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Electricity Specification 334

Issue 7 July 2025

HV and LV Fuse Links

Amendment Summary

ISSUE NO. DATE	DESCRIPTION
Issue 7 **July 2025**	Document converted into new template and updated to reflect details of fuses currently in use. Prepared by: Simon Rushton Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson

Contents

1 Scope

This specification details the requirements for the purchase of Fuse-Links to be used on the electricity distribution network (Network) owned and operated by Electricity North West Limited, hereafter referred to as Electricity North West. This specification includes HV Fuse-Links for use in switch-fuse units and drop out expulsion Fuse-Links for the overhead network. On the LV network it covers J type Fuse-Links for use on the distribution system, industrial Fuse-Links, domestic cut-out Fuse-Links, street lighting and other ancillary Fuse-Links. These Fuse-Links are all detailed in national, international and industry standards that are listed within the technical particulars for each type.

2 Definitions

Approval	Sanction by the Electricity North West Limited Protection Systems Manager that specified criteria have been satisfied.
Contract	The agreement between Electricity North West Limited and the Contractor for the execution of the Works including therein all documents to which reference may properly be made in order to ascertain the rights and obligations of the parties under the said agreement.
Contractor	The person or person's firm or company, including personal representatives, successors and permitted assigns, who's Tender has been accepted by Electricity North West Limited.
Fuse	A device that by the fusing of one or more if its specially designed and proportioned components opens the circuit in which it is inserted by breaking the current when it exceeds a given value for a sufficient time. The Fuse comprises all the parts that form the complete device.
Fuse-Link	The part of a Fuse including the Fuse element(s), intended to be replaced after the Fuse has opened
High Voltage (HV)	A voltage exceeding Low Voltage (LV).
HRC	High Rupture Capacity
Low Voltage (LV)	A voltage exceeding 50V ac but not exceeding 1000V ac or a voltage exceeding 120V dc but not exceeding 1500V dc
Specification	The Specifications and schedules (if any) agreed by the parties for the purpose of the Contract.
Sub-Contractor	Any person (other than the Contractor) named in the Contract for any part of the Works or any person to whom any part of the Contract has been sub-let with the consent in writing of the Electricity North West Limited Protection Systems Manager, and the legal representatives, successors and assigns of such person.

Supplier	Any person or person's firm or company who supplies goods to Electricity North West Limited or to its Contractor.
Tender	An offer in writing to execute work or supply goods at a fixed price.
Tenderer	The person or person's firm or company, including personal representatives, successors and permitted assigns, invited by Electricity North West Limited to submit a Tender.
Words	Words importing persons shall include firms and corporations; words importing the singular only, also include the plural, and vice versa where the context requires.
Work	All materials, labour and actions required to be provided or performed by the Contractor under the Contract.
Writing	Any manuscript, typewritten or printed statement under seal or hand as the case may be.
ENA TS	Electricity Networks Association Technical Specification

3 General Requirements for Approvals and Testing

3.1 Product not to be Changed

No change in the product, packaging or labelling shall be made after Approval has been granted without prior notice to the Electricity North West Limited Protection Systems Manager, and receipt of a written agreement to the proposed change from the Electricity North West Limited Protection Systems Manager.

3.2 Electricity North West Technical Approval

The Tenderer shall submit, with this Tender, proposals for testing which will demonstrate, to the satisfaction of the Electricity North West Protection Systems Manager, compliance with this Specification. Such tests shall be carried out without expense to Electricity North West Limited.

Alternatively, technical reports and other data may be submitted that the Tenderer considers will demonstrate, to the satisfaction of the Electricity North West Protection Systems Manager, compliance with this Specification. Acceptance of this evidence shall be at the discretion of the Electricity North West Limited Protection Systems Manager but will not be unreasonably withheld.

Approval shall be 'factory specific' and is not transferable to another factory without the written Approval of the Electricity North West Limited Protection Systems Manager.

The supplier and product shall comply with all the relevant requirements of Electricity North West Limited document CP311.

The Tenderer shall complete the conformance declaration sheet in Appendix C.

3.3 Quality Assurance

The Tenderer shall confirm whether or not Approval is held in accordance with a quality assurance scheme accredited under ISO 9001. If not, the Tenderer shall submit a statement of the quality assurance procedures employed to control the quality of the product, including the performance of Suppliers and Sub-Contractors.

The right is reserved for the repeat of such tests, from time to time, that the Electricity North West Limited Protection Systems Manager may deem to be reasonably necessary to demonstrate continued compliance with the Specification.

