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NSP/004/129 – Guidance on the Installation of Overhead Line Low Voltage Proximity Shrouding

1. Purpose

The purpose of this document is to provide guidance on the installation of temporary overhead line low voltage (LV) proximity shrouding for use on the distribution networks of Northern Powergrid.

This document supersedes the following documents, all copies of which should be destroyed;

Document Reference	Document Title	Version	Published Date
NSP/004/129	Guidance on the Installation of Overhead Line Low Voltage Proximity Shrouding	1.1	July 2019

2. Scope

This guidance note applies to electrical shrouding when temporarily applied to LV overhead lines to provide third party protection.

The use of temporary shrouding covered in this guidance document is forbidden on high voltage (HV) overhead lines.

The following appendixes are included in this guidance note: -

- Appendix 1 – Assessed Products
- Appendix 2 – Customer Email Templates
- Appendix 3 – Typical Arrangements

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3. General Requirements

3.1. Background

Temporary shrouding is predominantly used to protect construction staff and the general public from inadvertent contact when working in proximity to live conductors. It also protects Northern Powergrid assets from accidental damage.

Working in proximity to overhead lines shall be in accordance with Health and Safety Executive guidance document GS6 "Avoidance of Danger from Overhead Electric Lines". Several options are possible to allow safe working including:

- Making the line dead for the duration of the work.
- Under grounding or diverting the line.
- The replacement of bare conductor with an "effectively insulated conductor as defined in NSP/004/011
- The application of temporary shrouding

When determining which procedure to adopt, consideration shall be given to the type of work being undertaken, the method statement for the work and the use of mechanical plant and equipment.

3.2. Shrouding - Restrictions of Use

The use of temporary shrouding is not considered suitable as a long term means of insulating conductors as it creates additional mechanical loadings on the network components.

Temporary shrouding is not considered suitable in areas where it is likely to suffer from prolonged high levels of abrasion. Where scaffold or other structures are erected around the insulated/shrouded conductors additional precautions shall be taken to screen the conductors and/or provide a high visibility warning.

3.3. Application

Temporary shrouding shall provide both insulation and mechanical protection to "non-effectively insulated" conductors and associated connections located within 3 metres of the work zone.

The following conductors are classified as being "non-effectively insulated" for this purpose: -

- Bare copper or aluminium conductors
- Hessian covered copper or aluminium conductors
- Single core, single insulated copper or aluminium conductors

There is no requirement to shroud XLPE/PVC concentric service cables or aerial bundled (ABC) conductors which are all classified as "effectively insulated conductors" unless the site survey deems that they are in an unacceptably high risk from abrasion or puncture of the insulation during the course of the work or if their location needs to be visually highlighted.

When assessing the work location and the area to be shrouded, details of the type of work being undertaken shall be discussed with the customer and/or their contractor. Typical installations are shown below in Appendix 3.

Once the shrouding has been requested a number of Emails are generated throughout the lifetime of the job to maintain communications with the customer and in summary are:

Standard Installations

1. Job creation confirmation
2. Target Work Date
3. Scheduled
4. Removal Due Reminder(s)
5. Cancellation by NPG
6. Cancellation by Customer

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Scheme Installations

1. Target Visit Date scheduled
2. Provision of Quotation

A guidance note will be generated within the CRM system and Emailed to the customer/contractor advising them of the procedures to be observed when working in close proximity to live low voltage overhead lines. This also directs customer/contractor to T & C's within NPg website. Email templates are provided in Appendix 2 of this document. If upon visiting site shrouding is not required e.g. ABC network or a direct concentric service cable where only minor work is taking place the customer will be telephoned to provide and explanation for the reasons not to install and then CRM will generate a 'Cancellation by NPg' Email.

3.4. Materials

3.4.1. Conductor Shrouding

Conductor shrouding shall be manufactured in accordance with NPS/001/019 - Technical Specification for Low Voltage Conductor Shrouding Materials. This Northern Powergrid product specification is based on ENATS 43 -103 Issue 3, Class 2 type protection. It is a split tube that is normally supplied in 3m lengths with an appropriate insulated connector used to join multiple lengths.

3.4.2. Pocket Shrouds and Insulated Sheeting Material

Pocket shrouds and sheeting shall be manufactured in accordance with NPS/001/019 - Technical Specification for Low Voltage Conductor Shrouding Materials. Pocket shrouds or sheeting of an appropriate size shall be used to completely cover all electrical fittings, connectors and service tails. They shall be designed and fitted to remain in place during adverse weather conditions.

3.5. Inspection

The Terms and Conditions on the NPg website provide the customer details of their responsibilities to ensure that the shrouding material remains in situ for the duration of the work. Following severe weather conditions the shrouding shall be inspected by Northern Powergrid or their contractor and refitted if necessary.

