 Eskom	Procedure	Technology
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Title: **INSTALLATION OF
TELECOMMUNICATIONS CABLE**

Unique Identifier: **240-77092389**

Alternative Reference Number: **<n/a>**

Area of Applicability: **Engineering**

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COE Acceptance



Richard McCurrach

PTM&C: Senior Manager

Date:

5/6/2018

DBOUS Acceptance



Amelia Mitshali

DBOUS: Senior Manager

Date:

14/06/2018

This document is **STABILISED**. The technical content in this document is not expected to change because the document covers: *(Tick applicable motivation)*

1	A specific plant, project or solution	
2	A mature and stable technical area/technology	X
3	Established and accepted practices.	X

PCM Reference: <xxxxxxx>

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	Guide	Technology
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Compiled by



Elicia Naidu
Engineer

Date: 06/06/2014

Approved by



Cornelius Naidoo
**CoE Design Engineering
Manager**

Date: 02/07/2014


Authorized by



Richard McCurrach
Senior Manager PTM&C

Date: 03/07/2014

Supported by SCOT/SC



Ziyaad Gydien
**Telecommunications SC
Chairperson**

Date: 17 June 2014

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1. Introduction

This procedure details the correct method of installing Telecommunications Cable which includes preparation, equipment required, safety precautions to be observed and cable installation.

2. Supporting clauses

2.1 Scope

This procedure details the correct method to be used when installing indoor telecommunications cables.

2.1.1 Purpose

The purpose of this document is to ensure that indoor telecommunications cables are installed consistently in a safe and correct manner.

2.1.2 Applicability

This document shall apply to all Eskom Telecommunications staff and shall apply throughout Eskom Holdings Limited Divisions.

2.2 Normative/informative references

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems.

2.2.2 Informative

	Document number	Document title	Preparer/author	Revision or date of issue
[1]	32-9	Definition of Eskom documents	Eskom Document Centre	Latest
[2]	32-644	Eskom documentation management standard	Eskom Document Centre	Latest
[3]	474-65	Operating manual of the Steering Committee of Technologies (SCOT)	Vinod Singh	Latest

2.3 Definitions

2.3.1 General

Definition	Description
Cable Jack	A mechanical lifting device to lift and suspend a cable drum to roll off cable.
Cable Trailer	A trailer designed to carry a suspended drum of cable to enable the rolling off of cable.

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Definition	Description
Lifting Gear	Any machinery used to lift equipment.
Cable drum trestles	Metal stands used to suspend a drum of cable.
Cable Drum Roller	A device on which a cable drum is place allowing the drum to turn without being suspended.
Cable roller	Rollers put down to pull cable over as not to drag on concrete etc.

2.3.2 Disclosure classification

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

2.4 Abbreviations

Abbreviation	Description
ET	Eskom Telecommunications
KKS	Kraftwerk-Kennzeichen-System
N/A	Not Applicable
NMC	Network Management Centre
ORHVS	Operating Regulations for High Voltage Systems
PPE	Personal Protective clothing
SHEQ	Safety Health Environment & Quality

2.5 Roles and responsibilities

N/A

2.6 Process for monitoring

Senior Supervisor to ensure the proper training is done before using the cable drum aids.

2.7 Related/supporting documents

This document supersedes the Eskom Telecommunications document number ETPR0742.

3. Installation of Indoor Cables

3.1 Risk Assessment:

A risk assessment shall be carried out which shall cover the following:

- Working in close proximity of live equipment
- Work in accordance with ORHVS requirements

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- c) Working in confined space
- d) Noise levels and effectiveness of communication
- e) Work in elevated positions
- f) Bystanders
- g) Weather conditions
- h) Equipment and tools
- i) Material or spares
- j) Work position of workers and specific tasks
- k) Overall supervision
- l) Complete declaration with a signature

3.2 Safety Requirements

- a) Ensure correct PPE is worn
- b) Ensure the identification of other services in the manhole or trench
- c) Obtain clearances and permission from all relevant parties if not an ET site
- d) When opening trenches or manholes beware of snakes, bees and other types of animals or insects.

3.3 Tools and Equipment

- a) Cable jacks or trailer
- b) Lifting gear
- c) Cable drum trestles
- d) Cable rollers
- e) Spades, ropes and hand tools

3.4 Preparation

- a) Ensure that correct drawings are on site
- b) Ensure that work is carried out within barricaded areas where applicable
- c) Ensure correct cable is on site
- d) Determine what tools, equipment and transport will be used
- e) Inspect tools and equipment before use

3.5 Installation of Cables

- a) If a large drum of cable is used, use either a cable jack, cable drum trestles, cable drum rollers or a drum on a cable trailer if there is enough space. Use lifting gear to place the cable drum on the trestles or cable drum roller if its too large to handle.
- b) Run out cables and lay cables into trenches or on racking in a manner that the cable will be as straight as possible. On vertical racking cables are to be fastened with cable ties on each cross member.
- c) Observe that there are no sharp bends and kinks in the cable. Note that a sharp bend will be where a cable is bent to a radius of less than 3 times its own diameter.

- d) Make use of cable rollers to prevent damage to the outer sheath of the cable.
- e) When cables are pulled through sleeve pipes, a new draw wire should be left for the installation of future cables.
- f) When cables are pulled on cable racks at power stations make sure that it is a Process rack, i.e. check rack numbering is as per drawing.
- g) Install to relevant cable drawings and number the cable at both ends.
 - i. Power stations use the KKS identification system, which consists of a brass plate with the cable number stamped on it tied to the cable. The brass plate has two sets of hole one either end through which it is tied to the cable.
 - ii. In non Power Station environments cables are identified as follows: A Kroy label is printed, stuck on to the cable and covered with a clear heat shrink tubing which is then shrunk over the label with a heat gun, protecting the label.
- h) Telecomms cable and power cable may not run in the same trunking channel.
- i) Seal open cable ends with caps to prevent ingress of moisture.
- j) Where the sheath has been stripped off of the cable, ensure a rubber grommet is pulled over the end of the sheath in such a way as to have half the grommet on the sheath and the other half protecting the exposed cable pairs from damage due to contact with the hard sheath.

4. Authorisation

This document has been seen and accepted by:

Name and surname	Designation
C. Vermeulen	Eskom Telecommunications
M. Van Rensburg	Transmission
P. Grobler	Transmission
P. Madiba	Generation
S. Mkhabela	Distribution
V. Moyeni	Group IT

5. Revisions

Date	Rev.	Compiler	Remarks
July 2014	1	E Naidu	Minor corrections and updates to template
Dec 2013		GP Smith	Formatted to SCOT-New Standard Template_20 August 2013. Correction of typing errors and document number changed to 240-77092389
Oct 2013		K Van Tonder	No changes to content. Authorisation section updated
Aug 2009	0		New Document

6. Development team

The following people were involved in the development of this document:

- Gert Botha

7. Acknowledgements

N/A