Electricity Distribution

nationalgrid

Company Directive

POLICY DOCUMENT: CA4/4

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 Grid Electricity Distribution 66/132kV distribution system.

Author: **Richard Summers**

Implementation Date: **June 2023**

Approved by

Carl Ketley-Lowe
Engineering Policy Manager

Date: **15th June 2023**

Target Staff Group	**PSD and Projects Teams**
Impact of Change	**Amber - Minor impact**
Planned Assurance checks	**N/A**

IMPLEMENTATION PLAN

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

Main Changes
This document has been updated to include options for aluminium conductors and Smooth Welded Aluminium Sheathed cables to align with NGET specifications.

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**
June 2023	• Smooth welded aluminium sheaths and aluminium conductors added as an option for 66+132kv cables.	Richard Summers
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

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1.0 INTRODUCTION

This document describes the type of cable to be used on all the new circuits being added to the National Grid Electricity Distribution 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 or smooth welded aluminium sheath, if additional earth fault current capability is required then additional copper screen wires shall be added below 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.

Where aluminium conductors are used the sizes shall be either 630, 1000, 1000S, 1200S, 1600S or 2000Smm^2.

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 either 185, 300, 400, 630, 1000mm2. A semi-conducting conductor screen, XLPE insulation, a semi-conducting fully bonded insulation screen, water swelling tape, with a lead alloy E sheath or smooth welded aluminium sheath, if additional earth fault current capability is required then additional copper screen wires shall be added below the sheath and a medium density polyethylene (MDPE) coloured black oversheath, to British Standard Specification (BS) BS 7970 or IEC 60840. Typical phase earth fault ratings of shall be 7kA.

APPENDIX A SUPERSEDED DOCUMENTATION

This document supersedes POL: CA4/3 dated May 2020 which has now been withdrawn.

APPENDIX B RECORD OF COMMENT DURING CONSULTATION

No comments received.

APPENDIX C ASSOCIATED DOCUMENTATION

Specification EE 77

APPENDIX D KEY WORDS

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