The Tenderer shall submit, with the Tender, a list of tests and inspections which are carried out on the product prior to despatch which shall demonstrate, to the satisfaction of the Electricity North West Limited Protection Systems Manager, fitness for installation and service.

The Tenderer shall provide free of charge to Electricity North West such samples as may, in the opinion of the Electricity North West Limited Protection Systems Manager, be reasonably required for inspection and/or retention as quality control samples. The Electricity North West Limited Protection Systems Manager will confirm the requirement for samples at the time of Tendering.

The right is reserved for inspections to be made of Tenderer's facilities, from time to time, as deemed reasonably necessary by the Electricity North West Limited Protection Systems Manager to ensure compliance with this Specification and any Contract of which it forms a part.

The Tenderer shall submit, with the Tender, such details of product packaging disposal, as will enable Electricity North West to comply with the requirements of BS EN ISO 14001 - Environmental Management Systems.

3.4 Formulation

The Tenderer shall submit, with the Tender, such details of the formulation and use of the product and associated substances as will enable Electricity North West Limited to comply with the obligations of the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 2002, in the use, storage and disposal of the product. The Tenderer may stipulate, prior to submission of such information, that it is to remain confidential, and the Electricity North West Limited Protection Systems Manager will, if requested, confirm agreement to this prior to receipt of the information.

3.5 Identification Markings

The Tenderer shall submit, with the Tender, details of markings which it is proposed to apply to the product or packaging to identify manufacturing batches or items. The forms and content of such markings shall be subject to the Approval of the Electricity North West Limited Protection Systems Manager and shall in all cases include the Electricity North West Limited approved description and commodity code number.

The Tenderer shall submit, with the Tender, such details of marking gross weight on components, assemblies and packages, as will enable Electricity North West to comply with the Health and Safety Manual Handling Operation Regulations 1992, for components, assemblies and packages supplied with a gross weight over 1kg. The forms and content of such markings shall be subject to the Approval of the Electricity North West Limited Protection Systems Manager.

3.6 Minimum Life Expectancy

The minimum life expectancy of all products covered by this Specification is 40 years.

3.7 Product Conformity

Preference will be given to those Suppliers who can provide suitable product conformity certification to a recognised or specified standard, or an equivalent certification.

4 Requirements for Type and Routine Testing

The Electricity North West Limited Protection Systems Manager shall set out the requirement of the following tests to be carried out by the Supplier at the Supplier's cost.

4.1 Requirement for Type Tests at Suppliers Premises

These are a series of one-off type tests, which are carried out to ensure the satisfactory performance of the product design, under extremes of operating stresses, and of endurance, as may be appropriate, to be determined by the Electricity North West Limited Protection Systems Manager.

These may or may not be destructive tests.

4.2 Requirement for Routine Tests at the Supplier's Premises

These tests may be required to be carried out on every individual unit or component, as specified, or at some regular frequency to be determined by the Electricity North West Limited Protection Systems Manager.

The results of these tests may be required to be supplied to Electricity North West Limited with each unit purchased or retained for inspection, at a period to be determined by the Electricity North West Limited Protection Systems Manager.

5 Technical Requirements

5.1 Equipment Standards and Regulatory Requirements

Electricity North West welcomes innovation and alternatives to traditional designs that still meet the functional requirements of this Specification. Variations shall be clearly identified and prices for compliant and non-compliant equipment detailed separately.

The design of the equipment shall meet the requirements of the Health and Safety at Work Act 1974, the Electricity at Work Regulations 1989 and the Provision and Use of Work Equipment Regulations 1998, for the maximum safety of all personnel.

5.2 Equipment Description

The Fuse-Link shall consist of a sealed barrel of insulating material containing the Fuse element or elements. The end caps on the barrel shall be of a non-ferrous metal, plated to prevent corrosion, which shall act as both the current carrying contact and fixing arrangements, with or without tags.

The material for the Fuse element shall be stated in the Tender. The Fuse-Links shall be non-deteriorating and the external design and dimensions shall be in accordance with the standards referred to within this Specification.

5.3 Proof of Performance

Evidence of proof of performance shall be submitted with the Tender. Time / current characteristics and such other tests as required for complying with the relevant national, international or industry standard for each type of Fuse-Link and the curves for the Fuse-Links shall be submitted with the Tender.

5.4 Departures from Specification

The Tender shall state at the time of tendering all departures from the requirements of this specification. The Tenderer shall complete the clause conformance declaration in Appendix B.

