Distribution Network Operator Information

for

Meter Operators

Working on

Northern Powergrid's Distribution Systems

Change History

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1. Introduction

1.1. This document provides Northern Powergrid Distribution Network Operator (DNO) information for meter operators, in accordance with the Consolidated Metering Code of Practice (otherwise known as CoMCoP) within the Retail Energy Code (REC), relating to the basis of meter operator[1] activities at premises connected to the distribution system of Northern Powergrid.

1.2. Northern Powergrid owns two distribution systems and holds a distribution licence for each under the Electricity Act to distribute electricity, these being;

- Northern Powergrid (Northeast) plc - serving the Northeast of England
- Northern Powergrid (Yorkshire) plc - serving Yorkshire, Humberside and parts of Lincolnshire.

1.3. Metering Point Administration Numbers (MPANs) for Northern Powergrid's distribution systems commence with two digits:

- Northern Powergrid (Northeast) plc - MPANs commence with 15
- Northern Powergrid (Yorkshire) plc - MPANs commence with 23

1.4. Connections provided by licensed Independent Distribution Network Operators (IDNOs) may exist within Northern Powergrid's licence areas. Their assigned MPANs will commence with other digits. Any system enquiries associated with those MPANs should be made to the licenced IDNOs as appropriate. The MPAN digits and contact numbers for IDNOs are stated in the REC guidance for service termination issue reporting.

2. General arrangements

2.1. All meter operator companies who wish to work on Northern Powergrid's distribution systems shall be a signatory to the REC and be a CoMCoP accredited party (or be working on behalf of such a party) and hold a valid registration certificate before undertaking any works on Northern Powergrid's distribution systems. Meter operatives are required to provide proof of competence and hold the appropriate authorisation issued by Northern Powergrid for work on Northern Powergrid's distribution assets/service termination equipment (refer to appendix 7 - Authorisation and appendix 8 – Nomination form).

2.2. Meter operator companies who are not signatories to the REC and CoMCoP accredited (or who are not working on behalf of such a party) will not be authorised to work on Northern Powergrid's distribution systems.

2.3. All meter operator companies must comply with the Balancing and Settlement Code (BSC) Metering Codes of Practice.

2.4. All meter operator companies must ensure that their meter operatives are aware, as necessary, of the requirements of all relevant legislation to secure their own safety and the safety of others.

2.5. All meter operator companies shall provide a contact name, address and telephone number where a responsible person can be contacted at all reasonable times for the notification of accidents/incidents and the discussion and resolution of other safety matters.

[1] Known as Meter Equipment Manager (MEM) in the REC

3. Operational and safety matters

3.1. Contacts

3.1.1. A list of contacts, email addresses and telephone numbers for Northern Powergrid are given in Appendix 1 – Contact details.

3.2. Distribution safety

3.2.1. It is the responsibility of the meter operator to ensure that all work on or in the vicinity of electrical equipment undertaken by the meter operator is carried out in a safe and competent manner to a level complying with or exceeding the requirements of health & safety and electricity related legislation and, in particular, relevant requirements of the Electricity Act 1989 (as amended), the Utilities Act 2000, Electricity At Work Regulations 1989 (as amended) and the Electricity Safety, Quality and Continuity Regulations 2002.

3.2.2. It is the responsibility of the meter operator to take note of DNO information provided by Northern Powergrid and to circulate all relevant aspects to their operatives including, but not limited to, such aspects as Northern Powergrid's emergency contact phone numbers, equipment risk assessments and notices of equipment defects and notifications of unsafe areas where special access arrangements through Northern Powergrid may apply.

Contact details for advisory support, in relation to distribution asset related matters only, are listed in appendix 1.

3.2.3. The responsibilities of Northern Powergrid as an asset owner, having no contractual relationship with meter operators who have separate rights of access in fulfilling electricity supplier activities, are broadly limited to the provision of appropriate safety information relating to distribution equipment in relation to electrical, physical or other risks of which meter operators should be aware to ensure the safety of their operatives and the public.

As such, Northern Powergrid:

- Will provide emergency/urgent contact information for reporting of dangerous occurrences and for reporting of defective distribution equipment;
- Will provide safety and defect information so far as deemed relevant and appropriate to the service termination assets upon which meter operators are entitled to work. Relevant safety and defect information specific to Northern Powergrid is contained within the 'Licence specific safety induction – meter operative briefing' document (appendix 9) and in the Northern Powergrid local information section (appendix 10); and
- Reserves the right to audit meter operator companies, including management, safety officers, competency appointing officers and meter operatives.

3.2.4. As asset owner and distribution meter point administrator, Northern Powergrid will also provide contact information for essential site commissioning information and for the return of Northern Powergrid's meters.

3.2.5. All contact details are listed in appendix 1.

3.3. Competent persons

3.3.1. UK legislation requires that all persons put to work on electrical equipment must be 'Competent Persons'. The nationally accepted definition related to work control is that:

3.3.2. "No person shall be engaged in any work activity where technical knowledge, experience or supervision is necessary to prevent a **danger** or where appropriate, **injury**, unless he/she possesses such knowledge or experience or is under such supervision as may be appropriate having regard to the nature of the work."

3.3.3. The meter operator:

3.3.3.1. Has a duty to its employees of ensuring their competence for tasks they may be instructed to undertake.

3.3.3.2. Is responsible for assessing the competence of its employees and sub-contractors, including initial and refresher assessments and any other form of validation and supervision that the meter operator deems necessary to ensure compliance with legislative requirements; and

3.3.3.3. Is responsible for training and developing the competence of its meter operatives but Northern Powergrid will retain the right to assess the competence of meter operatives associated with providing a valid authorisation code certificate appropriate to the requirements of each operative (see appendix 7 for authorisation requirements).

3.3.4. Sub-contracted meter operators shall require the same level of authorisation as the principal meter operator, but the sub-contractor's authorisation will be restricted to work only for the principal meter operator.

3.3.5. Northern Powergrid does, however, fully reserve the right to suspend or prohibit any activities of registered meter operators/operatives and any other parties with legitimate rights/licence to work on Northern Powergrid's distribution system equipment and to eject such persons from site in such cases that dangerous activities, unacceptable condition of completed works or evidence of serious deficiency in competence are observed, assessed or reported by, or to, Northern Powergrid. The implicated party (parties) will not be allowed to complete any further work on Northern Powergrid's distribution systems unless exonerated by a formal inquiry undertaken jointly by Northern Powergrid and the meter operator and/or following satisfactory further training/retraining and assessment to the satisfaction of Northern Powergrid.

3.4. Meter operative authorisation & assessment process

3.4.1. Northern Powergrid's Distribution Safety Rules (DSR) define a competent or authorised person. In general, these are individuals with adequate training, experience and knowledge who has been assessed and authorised in writing to undertake specific tasks on electrical plant or equipment.

3.4.2. Northern Powergrid expects the meter operator to provide evidence of skills assessment/accreditation prior to issuing any authorisation code certificate and reserve the right to require individuals to undertake a trade test to audit the skills and accreditation of meter operatives.

3.4.3. Where a meter operator nominates an individual for system authority codes the nomination form detailed in appendix 8 will be used which must include the signed recommendation for authorisation from the nominating manager (employer) and a REC meter operator representative for whom they are working for. The meter operator should provide sufficient evidence to support the nomination for the appropriate Northern Powergrid system authority code(s) as detailed in appendix 7.

3.4.4. The Northern Powergrid authorising officer will satisfy themselves that the requirements of the authorisation process have been met prior to issuing an authorisation code certificate.

3.4.5. Northern Powergrid will define the limit of the authorisation and validation period which will be a maximum of three years. The meter operator is required to notify Northern Powergrid of any changes of operative, which affect authorisation and return the certificate, books and keys within two weeks of any change. An appropriate charge to cover Northern Powergrid's reasonable costs will be made for failure to return any certificate, books and/or keys.

3.4.6. The meter operator is required to undertake a periodic review (at least annually) of each individual's system authority codes to ensure that the duties and activities performed within the review period are commensurate with the assigned authorisation/competence.