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4. References

The products described within this specification shall comply with the latest versions of the relevant International Standards, British Standard Specifications and all relevant Energy Networks Association Technical Specifications (ENATS) current at the time of supply

4.1. External Documentation

Reference	Title
Energy Networks Association Technical Specification (ENATS) 43 – 103 Issue 3; 2016	Low voltage overhead line shrouding materials

4.2. Internal Documentation

Reference	Title
NPS/001/019	Technical Specification for Low Voltage Conductor Shrouding Materials
OPM	Operational Practice Manual
NSP/004/011	Guidance on Overhead Line Clearances

4.3. Amendments from Previous Version

Reference	Description
Whole Document	Document reviewed no changes required – Paul McAdoo 03/10/2023 Doc approved by email Paul Black 05/10/2023 Doc republished to grid and externally - LB 23/10/2023

5. Definitions

Term	Definition
None	

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6. Authority for Issue

6.1. CDS Assurance

I sign to confirm that I have completed and checked this document and I am satisfied with its content and submit it for approval and authorisation.

		Date
Liz Beat	Governance Administrator	23/10/2023

6.2. Author

I sign to confirm that I have completed and checked this document and I am satisfied with its content and submit it for approval and authorisation.

Review Period - This document should be reviewed within the following time period;

Standard CDS review of 3 years?	Non Standard Review Period & Reason	
Yes	Period: n/a	Reason: n/a
Should this document be displayed on the Northern Powergrid external website?		Yes
		Date
Ged Hammel	Senior Policy & Standards Engineer	19/09/2016

6.3. Technical Assurance

I sign to confirm that I am satisfied with all aspects of the content and preparation of this document and submit it for approval and authorisation.

		Date
Steven Salkeld	Policy & Standards Engineer	19/09/2016
Malcolm Gordon	Public and Site Safety Manager	19/09/2016
Paul McAdoo	Lead Policy & Standards Engineer	03/10/2023

6.4. Authorisation

Authorisation is granted for publication of this document.

		Date
Paul Black	Head of System Engineering	05/10/2023

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Appendix 1 – Approved Materials

Commodity Code	Description	For Use On
321096	Shrouding: (Class 2): For Low Voltage Overhead Lines: Supplied In 3-Metre Lengths and Complete with One Coupling.	Bare or single insulated conductors excluding ABC
265774	ABC Shrouding: (Class 2): For Aerial Bundled Conductor: Supplied in 2.5 Metre Lengths	Aerial Bundled Conductor (35mm to 120mm)
265538	Insulating Shrouding Roll (10m x 1m)	Fittings and Connections
063529	PVC Insulating Tape (19mm x 0.15mm)	Fitting Insulating Shrouding Material

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Appendix 2 – Email Templates Generated in the CRM System

Shrouding – Standard

<p>1. Job Creation</p> <p>Hello [FIRST NAME],</p> <p>[PRODUCT ID – DESCRIPTION “Temporary Protection From Overhead Lines”]</p> <p>Thank you for getting in touch, your reference number for this job is [CRM REF#]</p> <p>We will contact you again shortly regarding the installation and scheduling of the work.</p> <p>Got a query? Please reply to this email or call us on 0845 0707 172.</p> <p>Kind Regards,</p> <p>Northern Powergrid Team</p>
<p>2. Target Work Date Scheduled</p> <p>Hello [FIRST NAME],</p> <p>Thank you for requesting [PRODUCT ID – DESCRIPTION “Temporary Protection From Overhead Lines”]</p> <p>Here are the details of your job:</p> <p>Reference Number: [CRM REF#] Site Address: [IMPACTED ADDRESS] Number of Lines: [# OF LINES] Length (metres): [LENGTH] Line Type: [LINE TYPE] Duration: [DURATION]</p> <p>We are planning to install your shrouding on the following date: [TARGET WORK DATE] between [TARGET WORK PERIOD]</p> <p>Our service providers, [CONTRACTORS], will carry out this work as part of our team.</p> <p>You are not usually required to be at home when we visit, but please let us know as soon as possible if this date is not convenient by responding to this email, reference [CRM REF] above.</p> <p>Got a query? Please reply to this email or call us on 08450 0707 172.</p> <p>Kind Regards,</p> <p>Northern Powergrid Team</p>

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3a. Removal Due

Hello [FIRST NAME],

Reference Number: [CRM REF#]

We are due to remove your shrouding **after** [REMOVAL DATE]

Please reply to this email confirming that we can remove it **after** this date or, provide an alternative date.

Got a query? Please reply to this email or call us on 08450 0707 172.