5.5 HV HRC Fuse-Links

HV Fuse-Links shall comply with BS EN 60282-1 and ENA TS 12-8. Fuse-Links may be required for operation under oil and other Fuse-Links may be required for operation in air.

Fuse-Links will be required for system voltages of 6.6kV and 11kV. The nominal ratings for Fuse-Links for use on those systems are 7.2kV and 12kV respectively. HV Fuse-Links shall be clearly marked with the identifying markings and their rating reference as specified in Energy Networks Association Technical Specification (ENA TS) 12-8. Provided that the current carrying capability is not impaired, it is preferred that the current rating shall be impressed on an end cap. Where this is not the case, the marking of the current rating shall be such that it will not suffer from the effects of abrasion or the effects of oil immersion where appropriate.

Fuse-Links are required to carry without deterioration the permitted overloads of associated ground mounted distribution transformers to ENA TS 35-1. Fuse-Links shall also grade with LV Fuse-Links to BS 88-2 as used on the LV side of the distribution transformer.

HV Fuse-Links for use under oil shall conform to the dimensions of BS EN 60282-1 Type II, dimension A = 63.5mm and dimension D = 359mm.

HV Fuse-Links for use in air shall conform to the dimensions of BS EN 60282-1 Type III, dimension A = 80mm and E = 419mm. Tag arrangement D to be used.

All HV Fuse-Links shall be fitted with strikers for operation of the fuse-switch tripping mechanism. The direction of striker pin operation shall be clearly and indelibly marked on the Fuse-Link. Tactile recognition shall also be provided on the end cap at the striker end. Operating circuits for strikers shall be so arranged that striker operation will result irrespective of the point at which the main elements are interrupted.

Each homogeneous series of HV Fuse-Links shall have been tested in each design of fuse-switch equipment supplied to ENA TS 41-36 (or previously supplied to prior versions of this and equivalent specifications). This requirement shall be considered to be met by certified short circuit tests to IEC62271-200, or equivalent, on two different designs of fuse-switch combinations, in Short-Circuit Testing Liaison (STL) member test laboratory. One design shall be with the Fuse-Links mounted horizontally and the other shall be with the Fuse-Links mounted vertically. These tests shall be undertaken on the maximum rating of Fuse-Link for a given body size.

The specific ratings required are detailed in Schedules A and B.

5.6 LV Fuse-Links (Distribution Network)

LV Fuse-Links to BS EN IEC 60269 and BS 88 shall have a full-range breaking capacity with Q1 class fusing factor and be for either general application or the protection of motor circuits (denoted “gG” or “gM”).

LV Fuse-Links for use on Electricity North West’s distribution network shall comply with BS EN IEC 60269-1; ENA TS 12-8 and BS 88-2. They shall have a rated breaking capacity of 46kA at 415V. LV Fuse-Links shall be clearly and indelibly marked in accordance with BS EN IEC 60269-1.

The specific ratings required are detailed in Schedule C.

5.7 LV Fuse-Links (Domestic and Similar Premises)

Fuse-Links for use in domestic and similar premises shall comply with BS 88-3 with particular regard to the time-current characteristics, pre-arcing I^2t and cut-off values. Fuse-links for domestic services shall be suitable for use in cut-outs to the requirements of BS 7657.

The dimensions of the Fuse-Links shall be in accordance with BS 88-3, for both Type IIa and IIb.

The specific ratings required are detailed in Schedule D.

5.8 LV Fuse-Links (Street Lighting Services)

Fuse-Links for street lighting applications shall conform to BS EN IEC 60269-1 and BS 7654.

Fuse-Links for street lighting services shall be suitable for use in street lighting cut-outs to the requirements of BS 7654. Fuses for use in these cut-outs shall be of the offset tag type with 38mm fixing centres and a minimum breaking capacity of 16kA at 415V ac, in accordance with BS EN IEC 60269-1.

The specific ratings required are detailed in Schedule E.

5.9 LV Fuse-Links (Industrial Premises)

For industrial applications, LV Fuse-Links shall comply with BS EN IEC 60269-1; BS HD 60269-2-1 and BS 88-2 and shall have a dual rating of 80kA at 415V ac and 40kA at 250V dc.

The above standards cover a range of industrial fuse-links of the following types:

- 2 hole offset tag with 44mm, 73mm and, 94mm centres
- 2 hole central tag with 111mm centre
- Central tag with 4 hole fixings and 133/184mm centres
- Compact types with offset blade tag

The specific ratings required are detailed in Schedules F, G, H and I respectively.