3.4.7. The meter operator shall carry out regular audits of its operatives to ensure they are compliant with the requirements of their Northern Powergrid authorisation. The audit findings shall be made available to Northern Powergrid to review if requested.

3.4.8. If the authorised person has not performed the work for which he/she has gained the authorisation within the review period, Northern Powergrid will withdraw authorisation until additional test/assessment is undertaken to reinstate the authorisation level.

3.5. Access to Northern Powergrid distribution substations

3.5.1. Unsupervised access to distribution substations, owned by Northern Powergrid, by parties not undertaking contracted works on behalf of Northern Powergrid will not be granted under any circumstances.

3.5.2. Distribution keys shall not be issued to any party other than for the purposes of allowing a party to conduct distribution system activity being undertaken under contract to Northern Powergrid.

3.5.3. Where access is required by the meter operator, requests for supervised access should be made to Northern Powergrid. The points of contact and telephone numbers are given in appendix 1.

3.5.4. Where service termination and metering equipment are housed in customer buildings, access should be made by arrangement with the customer, as controller of the premises, and with supervision provided by the customer as appropriate according to the nature of their property and their installation. In such cases Northern Powergrid will generally not provide supervised access.

3.6. Reporting defects, incidents and dangerous occurrences

3.6.1. Urgent issues to report

Reporting of equipment owned by Northern Powergrid found to be defective, hazardous (or which might reasonably be believed may become hazardous) or presenting other operational and safety problems that is inherently dangerous and requires immediate rectification, especially for safety reasons, should be reported immediately by the meter operative e.g. category A codes within the 'REC guidance for service termination issue reporting'.

3.6.2. Non-urgent issues/information to report

E.g. category B and C codes within the 'REC guidance for service termination issue reporting' - situations in which the issue prevents the metering work from being carried out or is service termination equipment information. These should be reported using the standard Market Message MM00023 (D0135 data flow).

3.6.3. Incidents, accidents and dangerous occurrences

It is a requirement under relevant safety legislation to report incidents, accidents and dangerous occurrences to the relevant reporting authority and such incidents, accidents and dangerous occurrences that relate to Northern Powergrid's distribution systems must also be reported to Northern Powergrid at the earliest possible opportunity.

3.6.4. A list of known issues on Northern Powergrid's service termination equipment for which the meter operator should make its operatives aware is provided in the 'Licence specific safety induction – meter operative briefing' document (appendix 9) and in the Northern Powergrid local information section (appendix 10).

3.6.5. The points of contact and telephone numbers for Northern Powergrid are given in appendix 1.

3.7. Removal and replacement of cut-out fuses

3.7.1. Where the work to be done by the meter operator requires the removal and subsequent replacement of the main supply cut-out fuse(s) then this may take place without reference to Northern Powergrid

(other than the requirement of paragraph 3.6 above) provided the meter operative is suitably authorised to carry out the task.

3.7.2. Meter operators are only permitted to break seals and work on Northern Powergrid's distribution system assets in accordance with the permissions and restrictions in CoMCoP and DCUSA.

3.7.3 Meter operatives must:

- Be assessed and certified as competent by the meter operator; and
- Be authorised by Northern Powergrid to carry out the task; and
- Be in receipt of formal work instructions from, or arising from, instructions from the appropriate parties to undertake activity that necessitates the operation of the main supply cut-out fuse(s) of the property; and
- Re-seal all distribution service termination equipment in accordance with CoMCoP.

3.8. Operation of Northern Powergrid's service termination switchgear/isolators

3.8.1. Whilst the majority of Northern Powergrid's service terminations are cut-out fused, there are other types of service termination at low voltage, high voltage and extra-high voltage that have switchgear or isolators as the exit point means of energisation and de-energisation of the main current carrying electrical circuit to the customer's installation.

3.8.2. Where the meter operator is instructed to conduct works that require the de-energisation or re-energisation of a Northern Powergrid service termination, whose isolation device for the main current carrying electrical circuit is distributor locked switchgear or isolator, the meter operator should refer the request to the appointed electricity supplier and not proceed with the works. The appointed electricity supplier must arrange for Northern Powergrid to carry out the de-energisation or energisation of service terminations with these types of isolation equipment.

3.9. Testing of customer electrical installations prior to connection or energisation

3.9.1. Where the work to be done by the meter operator, on behalf of the appointed electricity supplier, involves the connection, energisation, or re-energisation of customer's electrical installations the safety of the installation must be assured prior to such connection, energisation, or re-energisation as detailed in CoMCoP.

3.9.2. Under regulation 25 of the Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR), Northern Powergrid does not give consent to make or alter connections from Northern Powergrid's network to a customer's installations where there are reasonable grounds to believe that the customer's installation does not comply with the British Standard Requirements and the ESQCR themselves.

3.9.3. Accordingly, Northern Powergrid requires that all appointed electricity suppliers and all appointed meter operators ensure, given the nature of installation being connected, energised or re-energised, that the installation is safe to connect and complies with the British Standard Requirements and the ESQCR.

N.B. British Standard Requirements means the British Standard Requirements for Electrical Installations BS 7671:2018 IEE Wiring Regulations 18th Edition as incorporated in the Electricity Safety, Quality and Continuity Regulations 2002 by the Electricity Safety, Quality and Continuity (Amendment) Regulations 2009 (SI 2009/639).

3.9.4. Where the meter operative fits an isolating switch and customer accessible PME terminal block on the installation side of the metering system, to enable a third party to later connect wires into the fitted isolator and customer accessible PME terminal block, these items form part of the customer's electrical installation.

3.9.5. Accordingly, Northern Powergrid requires that the meter operator shall conduct such tests as are necessary and sufficient to ensure that the fitted isolator switch and customer accessible PME terminal

block is safe to connect and complies with the British Standard Requirements and the ESQCR. The meter operator shall retain records of such tests and results.

3.9.6. For the avoidance of doubt, where customer's installation, at the time of the requested connection, comprise a very limited extent of electrical lines and plant that has been demonstrated through tests and certificates to comply with British Standard Requirements, then connection of the electrical installation should be made. For example, where a customer's initial installation comprises a double pole isolator with meter tails ready for connection to a metering system, and a customer earth block with conductor ready for connection to a PME terminal, and the customer's installation complies with British Standard Requirements, then connection should not be refused.

3.9.7. Following the meter operator's connection of a customer's electrical installation demonstrated to be compliant with the ESQCR, the liability for subsequent modifications to the customer's installation resides fully with the customer. It is the customer's responsibility to liaise with its appointed electricity supplier and Northern Powergrid if it plans to make changes to its electrical installation which are likely to affect, or exceed, the customer's previously agreed requirements of the distribution systems or metering equipment. The customer must liaise with the relevant parties before any such material changes to its electrical installation are made.

3.10. Personal Protective Equipment (PPE)

3.10.1. Norther Powergrid does not specify the PPE requirements for any external party operatives working on Northern Powergrid's distribution system.

3.10.2. It is up to meter operators to formulate their own PPE requirements for their operatives.

3.10.3. Northern Powergrid recommends operatives should wear insulated gloves, visor, full coveralls and safety footwear as a minimum when operating Northern Powergrid's equipment. The specification and sourcing of that PPE is the responsibility of the meter operator company.

4. Technical

4.1. Meter operator equipment attachment

4.1.1. The supplier's meters and associated equipment must not obstruct or restrict access to Northern Powergrid's distribution equipment.

4.1.2. Other than metering and associated communications equipment, the meter operator must not fix any of the supplier's equipment on or to Northern Powergrid's equipment or property, such as metering panels, without the prior written agreement of Northern Powergrid.

4.1.3. For the avoidance of doubt, meter boards are the property of the customer of the premises concerned and, unless ownership is confirmed by Northern Powergrid, no permission would be required from Northern Powergrid for the appointed meter operator to fit meters upon the meter board. The customer provides meter boards with the intent of housing both distribution and metering assets and consent is implicitly given for the fitting of such assets as a precondition of enabling a supply of electricity to be provided. Modern meter cabinets are provided by the customer for the fixing of the cut-out termination and metering. Historically, Northern Powergrid may have installed meter boards at internal metering positions on behalf of the customer as part of the connection arrangement.