Kind Regards,

Northern Powergrid Team

3b. Removal reminder every 14 days thereafter

Hello [FIRST NAME],

Reference Number: [CRM REF#]

We recently contacted you to request confirmation of the removal of the shrouding from the overhead power lines, but do not appear to have received a reply.

We are now due to remove your shrouding **after** [REMOVAL DATE]

Please reply to this email confirming that we can remove it **after** this date or provide an alternative date.

Got a query? Please reply to this email or call us on 08450 0707 172.

Kind Regards,

Northern Powergrid Team

4. Cancellation by NPg

Hello [FIRST NAME],

Reference Number: [CRM REF#]

We're sorry your shrouding work has been cancelled. We will contact you again shortly to explain the reason for this cancellation.

Got a query? Please reply to this email or call us on 08450 0707 172.

Kind Regards,

Northern Powergrid Team

5. Cancellation by Customer

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Hello [FIRST NAME],

Reference Number: [CRM REF#]

We understand that you no longer want us to arrange [Product ID – Description].

If you change your mind in the future and would like us to do the work at a later date, you can go to our website <<insert relevant link>> or call us on 0845 0707 172.

Kind Regards,

Northern Powergrid Team

Shrouding - Schemes

6. Target visit date scheduled

Hello [FIRST NAME],

Thank you for requesting [PRODUCT ID – DESCRIPTION “Temporary Protection From Overhead Lines”]

Reference Number: [CRM REF#]
Site Address: [IMPACTED ADDRESS]

Our service providers, [CONTRACTOR] will visit your site on [TARGET VISIT DATE] between [TARGET VISIT PERIOD] to assess the work required.

Please let us know as soon as possible if this date is not convenient by responding to this email, quoting your reference number.

Got a query? Please reply to this email or call us on 08450 0707 172.

Kind Regards,

Northern Powergrid Team

7. Quoted cost

Hello [FIRST NAME],

Reference Number: [CRM REF#]

Following our recent visit to your site we are pleased to provide you with a quotation for the shrouding work requested. The cost of the work is [QUOTED COST *INC VAT* £XX.YY] (including VAT).

If you are happy with this quotation, please reply to this email. We’ll then arrange for you to be sent an invoice, which explains how you can pay.

Got a query? Please reply to this email or call us on 08450 0707 172.

Kind Regards,

Northern Powergrid Team

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Appendix 3 – Typical Arrangements

