TEAM

Name	Designation
Sibusiso Mazibuko	Snr Advisor Projects
Kgomotso Jam Jam	Snr Advisor Energy Protection

10. ACKNOWLEDGEMENTS

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11. ANNEXURE A: LIST OF TECHNICALLY EVALUATED AND ACCEPTED PRODUCTS

Smart Meters and Data Concentrators

MATERIAL TECHNICAL INFORMATION				LISTING INFORMATION	
MATERIAL GROUP	D-DT DRWG	SAP No.	MATERIAL DESCRIPTION	TECH SPEC REF	TEC REF
SMART METERS	D-DT 9421	0750638	METER ELECT SERV: SMART (DIN) G3-PLC) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9422	0750639	METER ELECT SERV: SMART(1PH BS PLC) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9423	0750644	METER ELECT SERV: SMART(1PH BS GSM) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9424	0750641	METER ELECT SERV: SMART(3PH BS PLC)100A	240-126910106	240-97225295
SMART METERS	D-DT 9425	0750643	METER ELECT SERV: SMART(3PH BS GSM)100A	240-126910106	240-97225295
SMART METERS	D-DT 9426	0750636	INTERFACE: DATA CONCENTRATOR G3-PLC/GSM	240-126910106	240-97225295
SMART METERS	D-DT 9427	0750637	INTERFACE: SMART METER CIU; G3-PLC	240-126910106	240-97225295
SMART METERS	D-DT 9421	0750638	METER ELECT SERV: SMART (DIN) G3-PLC) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9422	0750639	METER ELECT SERV: SMART(1PH BS PLC) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9423	0750644	METER ELECT SERV: SMART(1PH BS GSM) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9424	0750641	METER ELECT SERV: SMART(3PH BS PLC)100A	240-126910106	240-97225295
SMART METERS	D-DT 9425	0750643	METER ELECT SERV: SMART(3PH BS GSM)100A	240-126910106	240-97225295
SMART METERS	D-DT 9426	0750636	INTERFACE: DATA CONCENTRATOR G3-PLC/GSM	240-126910106	240-97225295
SMART METERS	D-DT 9427	0750637	INTERFACE: SMART METER CIU; G3-PLC	240-126910106	240-97225295
SMART METERS	D-DT 9423	0750644	METER ELECT SERV: SMART(1PH BS GSM) 80A	240-126910106	240-97225295
SMART METERS	D-DT 9425	0750643	METER ELECT SERV: SMART(3PH BS GSM)100A	240-126910106	240-97225295
SMART METERS	D-DT 9426	0750636	INTERFACE: DATA CONCENTRATOR G3-PLC/GSM	240-126910106	240-97225295
SMART METERS	D-DT 9427	0750637	INTERFACE: SMART METER CIU; G3-PLC	240-126910106	240-97225295

Concentric cable

MATERIAL TECHNICAL INFORMATION				LISTING INFORMATION	
MATERIAL GROUP	D-DT DRWG	SAP No.	MATERIAL DESCRIPTION	TECH SPEC REF	TEC REF
CONCENTRIC CABLE	D-DT 3140	0632881	CABLE, ELECT:1000 V; TCU GSW;6 MM2_ D3140	240-61704085 rev 3	240-125775345 rev 2
CONCENTRIC CABLE	D-DT 3140	0632881	CABLE, ELECT:1000 V; TCU GSW;6 MM2_ D3140	240-61704085 rev 3	240-125775345 rev 2
CONCENTRIC CABLE	D-DT 3140	0632881	CABLE, ELECT:1000 V; TCU GSW;6 MM2_ D3140	240-61704085 rev 3	240-125775345 rev 2

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LV ABC (Aerial Bundled Conductor)

MATERIAL TECHNICAL INFORMATION				LISTING INFORMATION	
MATERIAL GROUP	D-DT DRV	SAP No	MATERIAL DESCRIPTION	TECH SPEC REF	TEC REF
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171292	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;2C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171299	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171267	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171282	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171325	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171268	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171281	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171292	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;2C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171299	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171267	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171282	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171325	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171268	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171281	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171292	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;2C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171299	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171267	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171282	COND ELEC:AL; ABC;1 KV;35 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171325	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;3C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171268	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;4C	240-84758170 rev 3	240- 92934300 rev 3
LV ABC (Aerial Bundled Conductor)	D-DT 3141	0171281	COND ELEC:AL; ABC;1 KV;70 MM2; XLPE;5C	240-84758170 rev 3	240- 92934300 rev 3

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SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)

MATERIAL TECHNICAL INFORMATION				LISTING INFORMATION	
MATERIAL GROUP	D-DT DRWG	SAP No.	MATERIAL DESCRIPTION	TECH SPEC REF	TEC REF
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245949	BOX DISTR:POLE TOP SPLIT METER 2-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245949	BOX DISTR:POLE TOP SPLIT METER 2-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245949	BOX DISTR:POLE TOP SPLIT METER 2-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670228	BOX DISTR:POLE TOP SPLIT METER 2-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670228	BOX DISTR:POLE TOP SPLIT METER 2-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0229922	BOX DISTR:POLE TOP SPLIT METER 4-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0229922	BOX DISTR:POLE TOP SPLIT METER 4-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245950	BOX DISTR:POLE TOP SPLIT METER 4-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245950	BOX DISTR:POLE TOP SPLIT METER 4-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0245950	BOX DISTR:POLE TOP SPLIT METER 4-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670312	BOX DISTR:POLE TOP SPLIT METER 6-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670312	BOX DISTR:POLE TOP SPLIT METER 6-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670315	BOX DISTR:POLE TOP SPLIT METER 6-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670315	BOX DISTR:POLE TOP SPLIT METER 6-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0670315	BOX DISTR:POLE TOP SPLIT METER 6-WAY 60A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0229921	BOX DISTR:POLE TOP SPLIT METER 8-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0229921	BOX DISTR:POLE TOP SPLIT METER 8-WAY 20A	240-75659760	240-150758652
SERVICE DISTRIBUTION BOXES (POLE TOP BOXES)	D-DT-3055	0229921	BOX DISTR:POLE TOP SPLIT METER 8-WAY 20A	240-75659760	240-150758652

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