4.1.4. It is the responsibility of individual meter operators and/or their contractors, to satisfy themselves as to the wiring arrangements at any location and to ascertain the nature of the connections at the site and act accordingly. Northern Powergrid does not accept any liability whatsoever for independent meter operators' actions on site and the meter operators and/or their contractors must bear entire responsibility in all respects.

4.2. Service termination equipment access

4.2.1. The meter operator shall not allow, nor do anything to allow any third-party access to Northern Powergrid's equipment, including, but not limited to service fuse cut-outs, service isolator switches, multi-way service distribution boards and any associated Northern Powergrid service termination equipment and conductors.

4.2.2. Where Northern Powergrid provides an earth terminal for the customer it shall be accessible to the customer or contractor to connect and allow ongoing access to carry out routine tests of the installation.

4.2.3. Northern Powergrid does not require the installation of double-pole isolating switches on the customer's side of the meter. However, the installation of such switches by meter operators is encouraged to better facilitate any future isolation of the customer's equipment for maintenance and testing purposes by the customer or contractor.

4.3. Communications links

4.3.1. Any equipment, which is required to be installed by the meter operator for communications purposes, must be installed in a proper manner and not obstruct or restrict access to Northern Powergrid's equipment or the customer's installation.

4.3.2. Under no circumstances shall Northern Powergrid's equipment or communications links, if present, be disconnected without permission. Any resultant costs incurred by Northern Powergrid from such unauthorised disconnections will be charged to the party responsible for the disconnection.

4.3.3. Under no circumstances shall Northern Powergrid's communication links be utilised by a meter operator without the prior written agreement of Northern Powergrid.

4.3.4. In all circumstances, where an existing communication link is not owned by Northern Powergrid, the meter operator should gain prior written agreement from the owner if utilisation of that communications link is desired.

4.3.5. Where a radio/wireless communication system needs to be fitted to a substation, the position is to be agreed with the owner of the substation prior to installation. The fitting of radio/wireless communication systems and associated cabling must be carried out with care to ensure that it does not impair the building structure or weatherproofing or proper functioning of existing Northern Powergrid equipment or metering equipment in any way whatsoever.

4.4. Commissioning CT metering equipment

4.4.1. As per the requirements of BSC Code of Practice 4, for CT metering equipment installed after 6 November 2014, Northern Powergrid is responsible for commissioning CT metering equipment which it owns. Requests for commissioning documentation should be made using the contacts information in appendix 1.

5. Commercial

5.1. Removed Northern Powergrid equipment

5.1.1. Any conventional Northern Powergrid (or its predecessor companies (Northern and Yorkshire Electricity)) meters or other equipment removed from site shall be returned to Northern Powergrid's service provider within thirty days of its removal. Removed meters/equipment shall be transported in a way that avoids interference or damage and must be returned to the address given in appendix 1. Meter operators should contact the service provider and Northern Powergrid by email before making arrangements to return any meters/equipment.

5.1.2. Returned conventional meters should be accompanied by a listing of the serial numbers so returned, preferably in electronic format (MS Excel), and delivered in accordance with the other information contained within appendix 1.

5.2. Provision of information

5.2.1. The meter operator shall send all relevant Market Messages (MM) (data flows) in accordance with the REC Metering Operations Schedule and the Balancing and Settlement Code (BSC) within the timescales specified.

5.2.2. Wherever a Northern Powergrid conventional meter is installed or removed, or if there is a change of supplier and/or meter operator at a premises containing a Northern Powergrid meter, the meter operator shall inform Northern Powergrid using the relevant MM, including the MM00240 (D0303). Wherever the meter operator fits a meter at a premises, the meter operator shall send the relevant MM to Northern Powergrid (as distributor), including the MM00241 (D0304).

5.3. Charges

5.3.1. Where a meter operator requests the attendance of Northern Powergrid staff to provide technical support, Northern Powergrid will notify the meter operator of any chargeable element in advance of work being undertaken.