5.10 HV Expulsion Fuse-Links

Fuse-Links shall be suitable for use in overhead line fuse equipment supplied to ENA TS 41-36 and to prior ENA specifications. Fuse-Links shall comply with BS 2692-2 and where specified, IEEE C37-42 requirements for slow-blowing T characteristics.

Fuse-Links are required for use on the 6.6kV and 11kV distribution systems. The rated breaking capacity shall be 8kA.

There are variations of Fuse carriers and these require Fuse elements with:

a) Tails at both ends
b) Button at one end and tail at the other
c) ¼ inch UNF screw thread at one end and tail at the other
d) Universal type which can be used as either (a) or (b).

Historically, types (a) and (b) have been used on the Electricity North West network as individual types. However, the Fuse range has been recently rationalised and only type (d) is now purchased which is equivalent to ether type (a) or (b). Type (c) has not been historically used in Electricity North West but a new HV fuse mount is being purchased that will require this type of link in the future.

It is preferable that a single range of Fuse-Links be adaptable to cover the three applications.

Overall length of Fuse-Links shall be as specified in Schedule J.

The specific ratings required are detailed in Schedule J.

5.11 Time Fuse-Links

Time Fuse-Links (for use with current transformer releases) for HV transformer protection are required in accordance with ENA TS 12-6. The ratings, dimensions, marking and performance shall all be in accordance with ENA TS 12-6.

The specific ratings required are detailed in Schedule K.

5.12 Automatic Sectionalising Links (ASLs)

ASLs are a self contained device designed to work in conjunction with auto reclosers. ASLs shall have the same dimensional and mounting requirements as HV Expulsion Fuse-Links and shall comply with the relevant section of ENA TS 41-36.

The specific ratings required are detailed in Schedule L.

5.12.1 Principle of Operation

If the line current increases above a pre-set value (pick-up current) a logic circuit shall activate. The upstream recloser shall then operate to remove the fault from the line. The logic circuit, shall store the incident for approximately 25 second (reclaim time). The recloser shall then close to restore the line. If the fault current is not present the logic circuit shall time out after the reclaim time and revert to its original state. If the fault current is still present, the logic circuit shall then open the ASL during the dead time of the recloser following its next operation. It is preferable for the ASL trip and reset operation not to require replacement part(s) fitting each time it has operated.

The logic circuit shall be designed to inhibit operation for magnetic inrush or impulse currents. Preference will be given to designs that have selectable current and shot ratings so that only a single type of device needs to be purchased.

6 Protection, packaging and delivery

The Contractor shall ensure that each item is suitably protected and packaged to maintain it fit for service prior to installation.

The Tenderer shall submit, with the Tender, details of the proposed packaging arrangements and identification markings.

Tenderers shall state on the price schedules the lead times offered. Deliveries shall be specified with the order and may be to any stores within Electricity North West's area.

7 Documents Referenced

DOCUMENTS REFERENCED	
Health and Safety at Work etc Act 1974	
Control of Substances Hazardous to Health Regulations 2002	
Manual Handling Operations Regulations 1992 (as amended)	
Electricity at Work Regulations 1989	
Provision and Use of Work Equipment Regulations 1998	
BS EN ISO 9001: 2015+A1:2024	**Quality Management Systems. Requirements**
BS EN ISO 14001: 2015	**Environmental Management Systems. Requirements**
BS EN IEC 60269-1: 2025,	**Low Voltage Fuses. General Requirements**
BS HD 60269-2: 2013+A1:2022	**Low Voltage Fuses. Supplementary requirements for fuses for use by authorised persons (fuses mainly for industrial application)**

BS HD 60269-3: 2010+A2:2022	**Low Voltage Fuses. Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)**
BS EN 60282-1: 2020	**High Voltage Fuses. Current Limiting Fuses**
BS 2692-2:1956	**Fuses for voltages exceeding 1000V ac. Expulsion fuses**
BS 7654:2010	**Specification for single phase street lighting cut-out assemblies for low voltage public electricity distribution systems. 25A rating for highway power supplies and street furniture**
BS 7657:2022	**Specification for cut-out assemblies up to 100A rating, for power supplies to buildings.**
IEC 62271-200	**High-voltage switchgear and controlgear - Part 200: Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV.**
IEEE C37-42:2016	**IEEE Std Specifications for High Voltage Expulsion-Type Distribution Class Fuses, Fuse and Disconnecting Cutouts, Fuse Disconnecting Switches, and Fuse Links**
ENA TS 12-6Issue 3:2021	**Time fuse-links (for use with current transformer releases on circuit breakers)**
ENA TS 12-8 Issue 4:2021	**The application of fuse links to 11kV and 6.6kV / 415V distribution networks**
ENA TS 35-1 Issue 7:2021	**Distribution transformers (from 16kVA to 2000kVA)**
ENA TS 41-36 Issue 3:2012	**Switchgear for service up to 36kV (cable and overhead conductor connected)**
CP311 Issue 3	Approval of Equipment