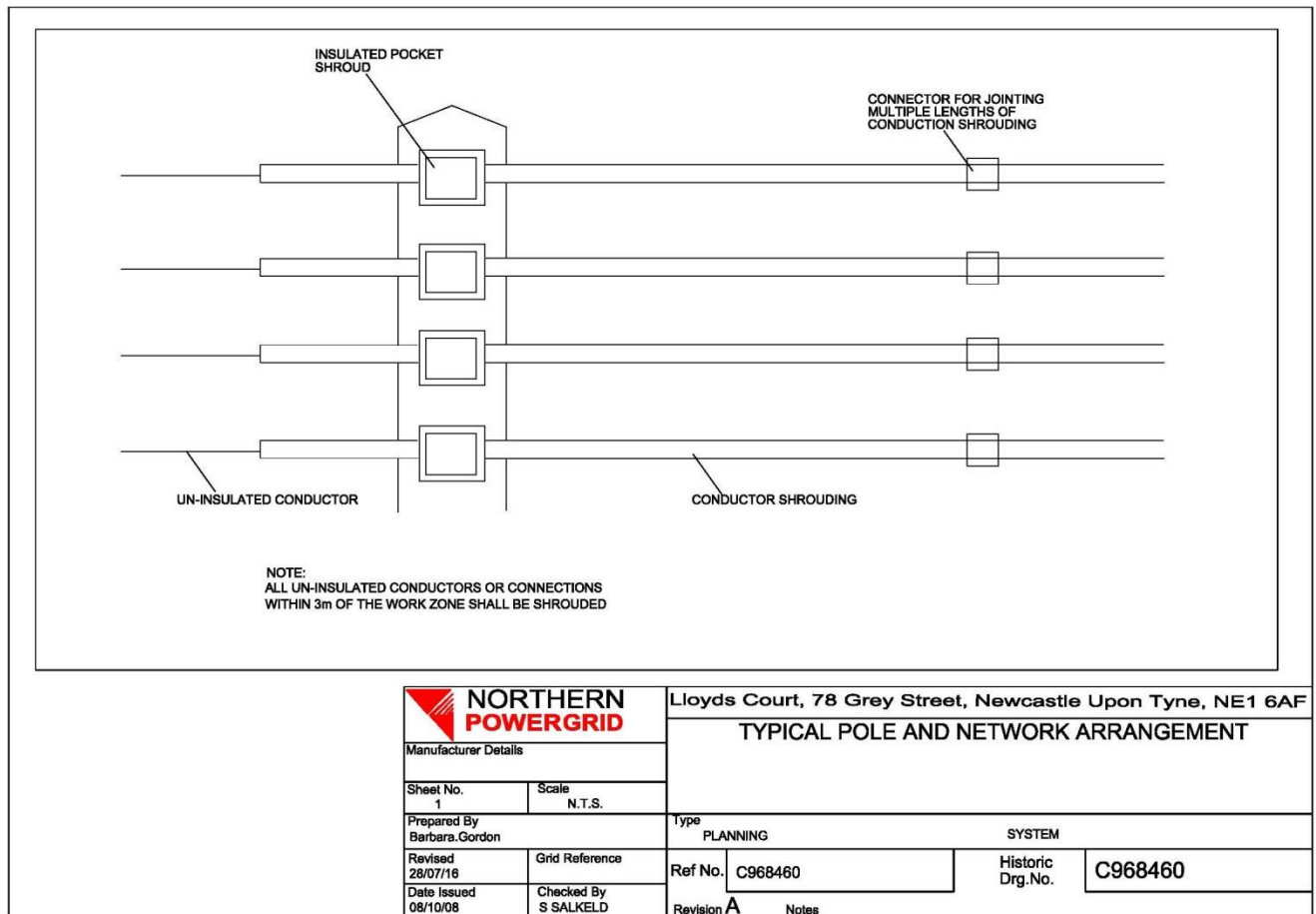
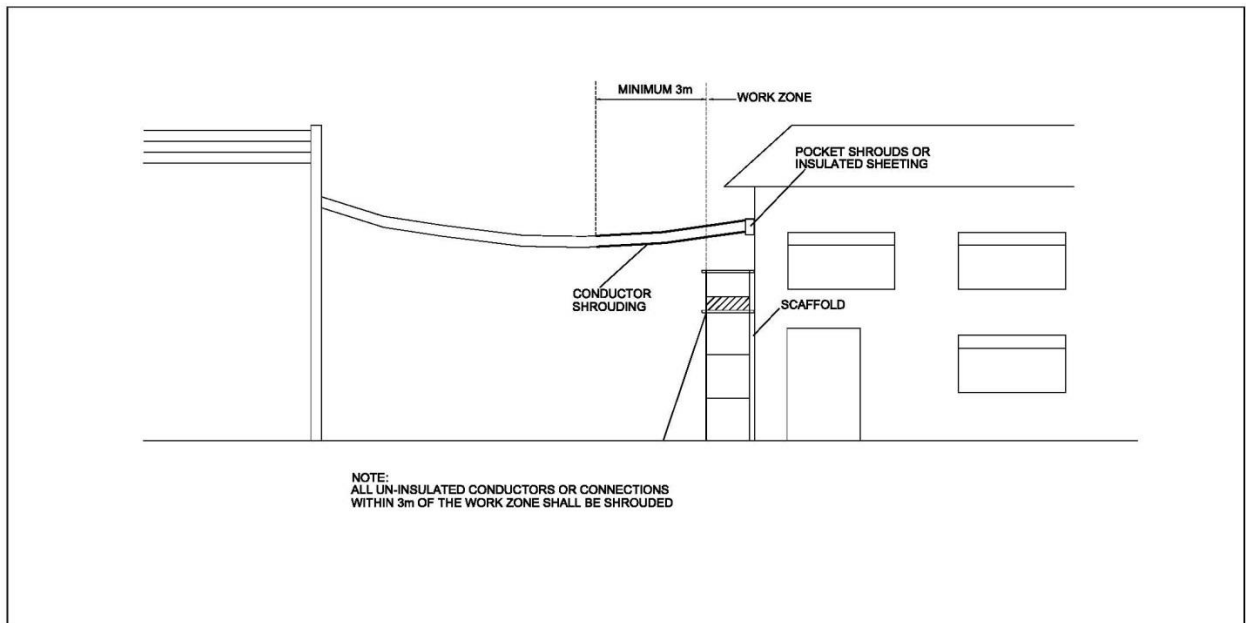


Figure 1 - Typical Pole and Network Arrangement

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		Lloyds Court, 78 Grey Street, Newcastle Upon Tyne, NE1 6AF	
		TYPICAL SERVICE ATTACHMENT TO BUILDING ARRANGEMENT	
Manufacturer Details			
Sheet No. 2	Scale		
Prepared By Barbara Gordon		Type PLANNING	SYSTEM
Revised 28/07/16	Grid Reference	Ref No. C968466	Historic Drg.No. C968460
Date Issued 08/10/08	Checked By	Revision A	Notes

Figure 2 – Typical Service Attachment to Buildings