5.4. Site-specific information

5.4.1. Site-specific information will be provided only where the request for information is received by MM00075 (D0170).

5.4.2. The information will be provided using MM00117 (D0215).

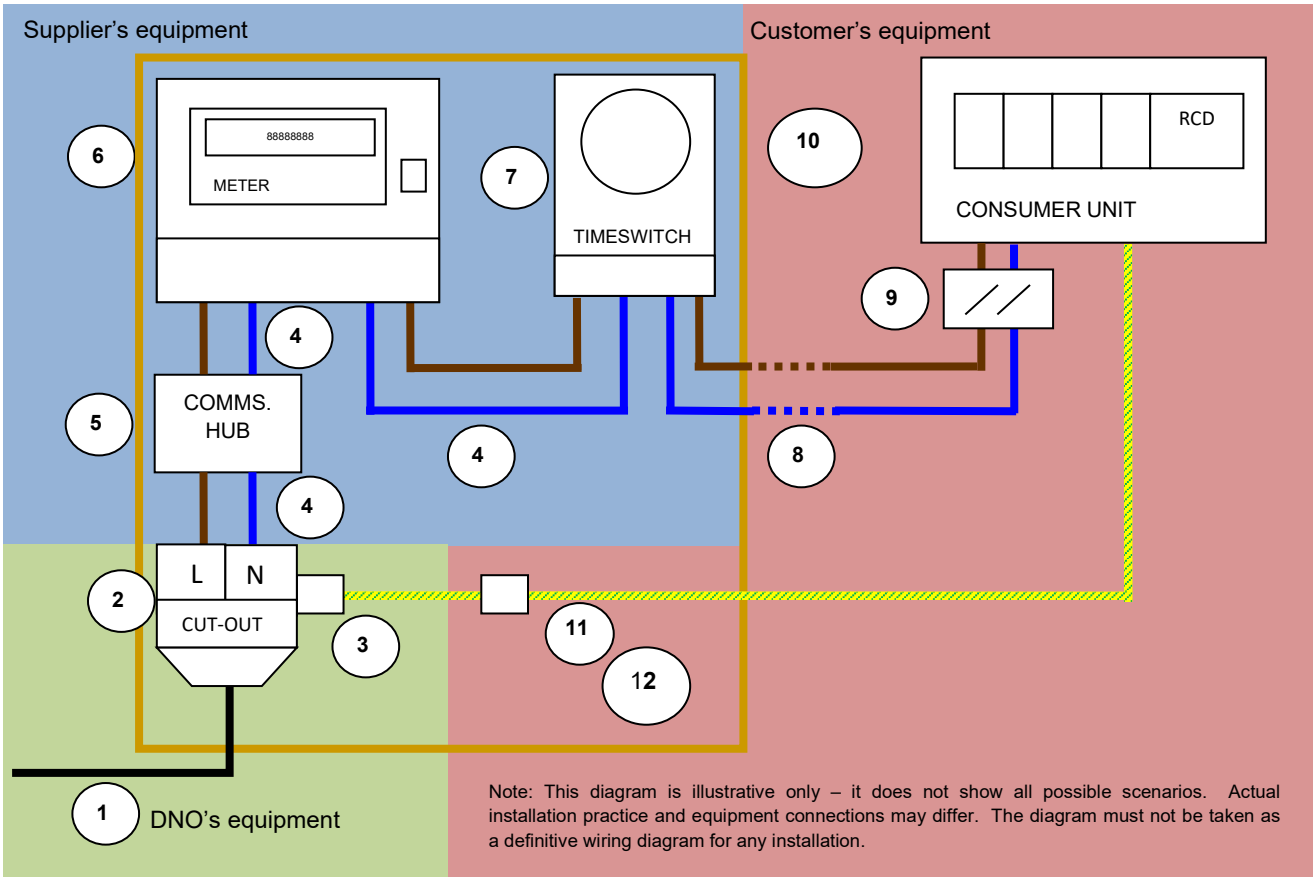
Appendix 1 – Contact details

Issue	Contact number	e-mail address and additional information
Emergency incident/accident	105 or 0800 668 877 105 or 0800 375 675	Northeast Yorkshire
Non-emergency safety incident reports, queries and updates		Metering.safetyreports@northernpowergid.com
Dangerous situation (category A of the service termination equipment issue reporting guide)	0800 917 9870	Northeast - option 1 Yorkshire - option 2
New supply liaison	0800 011 3433	getconnected@northernpowergrid.com
Pre-modified HV and LV CT supply liaison	0800 011 3332	GeneralEnquiries@northernpowergrid.com
Substation/fuse access	0800 011 3332	GeneralEnquiries@northernpowergrid.com
TAA audit access	0800 028 2018	ctauditing@northernpowergrid.com
Service termination equipment issue report and intervention progress queries and updates	0800 011 3332	GeneralEnquiries@northernpowergrid.com
Market Message (data flow) queries for Distributor meter point information	0800 028 2018	MPAS@northernpowergrid.com
Market Message (data flow) queries for metering equipment commission and calibration test records	0800 028 2018	CTCommissioning@northernpowergrid.com
Suspected theft in conveyance revenue protection issues	Northeast – 0800 668 877 Yorkshire – 0800 375 675	GeneralEnquiries@northernpowergrid.com
System authorisation and training	01977 605 824	MeterOps.training@northernpowergrid.com
General enquiries	0800 011 3332	GeneralEnquiries@northernpowergrid.com
Return of Northern Powergrid meters/equipment	**Delivery Address:** TVS Preston North Unit 6 Broughton Business Park Caxton Road Preston PR2 9BS	All verified Northern Powergrid Electricity meters marked property of Northern Powergrid or Property of NPML. Secure SMETS 2 Electric meters between MSN range 21P0600001 - 21P0606048 are to be returned to Northern Powergrid. All conventional electric meters displaying a ‘K’ or ‘L’ in the owner-identifying character of the meter serial number and identified as the property of YEB, YEG, YELG, YEDL, NEEB, NE or NEDL.

	Northern Powergrid (Andy Wild) 07517 532194 01977 605141	**Delivery details:** All deliveries need to be booked in advance via email. Deliveries accepted between 7.30am to 4pm Mon – Thurs (Fri 7.30am to 3pm) TVS will only be able to accept pre-arranged deliveries. All deliveries (and collections) should be co-ordinated through our team at northernpowergrid@tvsscs.com To avoid any unnecessary delays in processing your request, please supply the team with the delivery / collection details and number of pallets for delivery / collection. **What do TVS require?** Meters are boxed/palletised on standard pallets (1200 x 1000mm) for safe storage and transportation. The maximum weight for the pallet is 800kg. The maximum pallet height is 1200mm. Boxes/pallets are clearly labelled to aid the warehouse and thus avoid any potential claims for missing assets. All serial numbers are to be submitted prior to any delivery via an Advanced Shipping Notification (ASN). All assets should be returned in line with electricity licence condition LC50.7/50.8 and CoMCoP (Section 14). All Smart meters should be deregistered from industry systems to avoid additional charges. Failure to adhere to the documented handling requirements or returning a damaged Northern Powergrid asset will lead to charges been applied to the returning supplier. MeteringReportingServices@northernpowergrid.com
Escalation	Warren Lacey – 01977 605144 (07921 112027)	Warren.Lacey@northernpowergrid.com

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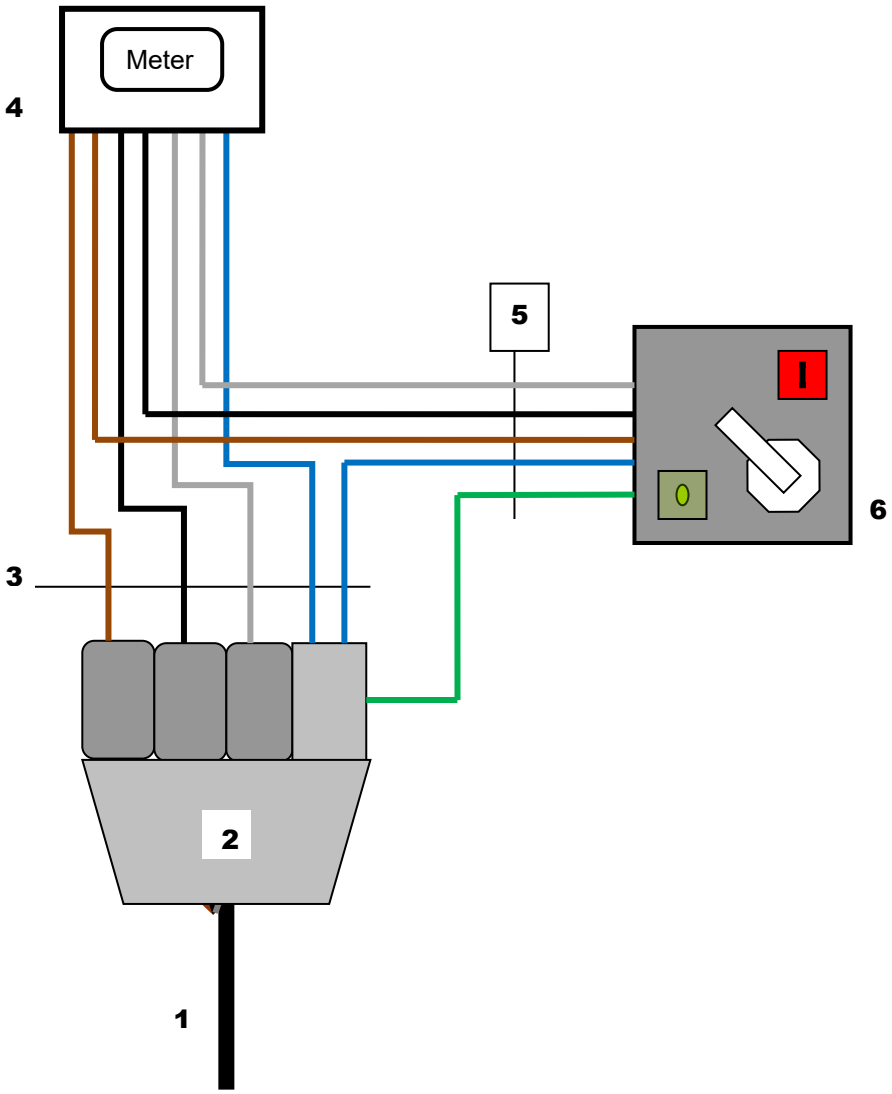
Appendix 2 – Typical single-phase service arrangement*



	Description	Ownership	Installation responsibility
1	Incoming supply cable	Northern Powergrid	Northern Powergrid
2	Cable termination (cut-out)	Northern Powergrid	Northern Powergrid
3	Earth terminal	Northern Powergrid	Northern Powergrid
4	Double insulated meter tails	Supplier	Meter operator
5	Communications hub (if fitted)	Supplier	Meter operator
6	Electricity meter	Supplier	Meter operator
7	Time-switch (if fitted)	Supplier	Meter operator
8	Double insulated consumer unit tails	Customer	Meter operator – only final connection to meter/time-switch
9	Double pole switch (if fitted)	Customer	Customer (via electrician)
10	Fuse box/Consumer Unit	Customer	Customer (via electrician)
11	Customer's earthing conductor	Customer	Customer (via electrician)
12	Meter board	Customer	Customer – liaison with Northern Powergrid/Meter operator

*Diagram for illustration purposes only. Its purpose is to clarify the boundaries of responsibility. It does not show all possible scenarios so should not be taken as a definitive wiring diagram for any installation.