8 Keywords

11kV; 6.6kV; Distribution; Domestic; Fuse; Industrial; LV; Protection

Appendix A – Schedules

Schedule A – HV Fuse-Links for Use in Oil

Schedule B – Tag Type HV Fuse-Links for Use in Air

Schedule C – LV J Type Cylindrical Slotted Tag Fuse-Links

Schedule D – Domestic Service Termination Fuse-Links

Schedule E – HRC Fuse-Links for Street Lighting Services

Schedule F – Industrial 2 Hole Offset Tag Fuse-Links

Schedule G – Industrial 2 Hole Central Tag Fuse-Links

Schedule H – LV Central Tag Fuse-Links with 4 Hole Fixing

Schedule I – Industrial Compact Fuse-Links with Offset Blade Tag

Schedule J – HV Expulsion Fuse-Links

Schedule K –Time Fuse-Links

Schedule L – Automatic Sectionalising Links

SCHEDULE A - HV FUSE-LINKS FOR USE IN OIL

(to BS EN 60282-1 and ENA TS 12-8)

System Rating (kV)	Current Rating (A)	ENA TS 12-8 Rating Ref	Length (mm)	Electricity North West Commodity Code	SAP Description
11 & 6.6	25	O1	359	82694	HV FUSE OIL 25A 12kV O1 359mm
11 & 6.6	35.5	O2	359	83674	HV FUSE OIL 35.5A 12kV O2 359mm
11 & 6.6	50	O3	359	84182	HV FUSE OIL 50A 12kV O3 359mm
11 & 6.6	80	O4	359	85618	HV FUSE OIL 80A 12kV O4 359mm
11 & 6.6	90	O5	359	85774	HV FUSE OIL 90A 12kV O5 359mm
11 & 6.6	125	O6	359	85790	HV FUSE OIL 125A 12kV O6 359mm
6.6	140	O7	359	85758	HV FUSE OIL 140A 7.2kV O7 359mm
6.6	160	-	359	85766	HV FUSE OIL 160A 7.2kV 359mm

SCHEDULE B - TAG TYPE HV FUSE-LINKS FOR USE IN AIR

(to BS EN 60282-1 and ENA TS 12-8)

System Voltage (kV)	Current Rating (A)	ENA TS 12-8 Rating Ref	Electricity North West Commodity Code	SAP Description
11 & 6.6	20	A1	82716	HV FUSE AIR 20A 12kV A1
11 & 6.6	31.5	A2	83569	HV FUSE AIR 31.5A 12kV A2
11 & 6.6	50	A3	83704	HV FUSE AIR 50A 12kV A3
11 & 6.6	71	A4	85294	HV FUSE AIR 71A 12kV A4

SCHEDULE C - LV "J" TYPE CYLINDRICAL SLOTTED TAG FUSE-LINKS

(to BS EN 60269-1, ENA TS 12-8 and BS 88-2)

Fuse Centre	Current Rating (A)	Electricity North West Commodity Code	SAP Description
76mm	100	60674	LV FUSE 100A 76.2mm CENTRE J TYPE
76mm	160	87718	LV FUSE 160A 76.2mm CENTRE J TYPE
76mm	200	88439	LV FUSE 200A 76.2mm CENTRE J TYPE
76mm	250	89494	LV FUSE 250A 76.2mm CENTRE J TYPE
82mm	100	85898	LV FUSE 100A 82mm CENTRE J TYPE
82mm	160	60682	LV FUSE 160A 82mm CENTRE J TYPE
82mm	200	60690	LV FUSE 200A 82mm CENTRE J TYPE
82mm	250	98353	LV FUSE 250A 82mm CENTRE J TYPE
82mm	315	60593	LV FUSE 315A 82mm CENTRE J TYPE
82mm	355	60594	LV FUSE 355A 82mm CENTRE J TYPE
82mm	400	60569	LV FUSE 400A 82mm CENTRE J TYPE
82mm	500	82294	LV FUSE 500A 82mm CENTRE J TYPE (REZAP)
92mm	100	85901	LV FUSE 100A 92mm CENTRE J TYPE
92mm	160	88188	LV FUSE 160A 92mm CENTRE J TYPE
92mm	200	60704	LV FUSE 200A 92mm CENTRE J TYPE

