

**Electricity Specification 281**

Issue 12 May 2023

**Company-Specific Appendices to ENA Engineering Recommendation G81**

DRAFT

Amendment Summary

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| **ISSUE NO. DATE** | **DESCRIPTION** |
| **Issue 9**  **July 2021** | Restructure and reformatting to the latest template for Model Electricity Specification. Parts 2 and 5 have been combined into one new document. Addition of 1kV and 11kV LSOH sheathed cables in Appendix 2/5.  Prepared by: Philip Howell  Approved by: Policy Approval Panel  and signed on its behalf by Steve Cox, Engineering and Technical Director |
| **Issue 10**  **December 2021** | 400mm2 versions of 11kV cable added to Parts 2/5  Prepared by: Philip Howell  Approved by: Policy Approval Panel  and signed on its behalf by Steve Cox, Engineering and Technical Director |
| **Issue 11**  **December 2022**  **Issue 12**  **May 2023** | Underground Link boxes updated to Mk3 versions  Tape specifications updated.  Section 5.1 updated to include Lucy VRN2a approved relay.  Sections 5.4 and 7 to include approved transformer suppliers.  Prepared by: Philip Howell  Approved by: Policy Approval Panel  and signed on its behalf by Steve Cox, Engineering and Technical Director  All lists of approved equipment have been removed. This detail is now contained on a spreadsheet hosted on Electricity North West’s website. References to EPD307 removed, this document has been archived.  Current version of approved equipment spreadsheet is enwl-approved-equipment-list-14-04-23  Prepared by: Peter Twomey  Approved by: Policy Approval Panel  and signed on its behalf by Steve Cox, Engineering and Technical Director |

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# Introduction

The design and installation of new connections to electricity distribution networks, provided by Independent Connections Providers (ICP), is governed by a nationally agreed document, prepared by the Energy Networks Association (ENA) and endorsed by the Office for Gas and Electricity Markets (Ofgem). That document, Engineering Recommendation (ER) G81, provides a “Framework for design and planning, materials specification, installation and records” and covers low voltage housing development installations and associated, new, HV/LV distribution substations, and industrial and commercial underground-connected loads up to and including 11kV. ER G81 requires licensed Distribution Network Operators (DNO) to provide, in addition, their own company-specific appendices, setting out in more detail their own requirements and specifications, for installations, which they will adopt.

ER G81 comprises 7 parts, covering the following aspects:

Part 1: Design and planning of new low voltage underground cable electricity networks, including their new associated HV/LV distribution substations, for housing developments;

Part 2\*: Materials specification for new low voltage underground cable electricity networks, including their new associated HV/LV distribution substations, for housing developments;

Part 3: Installation and records of new low voltage underground cable electricity networks, including their new associated HV/LV distribution substations, for housing developments;

Part 4: Design and planning of new underground connections at voltages up to and including 11kV for industrial and commercial loads;

Part 5\*: Materials specification for new underground connections at voltages up to and including 11kV for industrial and commercial loads;

Part 6: Installation and records of new underground connections at voltages up to and including 11kV for industrial and commercial loads;

Part 7: Design and planning, materials specification, inspection and records requirements for contestable diversionary and reinforcement works on underground cables and overhead lines not exceeding 33kV and on HV/LV distribution substations.

Electricity North West Limited has prepared its own appendices to Parts 1 to 6 of ER G81. These take the form of Parts 1 to 5\* respectively of this Electricity Specification (ES).

\*Parts 2 and Parts 5 of ER81 have been combined to avoid extensive duplication and make the document easier to read.

# Definitions

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| CP | Electricity North West Code of Practice |
| Distribution Substation | 11kV to LV, or 6.6kV to LV substation |
| DNO | Distribution Network Operator |
| ENA | Energy Networks Association |
| Engineer | Electricity North West’s Competitive Adoptions Manager, or his delegated representative |
| EPD | Electricity North West Electricity Policy Document |
| ER/EREC | ENA Engineering Recommendation |
| ES | Electricity North West Electricity Specification |
| HV | High Voltage, i.e. either 11kV or 6.6Kv |
| ICP | Independent Connection Provider |
| NJUG | National Joint Utilities Group |
| NRSWA | New Roads and Street Works Act 1991 |
| Ofgem | Office of Gas and Electricity Markets |
| Primary Substation | 33kV to 11kV, or 33kV to 6.6kV substation, or, for the purposes of this document, 132kV to 11kV substation |
| XLPE | Cross-Linked Poly-Ethene |

# Documents Referenced

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| DOCUMENTS REFERENCED | |
| New Roads and Street Works Act 1991. |  |
| ENA ER G81 | Framework for design and planning, material specification, installation and record for LV housing development installations and associated HV/LV distribution substations and industrial and commercial underground connected loads up to and including 11kV. |
| See also the documents referenced in each Part of this ES281. |  |

# Keywords

See the keywords listed in each Part of this ES281.