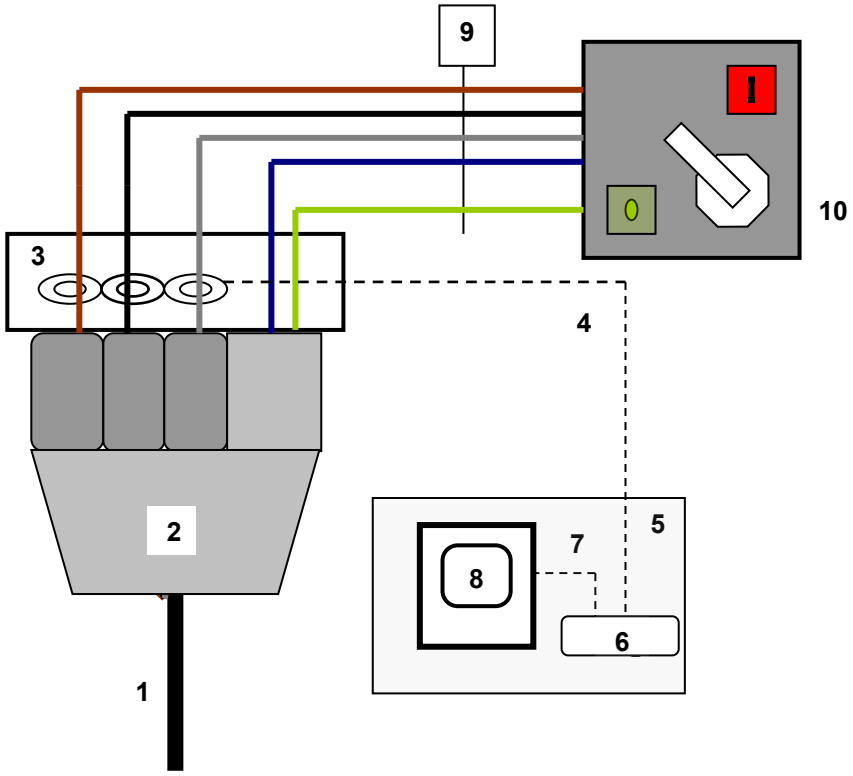
Appendix 3 – Typical three-phase whole current metering service arrangement*



	Description	Ownership	Installation responsibility
1	Incoming supply cable	Northern Powergrid	Northern Powergrid
2	Cable termination (cut-out)	Northern Powergrid	Northern Powergrid
3	Meter tails	Supplier	Meter operator
4	3-phase meter	Supplier	Meter operator
5	Customer's tails	Customer	Meter operator – only final connection to meter/cut-out
6	Customer's main switch	Customer	Customer (via electrician)

*Diagram for illustration purposes only. Its purpose is to clarify the boundaries of responsibility. It does not show all possible scenarios so should not be taken as a definitive wiring diagram for any installation.

Appendix 4 – Typical three-phase cut-out CT metering service arrangement*

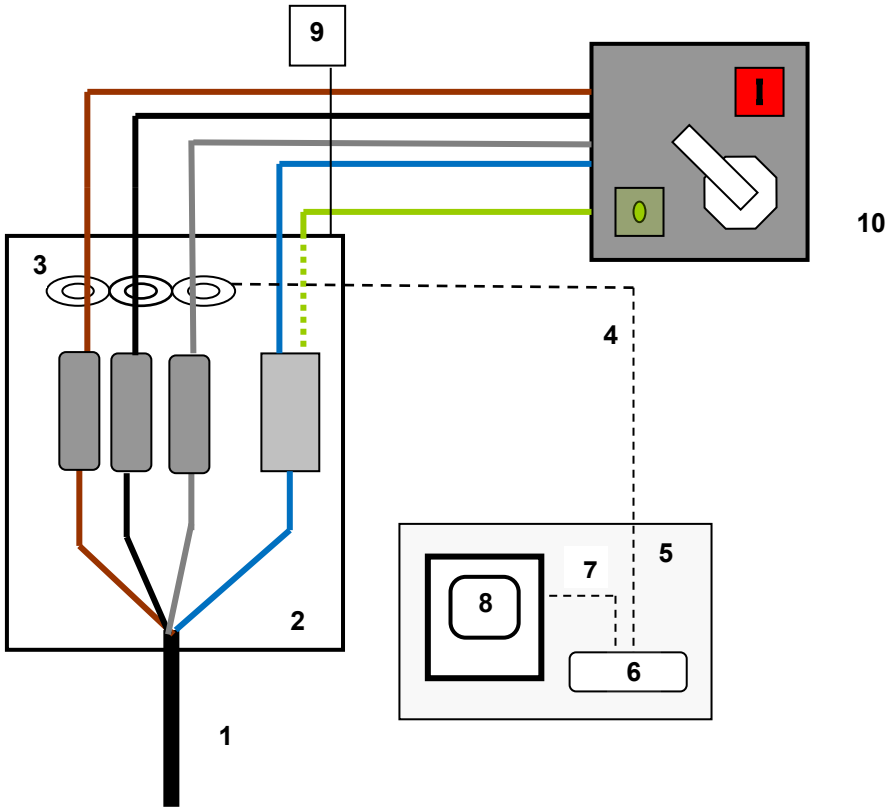


	Description	Ownership	Installation responsibility
1	Incoming supply cable	Northern Powergrid	Northern Powergrid
2	Cable termination (cut-out)	Northern Powergrid	Northern Powergrid
3	Metering CTs	Northern Powergrid	Northern Powergrid
4	Metering multi-core - CTs to TTB	Northern Powergrid	Northern Powergrid
5	Meter panel	Northern Powergrid	Northern Powergrid
6	Test terminal block (TTB)	Northern Powergrid	Northern Powergrid
7	Metering multi-core - TTB to meter	Supplier	Meter operator
8	Meter	Supplier	Meter operator
9	Customer's tails	Customer	Northern Powergrid – only final connection to cut-out
10	Customer's main switch	Customer	Customer (via electrician)

*Diagram for illustration purposes only. Its purpose is to clarify the boundaries of responsibility. It does not show all possible scenarios so should not be taken as a definitive wiring diagram for any installation.

CAUTION! - This document may be out of date if printed

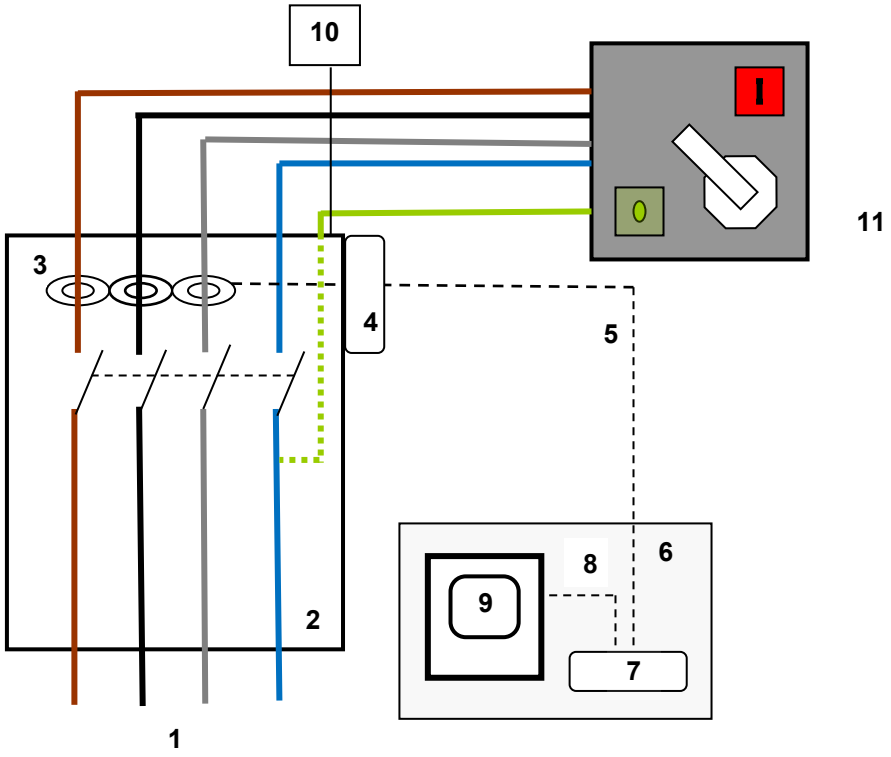
Appendix 5 – Typical three-phase industrial service unit (ISU) service arrangement*



	Description	Ownership	Installation responsibility
1	Incoming supply cable	Northern Powergrid	Northern Powergrid
2	Cable termination (ISU)	Northern Powergrid	Northern Powergrid
3	Metering CTs	Northern Powergrid	Northern Powergrid
4	Metering multi-core - CTs to TTB	Northern Powergrid	Northern Powergrid
5	Meter panel	Northern Powergrid	Northern Powergrid
6	Test terminal block (TTB)	Northern Powergrid	Northern Powergrid
7	Metering multi-core – TTB to meter	Supplier	Meter operator
8	Meter	Supplier	Meter operator
9	Customer's tails	Customer	Northern Powergrid - only final connection to ISU
10	Customer's main switch	Customer	Customer (via electrician)

*Diagram for illustration purposes only. Its purpose is to clarify the boundaries of responsibility. It does not show all possible scenarios so should not be taken as a definitive wiring diagram for any installation.

Appendix 6 – Typical LV air circuit breaker (ACB) CT metering service arrangement*



	Description	Ownership	Installation responsibility
1	Incoming supply cables	Northern Powergrid	Northern Powergrid
2	LV Air Circuit Breaker (ACB)	Northern Powergrid	Northern Powergrid
3	Internal metering CTs (installed during manufacture)	Northern Powergrid	Northern Powergrid
4	Marshalling box	Northern Powergrid	Northern Powergrid
5	Metering multi-core - CTs to TTB	Northern Powergrid	Northern Powergrid
6	Meter panel	Northern Powergrid	Northern Powergrid
7	Test terminal block (TTB)	Northern Powergrid	Northern Powergrid
8	Metering multi-core – TTB to meter	Supplier	Meter operator
9	Meter	Supplier	Meter operator
10	Customer's tails	Customer	Northern Powergrid - only final connection to ACB
11	Customer's main switchgear	Customer	Customer (via electrician)

*Diagram for illustration purposes only. Its purpose is to clarify the boundaries of responsibility. It does not show all possible scenarios so should not be taken as a definitive wiring diagram for any installation.

Appendix 7 – Authorisation requirements

A7.1. General arrangements

A7.1.1 Northern Powergrid reserves the right to require meter operatives to undertake a competency/authorisation assessment prior to the issue of a valid authorisation code certificate permitting each operative to work on Northern Powergrid's distribution system assets. This right is in place for all staff, service providers, meter operators and local authority staff who are required to access, operate or work on Northern Powergrid's distribution systems.

A7.1.2 Each individual meter operative MUST be authorised by Northern Powergrid and hold a valid authorisation code certificate for the appropriate code (detailed in A7.2) BEFORE carrying out any work associated with Northern Powergrid's distribution systems.

A7.1.3 Individual meter operatives are nominated for authorisation by an appropriate manager of their employer and the REC meter operator for whom they are working. All approaches for authorisation MUST be via a REC and CoMCoP accredited meter operator. Requests from meter operators not acceding to REC, not CoMCoP accredited or individual meter operatives who are not working on behalf of a REC and CoMCoP meter operator will be declined by Northern Powergrid.

A7.1.4 Authorisations usually last for three years, after which re-authorisation must be sought. Where breaches in operational practice are identified Northern Powergrid reserves the right to suspend or remove an individual's authorisation.

A7.1.5 Where a meter operator has meter operatives whose authorisation codes have expired and Northern Powergrid has not been notified, no new additional upgrade authorisation requests will be processed until all existing authorisations are up to date. However, meter operative re-authorisation will still be processed to maintain valid authorisation.

A7.1.6 Northern Powergrid does not issue LV Safety Rules to meter operatives that are authorised under the self-assessment process for Energy & Utility Skills Registered (EUSR) operatives. It is the responsibility of the meter operator to provide each meter operative with access to the current version of Northern Powergrid's LV Safety Rules. This may be a printed or electronic version. The LV Safety Rules are available on the Northern Powergrid website - LV Safety Rules

A7.1.7 Meter operatives that follow Northern Powergrid's standard authorisation assessment process (A7.3.5) will be issued with a set of Northern Powergrid's LV Safety Rules upon successful completion.

A7.1.8 Northern Powergrid Training will request that all meter operators send a list of their operatives authorised to work on Northern Powergrid's distribution systems to validate against Northern Powergrid's authorisation database. The list will be requested annually and must be returned by the meter operator. Failure to comply with the request may result in suspension of authorisation for all the meter operator's operatives.

A7.2. Authorisation codes

O1.2 Single-phase installations

For operations on domestic and commercial single-phase installations on cut-outs rated up to 100 Amps.

O1.3 Single-phase of a multi-phase supply installations

For the removal of one fuse from a multi-way cut-out or distribution board and intended mainly for meter operatives who only need to replace a single-phase meter. Operatives issued with this code will normally also receive code O1.2.

O1.4 Multi-phase installations

For operations on multi-phase cut-outs and multi-way distribution boards with insulated busbars up to and including 500 Amps but excluding industrial service units (ISU). Operatives issued with this code will normally also receive codes O1.2 and O1.3.

O1.5 ISU installations with exposed LV

For operations on industrial service units (ISU) and multi-way distribution boards with exposed live busbars. Operatives issued with this code will normally also receive codes O1.2, O1.3 and O1.4.

A7.3. New authorisation requests

A7.3.1 New requests for authorisation should be made by completing the 'System authority code nomination form – Meter Operative' in appendix 8 and applying to Northern Powergrid through the 'system authorisation and training' contact information contained within appendix 1.

A7.3.2 Meter operators may request that Northern Powergrid issues J keys to their meter operatives via email when submitting the system authority nomination form. However, the meter operative is required to attend, in person, at the nominated training centres in order to sign for receipt of the J key issued.

A7.3.3 Meter operatives to whom J keys have been issued previously are required to attend the nominated training centre in order to collect their replacement authorisation certificate following re-assessment and so that Northern Powergrid can validate that the meter operative concerned is still in possession of a J key.

A7.3.4 Self-assessment process for EUSR operatives

A7.3.4.1 Northern Powergrid has revised the authorisation policy on authorising meter operatives, registered under EUSR, to remove and replace cut-out fuses at single and three-phase service positions (including non-smart meter operations).

A7.3.4.2 Northern Powergrid will now offer an alternative method for this level of authorisation and accept that meter operators/operatives who meet the following criteria are competent to install electrical meters and operate on Northern Powergrid's distribution system assets. This applies to authorisation codes O1.2, O1.3 and O1.4 only.

A7.3.4.3 The employing meter operator must:

- Be a signatory to the REC and the CoMCoP; and
- Have had its list of authorised meter operatives validated by Northern Powergrid.

A7.3.4.4 The operative who operates or works on Northern Powergrid's distribution system assets must:

- Be trained, competent and able to demonstrate compliance with CoMCoP and be trained and authorised by a National Skills Academy for Power (NSAP) accredited provider for the "removal, testing and insertion of single and, where appropriate, three-phase low voltage distribution system cut-out fuses";
- Have received a Northern Powergrid Licence Specific Safety Induction – meter operative briefing (see appendix 9); and
- Hold a current registration within EUSR for one or more of:
  - Smart metering (Electricity) single-phase;
  - Smart metering (Electricity) single-phase off multi-phase; or
  - Smart metering (Electricity) multi-phase.
- Operatives that require O1.5 will need to complete an assessment at a Northern Powergrid training centre. On successfully completing the assessment the operative will be awarded the authority code.

A7.3.4.5 Companies who wish to utilise this self-assessment process for the authorisation of their operatives and the issue of a Northern Powergrid authorisation code certificate will be

required to submit a fully completed and signed Northern Powergrid system authority nomination form – meter operative (appendix 8).

For companies looking to authorise operatives using this approach, there will be a maximum of two weeks turn around to authorise meter operatives.

A7.3.4.6 Authorisation code certificates will be valid for three years and renewed, subject to refresher training and successful re-assessment being achieved through an NSAP accredited provider, and continuation of individual EUSR registration.

A7.3.4.7 On completion of the re-assessment, evidence of the candidate's registration update will be sent through to Northern Powergrid Training by the meter operator and a replacement certificate will be issued for the meter operative.

A7.3.4.8 Authorisation code certificates will be posted to the relevant meter operator, and it will be the responsibility of the meter operator to issue the replacement certificate to each meter operative.