92mm	250	89591	LV FUSE 250A 92mm CENTRE J TYPE
92mm	315	60577	LV FUSE 315A 92mm CENTRE J TYPE
92mm	355	85944	LV FUSE 355A 92mm CENTRE J TYPE
92mm	400	91219	LV FUSE 400A 92mm CENTRE J TYPE
92mm	500	92215	LV FUSE 500A 92mm CENTRE J TYPE
92mm	630	93149	LV FUSE 630A 92mm CENTRE J TYPE

SCHEDULE D - DOMESTIC SERVICE TERMINATION FUSE-LINKS

(to BS 88-3)

End Cap Diameter (mm)	Current Rating (A)	BS 88-3 Type Ref	Electricity North West Commodity Code	SAP Description
22.23	40	IIa	60622	LV FUSE 40A CUTOUT SMALL DIA 22.23mm IIa
22.23	60	IIa	60623	LV FUSE 60A CUTOUT SMALL DIA 22.23mm IIa
22.23	80	IIa	60631	LV FUSE 80A CUTOUT SMALL DIA 22.23mm IIa
30.16	40	IIb	60640	LV FUSE 40A CUTOUT LARGE DIA 30.16mm IIb
30.16	60	IIb	84336	LV FUSE 60A CUTOUT LARGE DIA 30.16mm IIb
30.16	80	IIb	60658	LV FUSE 80A CUTOUT LARGE DIA 30.16mm IIb
30.16	100	IIb	60666	LV FUSE 100A CUTOUT LARGE DIA 30.16mm IIb

SCHEDULE E - HRC FUSE-LINKS FOR STREET LIGHTING SERVICES

(to BS EN 60269-1 & BS 7654)

Centre (mm)	Rating (A)	Description	Electricity North West Commodity Code	SAP Description
38	6	Offset tags with 1 axial and 1 lateral slot	81302	LV FUSE 6A STREET LIGHTING OFFSET TAG
38	10	Offset tags with 1 axial and 1 lateral slot	81493	LV FUSE 10A STREET LIGHTING OFFSET TAG
38	16	Offset tags with 1 axial and 1 lateral slot	60615	LV FUSE 16A STREET LIGHTING OFFSET TAG
38	25	Offset tags with 1 axial and 1 lateral slot	82708	LV FUSE 25A STREET LIGHTING OFFSET TAG

SCHEDULE F - INDUSTRIAL (415V) 2 HOLE OFFSET TAG FUSE-LINK

(to IEC 60269-2-1)

Type	Rating(A)	Description	Electricity North West Commodity Code	SAP Description
A1	6	Offset Bolted Tag 44mm Centre	85840	LV FUSE 6A OFFSET BOLTED TAG 44mm A1
A1	10	Offset Bolted Tag 44mm Centre	85841	LV FUSE 10A OFFSET BOLTED TAG 44mm A1
A1	20	Offset Bolted Tag 44mm Centre	85842	LV FUSE 20A OFFSET BOLTED TAG 44mm A1
A2	16	Offset Bolted Tag 73mm Centre	85843	LV FUSE 16A OFFSET BOLTED TAG 73mm A2
A2	20	Offset Bolted Tag 73mm Centre	85844	LV FUSE 20A OFFSET BOLTED TAG 73mm A2
A2	32	Offset Bolted Tag 73mm Centre	85845	LV FUSE 32A OFFSET BOLTED TAG 73mm A2
A3	63	Offset Bolted Tag 73mm Centre	85846	LV FUSE 63A OFFSET BOLTED TAG 73mm A3
A4	100	Offset Bolted Tag 94mm centre	85847	LV FUSE 100A OFFSET BOLTED TAG 94mm A4

SCHEDULE G - INDUSTRIAL (415V) 2 HOLE CENTRAL TAG FUSE-LINK

(to IEC 60269-2-1)

