Electricity Distribution

nationalgrid

Company Directive

POLICY DOCUMENT: CA4/3

Relating to the cable to be used on the 66/132kV system

Policy Summary

This document details the Company requirements for the type of cable to be used on the Western Power Distribution 66/132kV distribution system.

Author: **Richard Summers**

Implementation Date: **May 2020**

Approved by

Carl Ketley-Lowe
Engineering Policy Manager

Date: **6th May 2020**

Target Staff Group	**PSD and Projects Teams**
Impact of Change	**Green – No major impact**
Planned Assurance checks	**NA**

All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED

IMPLEMENTATION PLAN

Introduction

This document reflects the sizes and types of 132kV and 66kV cables used on the WPD underground network.

Main Changes

1200Smm^2 conductor added to 132kV cable sizes.

Impact of Changes

None.

Implementation Actions

Team managers to disseminate the information to their relevant staff.

Implementation Timetable

Can be implemented with immediate effect.

REVISION HISTORY

Document Revision & Review Table		
Date	**Comments**	**Author**
May 2020	• 1200Smm^2 conductor added to 132kV cable sizes.	Richard Summers
June 2019	• Typical fault ratings added for 132kV cables.	Richard Summers
June 2016	• Minor changes have been made to ensure the document covers the whole of WPD area and covers all cable sizes currently used.	Peter White

Contents

1.0 INTRODUCTION

This document describes the type of cable to be used on all the new circuits being added to the Western Power Distribution plc's 66/132kV distribution networks.

2.0 POLICY FOR 132kV UNDERGROUND CABLES

132kV single core cable, the cable shall be constructed with a water blocked, stranded circular copper phase conductor of either 300, 630, 1000, 1000S, 1200S, 1600S & 2000Smm², a semi-conducting conductor screen, XLPE insulation, a semi-conducting fully bonded insulation screen, water swelling tape, with a lead alloy E sheath, if additional earth fault current capability is required then additional copper screen wires shall be added below the lead sheath and a medium density polyethylene (MDPE) coloured black oversheath, to British Standard Specification (BS) BS 7970 or IEC 60840. Typical fault ratings of the lead alloy sheath will be either 21.5kA, 25kA or 31.5kA.

3.0 POLICY FOR 66kV UNDERGROUND CABLES

66kV single core cable, the cable shall be constructed with a water blocked, stranded circular copper phase conductor of 185, 300, 400, 630 & 1000mm², a semi-conducting conductor screen, EPR insulation, a semi-conducting fully bonded insulation screen, a copper wire screen of suitable cross sectional area to meet the 7kA steady state single phase earth fault current, and a medium density polyethylene (MDPE) coloured black oversheath, to British Standard Specification (BS) BS 7970 or IEC 60840.

APPENDIX A

SUPERSEDED DOCUMENTATION

This document supersedes POL: CA4/2 dated June 2019 which has now been withdrawn.

APPENDIX B

ASSOCIATED DOCUMENTATION

Specification EE 77

APPENDIX C

Link to Comments Sheet

POL: CA4/3 - Comments

APPENDIX D

KEY WORDS

XLPE cable, lead alloy E sheath, 66/132kV single core, EPR Cable, Copper Wire Screen.