A7.3.4.9 The meter operator will ensure the signed receipt and old authorisation certificate (for refreshers or upgrades) is returned to Northern Powergrid's Training section. Failure to comply with the procedure on two occasions will result in the meter operator's operatives reverting to collecting the replacement certificate from Northern Powergrid.

A7.3.4.10 For clarity, those meter operators who choose not to register with EUSR will be required to have their operatives nominated for assessment through the standard authorisation assessment process at a Northern Powergrid training centre as detailed below.

A7.3.4.11 If a meter operator sub-contracts to another meter operator who does not use the self-assessment process, then the sub-contractor meter operator must use Northern Powergrid's standard authorisation assessment process.

A7.3.5 Northern Powergrid standard authorisation assessment process

A7.3.5.1 Standard authorisation by Northern Powergrid takes the form of a technical assessment of the meter operative and an interview. If successful, the meter operative is issued with a certificate of authorisation for the level of code assessed and a copy of Northern Powergrid's LV Safety Rules. There is no charge for authorisation assessments within normal working hours.

A7.3.5.2 Accompanying the nomination form should be the following documents/evidence:

- Meter operator company authorisation certificate applicable to the authorisation code(s) applied for;
- Candidate's CV which includes all relevant experience;
- A valid first aid certificate with a minimum of three months left on the certificate before its expiry date; and
- A request for a J key (only where required).

A7.3.5.3 An assessment slot will be offered at a Northern Powergrid training centre at either Durham (Northeast) Castleford, Swillington or Hull (Yorkshire), as appropriate, a minimum of three weeks from the date of request. The nominator/candidate will receive:

- Joining instructions two weeks prior to the assessment detailing the location, date, time and duration;
- The outcome of the assessment and appropriate feedback; and
- Subject to successful assessment, a copy of the LV Safety Rules together with an authorisation certificate appropriate for the codes successfully assessed.

A7.3.5.4 On the occasions where the documents/evidence cannot be supplied at the time of application, they must be received by Northern Powergrid a minimum of one week prior to assessment. Failure to do so may result in loss of assessment slot.

A7.3.5.5 In circumstances where an individual has not successfully completed an authorisation assessment and a re-assessment is required, then the application shall be submitted in the same manner as an initial request. The same timescales will apply. However, short notice requests may be accommodated if assessment slots are available. Evidence of re-training will be required for all re-assessments.

A7.4. Re-authorisation requests

A7.4.1 Requests for re-authorisation assessments, for soon to be expired codes, should be undertaken at least three months prior to the expiry date. The new re-authorisation period will start from the end date of the existing authorisation. For this or the booking of re-authorisation courses please request by email using the system authorisation and training contacts in appendix 1 in the first instance.

A7.5. Training requests

A7.5.1 Though not a requirement of authorisation, training can be requested using the same meter operative nomination form, in appendix 8, and applying to Northern Powergrid through the 'system authorisation and training' contact information contained within appendix 1. Northern Powergrid will endeavour to accommodate the request within eight weeks of the request being received and it will take place at Durham (Northeast), or Castleford, Swillington or Hull (Yorkshire) as appropriate. A charge will be incurred, and payment will be required at least one week prior to the training along with all the relevant documentation for the candidate(s).

A7.6. Authorisation withdrawal

A7.6.1 Should authorisation of a meter operative no longer be required, Northern Powergrid should be contacted using the 'system authorisation and training' contact information contained within appendix 1. The return of all Northern Powergrid property is required. This could include:

- Books - LV Safety Rules, DSR or Operational Practice Manual;
- Authorisation certificate; and/or
- Keys.

A7.6.2 Failure to return any Northern Powergrid property may incur a charge of £150 + VAT per book and £100 + VAT per key. It is the responsibility of the meter operator who originally requested the authorisation of the meter operative concerned to return Northern Powergrid's property.

A7.6.3 The non-return of Northern Powergrid's property will not prevent the meter operative concerned from being authorised by a new meter operator after moving to that new meter operator. However, Northern Powergrid reserves the right to require the new meter operator to, wherever possible, provide proof of the location of Northern Powergrid's property, which may delay the issue of LV Safety Rules authorisation certificate and keys to the meter operative concerned.

Appendix 8 – Nomination form

SYSTEM AUTHORITY CODE NOMINATION FORM – Meter Operative

SECTION 1 - NOMINATION

Details of Nominee (Please provide CV, MOP authority certificate and 1st aid certificate (with minimum 3 months before expiry) – standard authorisation assessment process only)

Name (in full): _____

NI Number: _____ EUSR Number: _____

Company: _____ Employed as: _____

Tick those required in table below

Code	Description	Training Required	Assessment Only	New Code	Northeast	Yorkshire	Company Change Only
O1.2	Single-phase installations						
O1.3	Single-phase of a multi-phase supply						
O1.4	Multi-phase installations						
O1.5	ISU installations with exposed LV						

Nominating Manager (Employer)

I confirm the above-named to be a fit and proper person to undertake the duties detailed on this nomination form, has received Northern Powergrid's licence specific safety induction – meter operative briefing and the activities will be regularly undertaken.

Name: _____ Signed: _____ Date: _____

Electricity MOP

I confirm the above-named person has a requirement for the codes/training as a meter operative working for the Meter Operator company stated below.

Electricity Meter Operator company_____

Name: _____ Signed: _____ Date: _____

SECTION 2 – CONFIRMATION OF TRAINING & CV - Training Section

CV checked and satisfactory		MOP certificate seen	
First aid certificate seen and in date		Training completed (if required)	

Name: _____ Signed: _____ Date: _____

SECTION 3 – ASSESSMENT - Assessor

I can confirm the above named has satisfied/not satisfied* the range of practical tests/knowledge evidence appropriate to the authority code applied for.

If satisfied the appropriate certificate can be issued.

Name: _____ Signed: _____ Date: _____

*Delete as appropriate

Appendix 9 – Licence specific safety induction – meter operative briefing

Please download the induction briefing from the Northern Powergrid section of the “DNO Information for MEMs” tab in the Metering Hub portal of the REC website.

Click the link below for the licence specific safety induction – meter operative briefing.

Northern Powergrid licence specific safety induction v2.7

Appendix 10 – Northern Powergrid local information

A10.1 Safety brief for cut-outs containing a switched live terminal

NORTHERN POWERGRID

NEWSSAFETY

Newsflash – 2018 15

9th October 2018 - Internal

Every employee and contractor, working for Northern Powergrid, should go home at the end of each shift uninjured and in good health after a productive days work

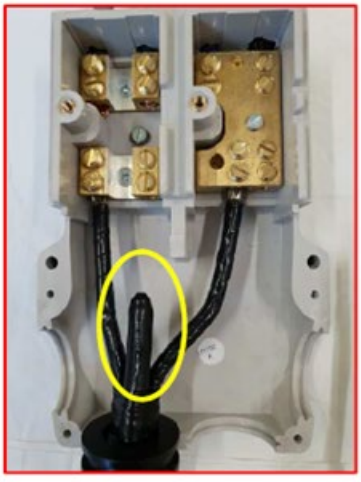
Cut-Outs containing Switched Live Terminal

It has been brought to our attention that some locations may have non-standard, older type service arrangements where the cut-out has a third core (2nd live). This third terminal is a switched core previously used for local authority communal lighting or heating schemes. Whilst these local authority schemes should now be obsolete, the switched core/terminal may still be live. This second core was normally switched from the source substation in the same way that older street lighting schemes operated and consequently this second live could be on a different phase to the main incoming supply fuse. This introduces the potential for a 415v supply to be present at the terminals within the cut out.



Metering operatives coming across this non-standard service arrangement within a cut out should replace the cover immediately and replace the service fuse. They must not progress with metering work and should report the issue to Northern Powergrid for remedial work to be undertaken.

The only way of identifying these cut outs is by removing the front cover. The picture to the right shows the cut-out front removed revealing the second live terminal between the fused live and the neutral.



Any meter operator coming across this type of installation should report it to Northern Powergrid as a MOCOPA code B07, "**DB work needed for meter operator to complete work**" **Under no circumstances should any work be carried out other than reinstating the equipment to 'as found'.**

Northern Powergrid will arrange for a jointer to attend the site, identify the suspect third core and replace the cut out with a single phase unit. The second live core will be stub ended as shown in the picture to the left.

Where the second core still appears to be in use (outgoing wiring connected) then advice must be sought from your line manager as to how to proceed.

If the output is in use (already metered), the fitting of a second service fuse used to feed the additional supply can be installed. Where an outgoing side is unmetered the outgoing wiring should be left disconnected and the property owner notified.

A10.2 Safety brief for security labels potentially containing asbestos

NORTHERN POWERGRID

NEWSSAFETY

Newsflash – 2019 05

1st April 2019 - Internal

Every employee and contractor, working for Northern Powergrid, should go home at the end of each shift uninjured and in good health after a productive days work

Update - Service Termination Security Labels.

Further to Safety newsflash 2018-19, this update provides further guidance on the safe method of interaction with the anti tamper/security labels (YEB). Following analysis and further assessment by our licensed consultants we confirm that some "YEB" labels have been found to contain small quantities of Chrysotile (white) asbestos but that asbestos fibres are well bound by the adhesive. To assimilate the "worst case" scenario of severe damage to the label likely to cause a release of asbestos fibres, we have conducted tests involving the scraping, tearing and abrading of the labels. Our tests confirmed that in all cases, any release of asbestos was well below the control limits of 0.01f/cm3. However, any release of asbestos should be avoided and therefore the following work procedure should be followed where paper labels marked "YEB" are discovered. Note that plastic based labels marked "YEB" have been proven to not contain any asbestos fibres.

Working on equipment sealed with paper "YEB" security labels

Normal handling of these labels, cutting or careful tearing does not give rise to a potential exposure to respirable asbestos fibres above levels considered injurious to health and **the use of asbestos PPE and RPE is not required**. There are no additional PPE requirements other than live working PPE when removing or replacing the cut-out fuse.

However, under no circumstance should any attempt be made to remove the labels from any item of equipment or surface as this may cause substantial damage to the label and increase the risk of potential fibre release.





Where possible, labels should be left intact and undamaged. Where evidence of previous damage/label removal is observed, and residue/damaged pieces of label are present, a clear adhesive tape such as cellotape should be applied over the label fragments/residue area before cutting with an insulated blade or handling/removing the fuse or meter covers. This is to permit staff handling the meters to visually confirm the type of label used as it is transported, the tape will also provide additional protection of any labels which may contain fibres.

Meter operators should report any Northern Powergrid cut-outs that have a paper "YEB" security label affixed using code Category C11 so that work can be programmed to replace the cut-out and remove the asbestos containing

apparatus. Removed meters should be carefully packaged for transport to avoid abrasion or damage of the seals whilst being returned.

Any service equipment removed by Northern Powergrid staff or Northern Powergrid's approved contractors that has paper "YEB" security labels present/attached should be sealed in bags which must be labelled with 'Asbestos'. Where items are to be disposed of, these should be double bagged (red then clear bags) as detailed in paragraph 3.4 of HAS/012-002.

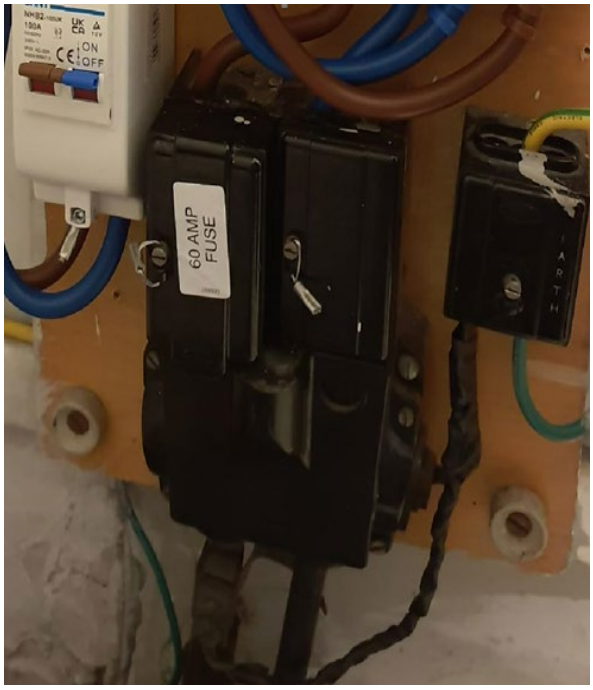
As a precaution, clean tools and the surface of the surrounding area using tack wipes/wet wipes. These used wipes should be placed in the bag along with the unit/s removed.

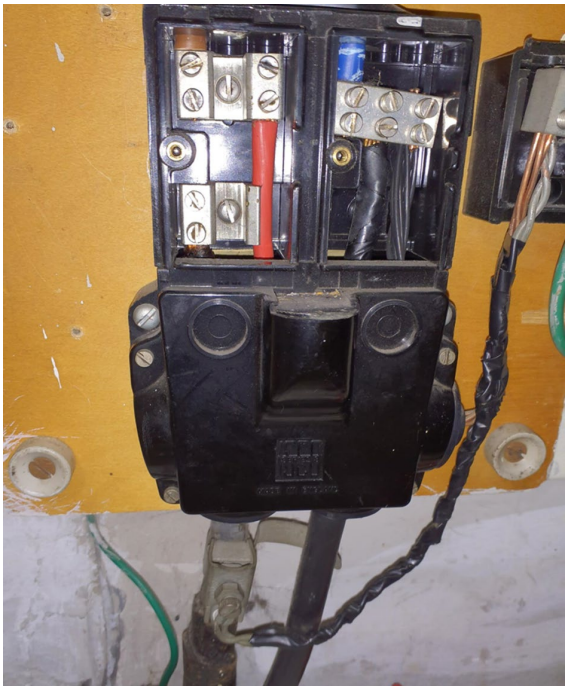
Storage and handling

As a precautionary measure, where equipment is being stored ready for disposal, it shall be double bagged in accordance with asbestos waste requirements (a red plastic bag inside a clear robust plastic bag) and stored in a segregated area. All materials should be transported in accordance with the hazardous waste requirements. Bagged items shall be handled with care to avoid rupturing the bags.

Remember exposure to and inhalation of asbestos fibres is potentially hazardous and should be avoided.

A10.3 ISCO black plastic cut-out with a looped supply





The ISCO cut-out example above shows a non-standard looped supply arrangement. The live loop to the neighbouring property is fed from the out-going terminals of the cut-out. When the fuse is withdrawn, the supply to both properties is de-energised.

It is a common-looking cut-out with no known outwardly visible signs of this internal connection scenario before the cut-out fuse is removed. The cut-out is not meant for this type of looped connection and it is unclear whether the incomming live connections are designed this way or if it has been modified. It is not a common connection scenario and it may be unique to Northern Powergrid. Therefore, it is not covered in the REC guidance for service termination issue reporting document.

If a meter operative encounters this scenario, they should report the issue to Northern Powergird, by telephone, as a category A04 report. This is regardless of if the supply has been restored or not.

Appendix 11 – Glossary

BSC	Balancing and Settlement Code
BSC CoP4	Code of Practice for the calibration, testing and commissioning requirements of metering equipment for settlement purposes
CoMCoP	Consolidated Metering Code of Practice
CT	Current Transformer
CV	Curriculum Vitae
DNO	Distribution Network Operator
DSR	Distribution Safety Rules
ESQCR	Electricity Safety, Quality and Continuity Regulations 2002
EUSR	Energy and Utility Skills Register
HV	High Voltage
IDNO	Independent Distribution Network Operator
J Key	Low level security lock key
LV	Low Voltage
Market Message (MM)/data flow	Industry-wide communication method.
MEM	Meter Equipment Manager – also referred to a Meter Operator
MPAN	Metering Point Administration Number
Northern Powergrid	Northern Powergrid (Northeast) plc and Northern Powergrid (Yorkshire) plc
NSAP	National Skills Academy for Power
OPM	Operational Practice Manual
PME	Protective Multiple Earth
REC	Retail Energy Code
SIP	Safe Isolation Provider. A SIP must be a CoMCoP accredited MEM