Type	Rating (A)	Description	Electricity North West Commodity Code	SAP Description
B2	200	111mm centre	88240	LV FUSE 200A IND'L 2 HOLE CENTRAL TAG B2
B3	315	111mm centre	90026	LV FUSE 315A IND'L 2 HOLE CENTRAL TAG B3
B4	400	111mm centre	91588	LV FUSE 400A IND'L 2 HOLE CENTRAL TAG B4

SCHEDULE H - LV CENTRAL TAG FUSE-LINK WITH 4 HOLE FIXINGS

(to IEC 60269-2-1)

Type	Rating (A)	Description	Electricity North West Commodity Code	SAP Description
C1	400	133mm & 184mm centres, 51mm barrel width	91480	LV FUSE 400A IND'L 2 HOLE CTRL TAG C1
C2	630	133mm & 184mm centres, 61mm barrel width	93068	LV FUSE 630A IND'L 2 HOLE CTRL TAG C2

SCHEDULE I - INDUSTRIAL (415V) COMPACT FUSE-LINKS WITH OFFSET BLADE TAG

(to BS 88-2)

Fuse Type	Current Rating (A)	Electricity North West Commodity Code	SAP Description
E1	2	81130	LV FUSE 2A COMPACT OFFSET TAG TYPE E1
F1	2	81131	LV FUSE 2A COMPACT OFFSET TAG TYPE F1
F1	6	81132	LV FUSE 6A COMPACT OFFSET TAG TYPE F1
F1	10	81604	LV FUSE 10A COMPACT OFFSET TAG TYPE F1
F1	16	82279	LV FUSE 16A COMPACT OFFSET TAG TYPE F1
F1	20	82503	LV FUSE 20A COMPACT OFFSET TAG TYPE F1

SCHEDULE J - HV EXPULSION FUSE-LINKS

(to BS 2692-2, ANSI C37-42 & ENA TS 41-36)

Current Rating (A)	Fuse Type	System Voltage (kV)	Length (mm)	Electricity North West Commodity Code	SAP Description
20	Quick blow, Universal	6.6, 11	533	96938	HV FUSE 20A EXP LINK QK BLOW UNIVERSAL
25	Quick blow, Universal	6.6, 11	533	96865	HV FUSE 25A EXP LINK QK BLOW UNIVERSAL
30	Quick blow, Universal	6.6, 11	533	97225	HV FUSE 30A EXP LINK QK BLOW UNIVERSAL
40	Quick blow, Universal	6.6, 11	533	97233	HV FUSE 40A EXP LINK QK BLOW UNIVERSAL
65	Quick blow, Universal	6.6, 11	533	98302	HV FUSE 65A EXP LINK QK BLOW UNIVERSAL
75	Quick blow, Universal	6.6, 11	533	96881	HV FUSE 75A EXP LINK QK BLOW UNIVERSAL
25	Slow blow, Universal	6.6, 11	533	96849	HV FUSE 25A EXP LINK SLOW BLOW UNIVERSAL
30	Slow blow, Universal	6.6, 11	533	97438	HV FUSE 30A EXP LINK SLOW BLOW UNIVERSAL
40	Slow blow, Universal	6.6, 11	533	97551	HV FUSE 40A EXP LINK SLOW BLOW UNIVERSAL

SCHEDULE K - TIME FUSE-LINKS

(to ENA TS 12-6-2)

Current Rating (A)	Electricity North West Commodity Code	SAP Description
3	81958	HV FUSE 3A TIME LIMIT ENATS 12-6
5	81959	HV FUSE 5A TIME LIMIT ENATS 12-6
7.5	81396	HV FUSE 7.5A TIME LIMIT ENATS 12-6
10	81590	HV FUSE 10A TIME LIMIT ENATS 12-6
12.5	81833	HV FUSE 12.5A TIME LIMIT ENATS 12-6
15	81957	HV FUSE 15A TIME LIMIT ENATS 12-6

SCHEDULE L - AUTOMATIC SECTIONALISING LINKS

(to ENA TS 41-36)

Current Rating (A)	No of Shots	System Voltage (kV)	Mounting	Electricity North West Commodity Code	SAP Description
25	2	6.6, 11	J&P	61000	HV FUSE 25A 2 SHOT ASL 15kV J&P MOUNT
25	2	6.6, 11	MLE	61040	HV FUSE 25A 2 SHOT ASL 15kV MLE MOUNT
25	2	6.6, 11	Universal	61080	HV FUSE 25A 2 SHOT ASL 27kV UNIVL MOUNT
40	2	6.6, 11	J&P	61005	HV FUSE 40A 2 SHOT ASL 15kV J&P MOUNT
40	2	6.6, 11	MLE	61002	HV FUSE 40A 2 SHOT ASL 15kV MLE MOUNT
40	2	6.6, 11	Universal	61085	HV FUSE 40A 2 SHOT ASL 27kV UNIVL MOUNT
63	2	6.6, 11	J&P	61010	HV FUSE 63A 2 SHOT ASL 15kV J&P MOUNT
63	2	6.6, 11	MLE	61050	HV FUSE 63A 2 SHOT ASL 15kV MLE MOUNT
63	2	6.6, 11	Universal	61090	HV FUSE 63A 2 SHOT ASL 27kV UNIVL MOUNT
100	2	6.6, 11	J&P	61020	HV FUSE 100A 2 SHOT ASL 15kV J&P MOUNT
100	2	6.6, 11	MLE	61060	HV FUSE 100A 2 SHOT ASL 15kV MLE MOUNT
100	2	6.6, 11	Universal	61100	HV FUSE 100A 2 SHOT ASL 27kV UNIVL MOUNT
200	2	6.6, 11	J&P	61030	HV FUSE 200A 2 SHOT ASL 15kV J&P MOUNT
200	2	6.6, 11	MLE	61070	HV FUSE 200A 2 SHOT ASL 15kV MLE MOUNT
200	2	6.6, 11	Universal	61110	HV FUSE 200A 2 SHOT ASL 27kV UNIVL MOUNT

Replacement Chemical Actuator	61153	HV FUSE ASL REPL'MENT CHEMICAL ACTUATOR

Appendix B – Conformance Declaration

SECTION-BY-SECTION CONFORMANCE WITH SPECIFICATION

The Tenderer shall declare conformance or otherwise for each product/service or range of products/services, section-by-section, using the following Conformance Declaration Codes.

Conformance Declaration Codes:

N/A =	Clause is not applicable/appropriate to the product/service.
C1 =	The product/service conforms fully with the requirements of this clause.
C2 =	The product/service conforms partially with the requirements of this clause.
C3 =	The product/service does not conform to the requirements of this clause.
C4 =	The product/service does not currently conform to the requirements of this clause, but the manufacturer proposes to modify and test the product in order to conform.

Manufacturer:

Product/Service Description:

Product/Service Reference:

Name:

Company:

Signature:

SECTION-BY-SECTION CONFORMANCE			
Section	**Section Topic**	**Conformance Declaration Code**	**Remarks * (must be completed if code is not C1)**
3.1	**Product not to be changed**		
3.2	**Electricity North West Technical Approval**		
3.3	**Quality Assurance**		
3.4	**Formulation**		
3.5	**Identification Marking**		
3.6	**Products already Approved**		
3.7	**Product Conformity**		
4.1	**Requirements for Type Tests at Suppliers Premises**		
4.2	**Requirements for Routine Tests at Suppliers Premises**		
5.1	**Equipment Standards and Regulatory Requirements**		
5.2	**Equipment Description**		
5.3	**Proof of Performance**		
5.4	**Departure from Specification**		
5.5	**HV HRC Fuse-links**		
5.6	**LV Fuse-Links (Distribution Network)**		
5.7	**LV Fuse-Links (Domestic and Similar Premises)**		
5.8	**LV Fuse-Links (Street Lighting Services)**		

5.9	**LV Fuse-Links (Industrial Premises)**		
5.10	**HV Expulsion Fuse-Links**		
5.11	**Time Fuse-Links**		
5.12	**Automatic Sectionalising Links**		
6	**Protection, Packaging and Delivery**		
Schedule A	**HV Fuse-Links for Use in Oil**		
Schedule B	**Tag Type HV Fuse-Links for Use in Air**		
Schedule C	**LV "J" type Cylindrical Slotted Tag Fuse-Links**		
Schedule D	**Domestic Service Termination Fuse-Links**		
Schedule E	**HRC Fuse-Links for Street Lighting Services**		
Schedule F	**Industrial (415V) 2 Hole Offset Tag Fuse-Link**		
Schedule G	**Industrial (415V) 2 Hole Central Tag Fuse-Link**		
Schedule H	**LV Central Tag Fuse-Link with 4 Hole Fixings**		
Schedule I	**Industrial (415V) Compact Fuse-Links with Offset Blade Tag**		
Schedule J	**HV Expulsion Fuse-Links**		
Schedule K	**Time Fuse-Links**		
Schedule L	**Automatic Sectionalising Links**		

Additional Notes: