

Code of Practice 614

Issue 42 April 2024

Authorisation



Amendment Summary

ISSUE NO. DATE	DESCRIPTION
Issue 40 January 2024	<p>Restructure and reformatting of CP614 to new template format, including some code amendments and additional authorisation codes for tree cutting work by contractors. Details are:-</p> <p>Codes amended with updated course details:-</p> <p>Code 101 course code changed from CT051 to CT053</p> <p>Code 103 code no longer available – existing holders to retain entitlement.</p> <p>Code 147 change course code from ED51 to OH017. change course code from H588 to OH034 - Working at Height (wood pole rescue)</p> <p>New Codes:-</p> <p>Codes 502 – 509 New Contractor codes for Tree Cutting</p> <p>Code 515 Routine maintenance, repair and resetting of Sump Alarms</p> <p>Replacement of Meter Operator Code of Practice Agreement (MOCOPA) with Meter Operator Code of Practice (MOCOP).</p> <p>Prepared by: Paul Ward Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson.</p>
ISSUE NO. DATE	DESCRIPTION
Issue 41 February 2024	<p>Minor amendment to code 314 and new code 525 introduced.</p> <p>Details are:-</p> <p>Code 314 Changed to include new technologies.</p> <p>Code 525 New code to cover the use of the sniffing equipment for location of underground LV faults.</p> <p>Prepared by: Paul Ward Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson.</p>

Issue 42

Several minor wording amendments along with changes to the following codes:-

April 2024

Code 183 – Requirement to hold code 195 in addition if issue of safety documents is required

Code 364 – Remove the requirement to hold LV authorisation. Must hold code 347 for a minimum of 6 months.

Code 110 – Clarified to demonstrate including receipt of LoA for Safety Standby only

Code 149 – Allows for Telecom staff already holding code 106 and completing EO1170 to gain the code without interview.

Code 217 – Qualifications and on job training amended.

Code 218 - Qualifications and on job training amended.

Code 344 – Formal and on job training modified.

Code 347 – On job training clarified.

Code 503, 504, 505 – Clarified that these codes are for all work but in order to issue safety documents code 195 is also required.

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1 Introduction

The Electricity at Work Regulations 1989 requires persons who work on, or adjacent to, the Electricity System to have sufficient technical knowledge or experience to avoid **danger**. Any person who possesses this technical knowledge and/or experience is, by Safety Rule definition, deemed to be a **Competent Person**. The **Authorised Person** and **Senior Authorised Person** are **Competent Persons** with specified duties.

The Electricity at Work Regulations 1989 also specifies the need for accompaniment if the second person can substantially contribute towards the implementation of safe working practice.

Section 8 of Procedure G2 in CP606 defines the conditions under which a **Competent Person** can work unaccompanied and if accompaniment is necessary the standard required of the second person. Section 2 of Procedure G2 covers the conditions under which a Non-**Competent Person** can work in substations and switching stations.

This establishes 2 levels in relation to competence:

- A **Competent Person** (which includes the **Authorised Person** and the **Senior Authorised Person**) who can normally work unsupervised.
- A Non-**Competent Person** who has insufficient training or experience to avoid **danger** and consequently always requires **Personal Supervision**.

2 Scope

This code of practice describes the authorisation procedure for Electricity North West employees, contractors, third party contractors and emergency imported staff who are required to work on or adjacent to the Electricity North West distribution system and networks under COMA operated by Electricity North West.

3 Definitions

ABC	Aerial Bundled Conductor
AP	Authorised Person
AVC	Automatic Voltage Control
CA	Competency Accreditation
CDM	Construction, Design & Maintenance
CLASS	Customer Load Active System Services
CME	Circuit Main Earth
COMA	Control, Operation and Maintenance Agreement
CT	Current Transformer
CV	Curriculum Vitae
DOEF	Drop Out Expulsion Fuse
DSO	Distribution System Operator
EFI	Earth Fault Indicator
ENA	Energy Networks Association
ENWL	Electricity North West Limited
ESQCR	Electricity Supply, Quality and Continuity Regulations
GIS	Geographical Information System
HAM	High Accuracy Metering
HNC	Higher National Certificate
HV	High Voltage
IAD	Insulated Aerial Device
ICP	Independent Connections Provider
IDNO	Independent Distribution Network Operator
IET	Institution of Engineering and Technology
ITP	Individual Training Plan
LOA	Limitation of Access

LSAP	Limited Senior Authorised Person
LV	Low Voltage
MEWP	Mobile Elevated Work Platform
MOCOP	Meter Operator Code of Practice
NERS	National Electricity Registration Scheme
NRSWA	New Roads and Street Works Act
OI	Operational Instruction
OHL	Overhead Line
PILC	Paper Insulated Lead Covered
PTW	Permit to Work
RTU	Remote Terminal Unit
SAP	Senior Authorised Person
SATS	System Amendment Tracking System
SFT	Sanction for Test
SMS	Safety Management System
TOAD	The Operational Authorisation Database
TROC	Transfer of Control and Operations
U/G	Underground
UPS	Under Personal Supervision
VT	Voltage Transformer

4 Certification

The appointment of a **Competent Person** (including an **Authorised Person** and a **Senior Authorised Person**) **shall** be in writing and the authorisation certificate **shall** state the duties for which the holder is deemed to be competent.

The certificate **shall** also state:

- Where substation access is required, the type of substation and voltage level to which access is limited.
- The voltage level where, as in the case of operational switching and/or competency eg jointing, this imposes a limit.

Authorisations will normally be issued to cover the entire Electricity North West network. However, in special circumstances the authorisation may be limited to specific circuits or locations.

Authorisations will normally be valid for a period of five years and re-issue will be subject to successful completion of Competency Accreditation (CA) and/or electrical safety refresher training.

Authorisation will be issued via The Operational Authorisation Database (TOAD) and signed by the System Operations Manager or one of their designated deputies.

Under the Meter Operators Code of Practice (MOCOP) Third Party Meter Operators are responsible for assessing that meter installers are competent and issue their own certificates. Third party meter operator's employees are not issued with an Electricity North West authorisation.

5 Requirements for Competency/Authorisation

Any person who works unsupervised on or adjacent to the Company's Electrical **System** must be a **Competent Person** appointed in writing by the Company. This applies to Electricity North West staff, contractor's staff working for Electricity North West, third party contractors (excluding MOCO staff) and customer appointed staff. **Competent Person** in this context embraces both **Authorised Person** and **Senior Authorised Person**.

Technical knowledge and understanding, which includes adequate knowledge of electricity is necessary for persons to be Competent. To demonstrate adequate knowledge of electricity, for certain authorisations, it is necessary for individuals to attain an appropriate nationally recognised academic qualification. For example, Craftsmen (Joiners/ Linesperson/ Fitters etc) are required to achieve City & Guilds level 2 (or equivalent). SAP Operational Engineers are required to achieve a minimum of HNC (or equivalent).

The training and experience necessary for Competency reflects the type of work and the level of exposure to **live** equipment. For example, HV authorised staff operating in a 132kV compound or a joiner carrying out **live** LV jointing will be exposed to more danger than, say, a joiner changing a substation door. Consequently, the training and experience requirement for a joiner would be at a lower level than either an engineer or joiner.

Training must normally be carried out in the sequence shown ie formal training first followed by on-job training. Any exception to this must be with the prior agreement of System Operations.

Following formal training the trainee's line manager **shall**, as part of the post course review, appoint a mentor and training supervisors. For operational training involving switching and/or safety document issue the trainee's line manager must agree with System Operations the staff that are to be appointed as mentor and training supervisors.

On-job operational training should only be carried out under the **Personal Supervision** of a person who has held the level of authorisation, for which the training is being given, for at least six months. In addition the Personal Supervisor should be a regular operator at this level of authorisation.

The trainee's authorisation **shall** be endorsed with a 'P' (under **Personal Supervision**).

Where appropriate the training **shall** be carried out in accordance with the on-job training modules.

The minimum on-job training periods, if stated, are of a recommended duration and may vary depending on the frequency of training and the ability of the person undergoing training.

Codes under **Personal Supervision shall** not be held for more than 2 years. Failure to obtain the authorisation in full in that time will result in the code being withdrawn. If it is determined that the code is still required, it will be necessary for the holder to undertake the formal training again and complete the requisite on-job modules. Any deviation from this rule will be at the discretion of the System Operations Manager.

The appointment of a **Competent Person** is dependent on the recipient meeting the relevant training/experience requirements and being confident to carry out the duties unsupervised. Relevant experience gained by contractors' staff with other companies can be taken into consideration when assessing training requirements.

Continuation of an employee's Competency/Authorisation will be subject to regular formal assessment and/or refresher training. If an employee holds an operational authorisation and a craft authorisation they must undergo the appropriate Competency Accreditation and/or electrical refresher training in addition to any operational refresher training. Training (including refresher training) may be done outside of Electricity North West. In these cases the training course must be **approved** by the Academy Technical Training Manager and put on The Operational Authorisation Database accordingly.

Safety Rule 1.11 - Treatment for Electric Shock - requires all persons who may be concerned with the operation of, or work on, the Electrical System be trained in the treatment of electric shock. This requirement is met by attendance on a recognised Emergency First Aid course. A refresher course **shall** be attended every three years. This training can be undertaken outside of Electricity North West providing proof of attendance is provided.

6 Authorisation Procedure

All applications for operational authorisation are to be submitted to the Training Academy for consideration, utilising request forms and advice available from the Training Academy Admin Team. Contractor authorisations will only be accepted if submitted by an Electricity North West manager (Sponsoring Manager) who requires the work from the contractor (see Appendix E8).

All applications for authorisation for Electricity North West employees or contractors must be signed by a nominated Manager **approved** by the Training Academy. Application forms can be obtained from the Training Academy Admin Team (TheAcademy@enwl.co.uk).

7 Operational Switching Auditing

Following initial operational authorisation and subsequent progression to a higher level of authorisation audits **shall** be held in the first six months.

System Operations **shall** carry out operational audits each calendar year or as otherwise deemed necessary. Results of the audits may be sent to the appropriate line manager who will be responsible for any actions resulting from the audit.

Electricity North West contractors **shall** have an operational audit each calendar year or as otherwise deemed necessary. Results of the audits may be sent to the line manager of the contractor's Electricity North West sponsor.

System Operations **shall** also carry out random audits of switching programmes.

Operational audits may be carried out without prior notification.

Should the auditing procedure identify a person is below the necessary operating standard then one or more of the following options **shall** be considered:-

- Discussion on site between the auditor and the operator.
- Report to line manager.
- Interview with the System Operations Manager or one of their designated deputies.
- Formal refresher training.
- On-job refresher training.
- Withdrawal and re-issue of Authorisation at a reduced level, with or without progression to the previous level of Authorisation.
- Permanent withdrawal of Authorisation.

8 Authorisation Renewal

Operational Authorisations are valid subject to attending mandatory refresher training and passing relevant audits. For renewal of authorisation, individuals **shall** complete the appropriate Competency Accreditation (CA) and/or attend the appropriate refresher training.

It is the responsibility of line managers to ensure that individuals carry out the CA and/or attend the refresher training prior to requesting authorisation renewal. CA/refresher training requirements should be included in the employees Individual Training Plan (ITP).

Where CA/refresher training is successfully completed more than 2 months before the expiry date, renewal will be from the date of the CA/refresher training.

In exceptional circumstances it may not be possible to attend a CA or refresher training prior to renewal, due to circumstances outside the individual's control, (eg sickness absence, course not being available). In these circumstances the individual's authorisation may be extended, on receipt of a request from their line manager detailing the reason for not completing the CA/refresher training, for a maximum period of six months.

Only one extension will be permitted on an authorisation. Therefore, failure to successfully complete the CA/attend refresher training, within this extension period, will result in the individual's authorisation being not valid until the CA/refresher training is successfully completed.

It is the responsibility of line managers to ensure that all individuals with an Operational Authorisation are trained in and conversant with the treatment of electric shock (see section 5) and where appropriate pole top/tower rescue. Evidence of current training is required with the renewal request. Authorisation renewal, including temporary extension, will not be issued without this evidence.

It is the responsibility of the individual to ensure that they are up to date with treatment of electric shock and where appropriate pole top / tower rescue throughout the period of authorisation. If these refreshers have lapsed then any relevant authorisation is not valid.

For clarity, if the individual's First Aid refresher date is not met, their Authorisation is invalid from that date. Similarly, if pole top / tower rescue refresher dates are not met, the individual cannot work as part of a climbing team from that date.

9 Operational Incidents

An operational incident is defined as a breach of the Distribution Safety Rules or the company's operational policies or procedures (often associated with switching or the application of safety documentation). This does not include a breach of craft procedure(s) as embodied in craft Codes of Practice.

They are classified as:

- Deliberate.
- Accidental - correct intention but wrong execution ie human error.
- Accidental - wrong intention based on misunderstanding, ignorance etc

Any of the above has potential for injury.

Operational incidents will normally be investigated as an Electrical Operation Investigation in accordance with CP940 – Handling, Recording, Investigation and Analysis of Incidents.

In the event of an operational incident, the System Operations Manager should be informed as a matter of urgency in accordance with CP606 Section R. In addition, authorisation should be withdrawn from those involved, without prejudice, while an investigation into the incident is carried out. This could be those directly involved and/or those who are identified, as the facts emerge, during the subsequent investigation. The withdrawn authorisation should be returned to the System Operations Manager. The suspension of authorisation is intended to be a routine procedure in the best interests of the person(s) concerned on the grounds of welfare to provide time to ensure that the person(s) involved is/are not suffering from shock or trauma.

Restoration of the authorisation **shall** be at the discretion of the **Designated Engineer**, or their designated deputy. Dependent on the investigation report the following options should be considered before restoration of Authorisation:

- No further action following interview with the System Operations Manager, or one of their designated deputies.
- Formal refresher training.
- On-job refresher training.
- Restoration at a reduced level of authorisation, with or without progression to the previous level of authorisation.
- Permanent withdrawal of authorisation.

Where further actions are proposed a note should be added to the comments field on the individual's authorisation profile which may make reference to a document in the individual's personal file.

10 Permanent Withdrawal of Authorisation

Where the actions of a Competent/Authorised Person compromise the standards set by Electricity North West such that the latter can no longer trust that individual to operate unsupervised, competently, safely and to comply with Policies and Procedures, it may be necessary to permanently withdraw authorisation.

Reasons for permanent withdrawal of authorisation:

- A Competent/Authorised Person who resigns or retires **shall** have all authorisations suspended upon leaving the company.
- Where an authorised employee resigns or retires then they **shall** not normally be reauthorized for a minimum period of 2 years from the date of resignation / retirement unless they are re-employed as a direct employee of Electricity North West.

NOTE: Individuals may apply for re-authorisation by following the Process detailed in Section 11.

- Dismissal for Gross Misconduct for, but not limited to, the following circumstances:
 - a) a breach of Health and Safety policy
 - b) failure to comply with Electricity North West Distribution Safety Rules
 - c) a breakdown in trust

NOTE: Authorisation withdrawn for reasons of Gross Misconduct **shall** not be reinstated for a period of a minimum of 2 years. After the minimum period of 2 years a route back may be considered as outlined in section 11 – Route Back to Re-Authorisation.

Any other such circumstance in the reasonable opinion of the Authorisation Panel.

11 Route Back to Re-Authorisation

Authorisation withdrawn for reasons of Gross Misconduct **shall** not be reinstated for a minimum period of 2 years after which a route back can be considered.

Subject to providing suitable evidence of consistent compliance and competence to relevant policy, for example within another DNO, an individual **shall** be considered for re-authorisation.

Where the breach of trust is based on a pattern of repeated actions authorisation may not be reinstated.

To ensure fairness and consistency the following procedure **shall** be followed when an employee, ex-employee, framework contractor or third-party contractor requests a route back to re-authorisation.

- The individual must complete a Route back to re-authorisation application form (Appendix F)
- The application form and evidence will be reviewed by the Authorisation Panel who will decide the route back to re-authorisation
- The Authorisation Panel may decline the application and **shall** provide a reason and indication (if applicable) of what the individual needs to do if they apply in the future.
- If the Panel approve the application, they **shall** provide a pathway back to re-authorisation which may involve a combination of the following;
 - a) Re-training and assessment
 - b) On-job training under **personal supervision**
 - c) Practical assessment
 - d) Competency accreditation assessment
 - e) Competency interview

There will be a cost associated with the route back to re-authorisation which will be provided on approval of the application.

12 Electricity North West Contractors

The employment of Electricity North West contractors **shall** be in accordance with EPD103.

It is the responsibility of the line manager who employs the contractor to ensure that EPD103, the authorisation procedure in Section 6 and the procedure detailed below is followed.

The manager will be responsible for nominating a member of their staff to sponsor the contractor. The sponsor will be responsible for the liaison with System Operations to ensure that the contractors' employees meet the requirements for authorisation. All requests for contractor authorisations must be made by the Electricity North West sponsor.

If the main contractor decides to sub-contract some of their work, the main contractor is responsible for ensuring that their sub-contractors satisfy all the criteria to obtain authorisation.

Prior to any contractor's employee being authorised to work on the system the contractor must be accredited by Lloyds Register Quality Assurance (LRQA) with their National Electricity Registration Scheme. (NERS). If the contractor is not LRQA accredited they must be notified to obtain LRQA accreditation by the line manager employing the contractor.

At present the requirement for NERS accreditation covers the following activities:

- Design
- Project Management
- Cable laying (LV, 11kV, 33kV, 132kV)
- Cable Jointing (**dead** LV, **live** LV, 11kV, 33kV, 132kV)
- Overhead lines wooden pole and/or steel tower (up to 132kV)
- Substation installation (up to and including 11kV)
- Substation installation (132/33kV, 66/11kV, 33/11kV)
- All associated civil engineering works including excavation, cable laying and backfilling

NOTE: each voltage rating detailed in brackets represents a separate registration category

In completing the Initial Authorisation Request the Contractor is required to certify that the employee has the technical competence for the work to be undertaken

Unless specifically stated otherwise, contractors' employees who are required to work on or adjacent to the Electricity North West **system** will be subject to the same basic requirements as Electricity North West employees, ie they must have the appropriate qualification/experience (see 16) prior to undertaking any formal training and following the completion of formal training they will be required to complete the appropriate on-job training.

For operational authorisations, eg LV or HV authorisation, provided that the contractor's employee can provide satisfactory evidence, in accordance with Appendix E6, of relevant experience / authorisation in another DNO certain elements of the formal training requirements may be omitted. This will be assessed by the System Operations Manager or one of their deputies.

For trade competency, eg jointing, overhead lines, provided that the contractor's employee is authorised to carry out the work for their employer and their employer can show that they have the necessary experience and technical knowledge then he can be authorised as follows:

- Completion of contractor assessment, eg trade testing, and safety training at the Electricity North West training facility, and/or other accredited training establishments and/or
- Interview by the System Operations Manager or nominated deputy.

13 Third Party Contractors

Third party contractors are defined in this code of practice as contractors who work on, or have access to, Electricity North West equipment but are not working on behalf of Electricity North West. These include:

- Meter Operator working under MOCOP
- Street Lighting contractor working for local authority
- Independent Connection Provider (ICP) undertaking:
 - (a) HV Jointing / **live** LV jointing on Greenfield / Brownfield site
 - (b) **Live** LV Jointing on Street Furniture

For ICP Authorisation and Control Options see Section 14

13.1 Meter Operators

The Meter Operators Code of Practice (MOCOP) is an agreement between the electricity distribution business (ie Electricity North West) and electricity meter operators in Great Britain.

The Agreement authorises meter operators to install and connect meters to the electricity network by clarifying that the equipment being provided, installed and maintained meets appropriate technical requirements and that work is carried out to adequate safety standards.

Meter operators are responsible for assessing that meter installers are competent and for issuing their own certificate of competency in accordance with the following categories:

13.1.1 Category 1

Connection of LV whole-current meters with unrestricted access to the site of work and the competence to make the point of work safe.

13.1.2 Category 2

Connection of CT-operated meter remote from the point of supply to a terminal block with access to voltage fuses which are not in the vicinity of **live** conductors.

13.1.3 Category 3

As Category 2, but where voltage fuses are in the vicinity of **live** conductors.

13.1.4 Category 4

Connection of CT-operated meter at the point of supply on or near **live** conductors.

A MOCOP certificate of competence issued by the meter operator is recognised and accepted by Electricity North West. Installers issued with a MOCOP certificate of competence do not require an Electricity North West authorisation.

A MOCOP certificate of competence does not permit access to Electricity North West substations. Staff requiring access must hold a specific substation access authorisation or be under the Personal Supervision of a suitably authorised person.

13.2 Street Lighting Contractors

For street lighting contractors working for local authorities, provided that the third party contractor's employee is authorised to carry out the work for their employer and their employer can show that they have the necessary experience and technical knowledge then they can be authorised, for removal and replacement of the cut-out fuse, as follows:

- (a) Prior acceptance in writing of third party training covering ENA Engineering Recommendation G39/1;

OR

- (b) Satisfactory completion of H190 - Basic Electrical Safety for Highway Authority / Contractors (G39/1 equivalent);

AND

Interview by the System Operations Manager or nominated deputy.

14 Independent Connection Provider (ICP) Authorisation and Control Options

ICPs may operate on Electricity North West equipment in order to make the final point of connection on behalf of customers or Independent Distribution Network Operators (IDNOs). The following section details the options available to them in order to complete work at the various voltages and the pre-requisites required for each.

The different options detail the Safety Management System (SMS) to be utilised however all work **shall** be carried out in accordance with the Electricity at Work Act, the Health and Safety at Work Regulations, CDM Regulations where appropriate and Electricity Supply Quality and Continuity Regulations (ESQCR).

All ICPs must be an **approved** and accredited company under the National Electricity Registration Scheme (NERS) to undertake contestable electricity distribution work.

The following sections detail the options open to the ICP for compliance with the above requirements.

14.1 Use of ENWL safe system of work and use of ENWL authorisation by ICP staff.

Under this option all work **shall** be completed under ENWL Distribution Safety Rules and safe systems of work.

This option is applicable to all voltages on the ENWL system.

The authorisation codes will clearly detail the voltage level and work allowed by the individual on the system.

There are 2 routes to ICP staff holding ENWL authorisation codes:-

14.1.1 ENWL issue of ENWL authorisation to ICP employee

ICP's employees **shall** hold an appropriate ENWL authorisation for the work they are doing issued by ENWL. In gaining this authorisation the following criteria **shall** be satisfied:

- a) Confirmation from the ICP of relevant training/experience. This **shall** take account of any and all previous experience and authorisations issued by other DNOs.
- b) Satisfactory completion of a trade test and Competency Accreditation (CA) assessment for industrial staff.
- c) Satisfactory completion of the appropriate conversion course for AP/SAP where necessary.
- d) Interview by System Operations Manager or nominated deputy.

Application for authorisation **shall** be made to the ENWL Training Academy, supported by relevant documentation and interview dates will then be arranged.

14.1.2 Delegated issue of ENWL authorisation ICP employee

This follows the same route as the authorisation in section 14.1.1 but the interview to assess competency is delegated to a nominated and suitably experienced person within the ICP.

The nominated person **shall** subject to the following criteria being satisfied be empowered to issue authorisations on behalf of ENWL.

- a) The nominated person **shall** be assessed by the System Operations Manager or their appointed deputy for suitability and appointed in writing.
- b) ENWL System Operations will train the nominated person in assessment techniques and subsequently provide technical support including the codes required for specific duties.
- c) The nominated person can subsequently schedule authorisation interviews.
- d) The ICP **shall** notify the Training Academy of the date/time/location for each person.
- e) The Training Academy will then produce an interview pack containing the interview materials and any keys to be issued.

This will contain the following:-

- Authorisation Request
- Supporting evidence/documentation
- Interview record sheet
- Question set (includes answers)
- Copy of failed questions from Competency Assessment paper
- Authorisation (in A5 format and an A4 copy)
- Safety Rules (basic rules or a full set – depends on authorisation)
- Keys (depends on request)
- Key issue record

The nominated person **shall** only interview for authorisation codes up to the same level as they themselves are authorised.

Once the interview is successfully completed the authorisation will be issued by System Operations in line with the nominated persons instructions.

14.2 Transfer of Control to ICP

Under this option ENWL will formally transfer operational safety management for a designated section of its HV network to the ICP. Once transfer has been completed all safety management activities and work on this transferred network are the responsibility of the ICP. The size of the network transferred **shall** be the minimum required to complete the necessary work and **shall** not normally contain any existing ENWL customers.

In order to facilitate the ICP making the final connection on HV networks the following process **shall** be utilised.

Once control has been transferred all work by the ICP will be completed under the ICP's own Safety Management System and Safety Rules.

Open points **shall** be moved and Points of Isolation (POI) established prior to transfer of control such that the minimum section of network **shall** be involved. These operations **shall** form part of a pre-planned switching programme prepared and executed by ENWL or the ICP and including the issue of the "Transfer/Return of Control and Operations" document (TROC) and the phasing out of the network.

Additionally the ICP **shall** confirm the method of phasing out to be used. If **dead** phasing is used then the ENWL SAP **shall** include this in the planned programme and complete the necessary testing prior to transfer of control.

A separate TROC **shall** be issued on site by the ENWL /SAP for both the transfer and return of control. The contact details of the ICP engineer **shall** be passed to ENWL control in case of emergency.

The network **shall** be capable of being de-energised by one device by the ICP which will then form a POI.

The ICP engineer will require access to ENWL substations they **shall** hold the appropriate level of ENWL substation access authorisation.

ENWL will provide any test bushings and earthing harnesses that may be required.

The ICP engineer **shall** contact the ENWL **Control Engineer** immediately before and immediately after a cable is spiked.

Testing and re-energisation of the circuit **shall** remain the responsibility of the ICP. Prior to re-energisation the ICP engineer **shall** contact ENWL control to inform of their intention to energise the system.

The network **shall** be returned with the same open points and POI's as issued.

All "as built" GIS drawings and System amendment forms **shall** be submitted using ENWL SATS procedure at the time of transfer of control back to ENWL.

In the event of any incident on the ENWL network, the ICP **shall** contact ENWL control immediately. If ENWL are required to retake control, the state of the network **shall** be agreed between the ICP and ENWL SAP on site, any keys made available along with details of any outstanding documents.

Phasing out **shall** be the responsibility of ENWL including proving the correct phasing.

Should any Operational Instruction (OI) apply, the contents of the OI **shall** be made clear to the ICP and fully complied with. OI's may prevent the transfer of control being completed due to restrictions on substation access and/or switchgear operation.

The maximum duration for any transfer of control **shall** be limited to no more than 12 hours.

14.3 Independent operation – ICP authorisation of ICP employees

ICPs **shall** operate under their own safety rules and SMS.

The ICP **shall** be responsible for the authorisation of its own staff and contractors. The relevant competence requirements **shall** include any network specific issues identified by the ICP following consultation and communication with ENWL.

All necessary network drawings will be updated by the ICP in line with ENWL SATS process.

This procedure **shall** only apply to work on LV networks using **live** jointing techniques.

15 Emergency Imported Staff

Emergency imported personnel can be authorised to carry out the same work activities in Electricity North West as they would normally carry out according to their existing authorisation from another DNO.

A copy of their written authorisation will be taken as proof of their current authorisation. If their authorisation does not exactly match that of Electricity North West then they will be given the nearest equivalent authorisation. This should be at the level below their company authorisation.

Prior to commencing work within Electricity North West they will be briefed and authorised by staff in accordance with CP604 - Electricity North West Incident Management Plan.

See Appendix E13 for model form of authorisation and CP604 Appendix F.

16 Authorisation Sections

16.1 Introduction

Authorisations are split into three distinct sections:

- Competency (see Appendix B)
- Substation Access (see Appendix C)
- Operational Authorisation (see Appendix D)

In order to determine the competency, substation access or authorisation required the procedure detailed below should be followed.

16.2 Identification of Training and Authorisation Requirements

To identify the competency, substation access or authorisation required select the work activity from the Work Activity section (see Appendix A) and then look up the appropriate code under the work activity eg if the authorisation code for LV mains jointing is required look in the cables section under LV jointing and select the appropriate code number.

Once the authorisation code number has been identified the full code wording and the training requirements can be found by looking in the Competency, Substation Access or Operational Authorisation sections, ie Appendices B, C or D.

The requirements for each authorisation code are detailed in the following standard format:

Code	Wording that will appear on the authorisation
Qualifications	Any minimum educational standards
Experience	Experience required prior to formal training
Formal Training	Training requirements
On Job Training	Agreed modules following formal training
Refresher	Refresher training required / CA
Assessment	By nominated assessor / Completion of CA
Interview	System Ops Engineer / nominated person

Notes added to the above provides further guidance / clarification on what is included within the authorisation.

Nominees will only be accepted on the formal training programme if they have the appropriate qualifications and experience. Failure to comply with the requirements of the training programme will result in the authorisation being refused.

A blank box in any of the above categories means that there are no specific requirements in that category for the authorisation.

Where an assessment has been carried out by an Electricity North West appointed assessor the requirement for an interview will be at the discretion of the System Operations Manager.

16.3 Work Activity

Appendix A details the authorisation codes available associated with competencies, substation access or operational authorisations.

16.4 Competency

Appendix B details the authorisation codes numbered 100 to 199. These codes cover staff competencies.

16.5 Substation Access

Appendix C details the authorisation codes numbered 200 to 299. These codes cover substation access.

16.6 Operational Authorisation

Appendix D details the authorisation codes numbered 300 and above. These codes cover operational authorisations.

17 Authorisation Routes

Appendix E provides additional details on how to achieve various levels of authorisation based on trade types and provide flow charts showing the authorisation routes.

Authorisation Routes	
E1	Authorisation route for Jointers
E2	Authorisation route for Lineworkers
E3	Authorisation route for 11kV Fitters
E4	Authorisation route for 33kV Fitters
E5	Authorisation route for fault technicians
E6.1	Authorisation route for Engineers
E6.2	Authorisation route for Engineers (progression to 33/132kV)
E7	Authorisation route for Contractor's Authorised Person
E8	Authorisation route for Apprentice Jointer
E9	Authorisation route for Apprentice Overhead Lineworkers
E10	Authorisation route for Apprentice Fitters
E11	Authorisation Route for Apprentice Transmission Electrical Fitter
E12	Authorisation Route for Apprentice Distribution Electrical Fitter
E13	Progression of Apprentices to Craft Attendant (Mate)
E14	Authorisation route for Emergency Imported Staff
E15	Authorisation Route for Higher Level Apprentices

18 Documents Referenced

DOCUMENTS REFERENCED	
The Electricity at Work Regulations	
DSR's	Electricity North West Limited Distribution Safety Rules
G39/1	Working in the vicinity of DNO equipment
EPD103	Employment of Contractors
CP604	Electrical Incident Management Plan
CP606	Operations Manual
CP635	Accreditation and Authorisation of ICP's
CP940	Handling, Recording, Investigation and Analysis of Incidents
EPD960	Powered Plant Competency Requirements
ES626	LV Live Jointing Regime for an ICP to undertake Metered and unmetered Connections work on Development Sites
ES627	LV Live Jointing Regime for an ICP to undertake Unmetered Connections Work on Street Furniture (Tripartite Agreement)

19 Keywords

Competent; Authorised; Contractors; Training.

Appendix A – Work Activity

A.1 Craft Descriptions

CRAFT DESCRIPTIONS	
1	Craftsperson - Tree Work
2	Craft Attendant - Tree Work
3	Independent Connection Provider's Operative
4	Supervisor
5	Team Leader
6	Craft Attendant – Jointing
7	Craft Attendant – Overhead
8	Craft Attendant - Electrical Fitting
9	Craft Attendant – Civil
10	Craft Attendant - Oil Mechanic
11	Craft Attendant - Transmission Electrician
12	Craft Attendant Jointing/Overhead
13	Craftsperson – Jointing
14	Craftsperson - Overhead Line
15	Craftsperson - Electrical Fitting
16	Craftsperson - Oil Mechanic
17	Craftsperson - Transmission Electrician
18	Craftsperson - Joints/Linesperson
19	Craftsperson - Joints/Fitter
20	Craftsperson – Civil
21	Craftsperson – Electrician

22	Craftsperson – Communications
23	Adult trainee - Craftsperson Jointing
24	Adult trainee - Craftsperson Overhead
25	Adult Trainee – Fitting
26	Higher Level Apprentice
27	Apprentice
28	Generator Operator
29	Fault Technician
30	Project Assistant
31	Project Leader
32	Project Organiser
33	Manager
34	Third Party Street Furniture Operative
35	Contractor – Electrician
36	Contractor - Craft Attendant Jointing
37	Contractor - Cable Layer Team Leader
38	Contractor – Engineer
39	Contractor - Overhead Lines
40	Contractor – Jointing
41	Contractor - Electrical Fitting
42	Contractor – CivilCraftsperson
43	Contractor - Weed Control
44	Contractor - Craft Attendant Jointing/Overhead Lines
45	Contractor - Cable Layer
46	Contractor - Tree Work

47	Contractor - Non Operational Staff
48	Telecontrol Database Maintainer
49	Telecontrol Database Manager
50	Control Engineer
51	Engineer - Distribution/Transmission
52	Communications – Engineer
53	Engineer – Telemetry
54	Emergency Imported Engineer
55	Emergency Imported Craftsperson
56	Customer Appointed Person
57	Non-Operational Staff

A.2 Categories of Work Activities with references to Authorisations

A.2.1 Table 1 – Substation Access

SUBSTATION TYPES	
200	All substations, compounds and buildings
201	Distribution and Primary substations
202	Distribution substations only

SUBSTATION ACCESS LIMITATIONS	
203	Excluding substations with exposed HV conductors
204	Excluding National Grid interface sites
205	Access restricted to buildings and established safe walkways in substations with exposed HV conductors
206	Work in substations with exposed HV conductors under Safety Standby only
207	The following substation(s) <free format field >
209i	Access to substations of the type shown above under the Immediate Supervision of a nominated person for the purpose of craft training only
210	Delivery and collection of materials & equipment
211	Routine compound cleaning & tidying
212	Routine maintenance of oil assisted cable equipment
213	Routine maintenance of ancillary substation equipment
217	Work on telecommunications equipment
218	Work on telemetry equipment ground level only
219	Work on Telecommunications equipment within a Telemetry enclosure
220	Washroom and toilet cleaning in substations

221	Substation inspection/cleaning and visual inspection of live LV boards
223	Routine maintenance of gas assisted cable equipment
226	Work on metering equipment
231	Work on heating and lighting circuits
237	Painting electrical plant (including receipt of Safety Document)
239	Specified minor civil trades works
241	Operation and Connection of Transformer Oil Regeneration Unit to Grid and Primary Transformers
242	Visual inspection only
243	Site surveys / measurements
245	Electrical measurements
246	Asbestos sampling and remedial work
249	Excavation in substations under issue of Limitation of Access
252	Specialised vegetation control
253	Specialised pest control services
254	Earth tape security marking
255	Lock installation and replacement at Grid & Primary substations
256	Vegetation control in exposed HV conductor compounds
257	Dismantling and removal of electrical equipment
278	Competent Person to shroud live LV board in indoor substations
279	PRESense Installation within LV Boards/Cabinets

A.2.2 Table 2 – Substations (General)

110	Safety Standby in substations with exposed HV conductors
172	Render inoperative/restore the automatic features on fixed CO2 including the posting/removing of a Caution Notice
332	Authorised Person to supervise the movement of ladders and long objects, in substations with exposed conductors, to the instructions of a Senior Authorised Person
334	Authorised Person to supervise the movement of cranes, scaffolds and other vehicles, in substations with exposed conductors, as defined by and to the instructions of a Senior Authorised Person

A.2.3 Table 3 – Cables (LV Jointing)

122	LV cable jointing (live working)
125	LV Underground service fault location and repair (live working)
155	LV Service jointing (live working) (excluding service to mains jointing)
157	LV service jointing (live working)
159	LV jointing on Waveform cables only (live working)

A.2.4 Table 4 – Cables (HV Jointing)

120	Cable terminations up to 11kV
123	11/6.6kV cable jointing Triplex cables only (inc terminations)
124	11/6.6kV cable jointing
127	33kV cable jointing
128	132kV cable jointing

A.2.5 Table 5 – Cables (Assisted Cables)

150	Work on oil assisted cable systems
151	Assist Craftsperson (oil assisted cable systems)
152	Work on gas assisted cable systems
153	Assist Craftsperson (gas assisted cable systems)

A.2.6 Table 6 – Cables (Miscellaneous)

104	Assist Craftsperson (jointing)
105	Assist Craftsperson (Cut-outs only)
173	Assist Craftsperson (Safety Mate ONLY)

A.2.7 Table 7 – Cut-outs

100	Remediation of fused neutrals
111	Work on Single phase, plastic only, non compound filled, LV service termination equipment for the purposes of removal/ replacement of cut-out fuses and shrouds (excludes work on the live incoming terminals)
116	Work on service termination equipment including removal/replacement of cut-out fuse and shrouds (excludes work on the live incoming terminals)
117	Replacement of single phase cut-outs and all insulated single pole 3-phase units up to 100A (live working)
119	Replacement of single phase all insulated cut-outs only (live working)
126	Work on service termination equipment including removal of illegal connections from the incoming terminals (must be accompanied for work on live incoming terminals)
164	Replacement of single phase cut-outs (live working)

A.2.8 Table 8 – Overhead Lines (Low Voltage)

129	Mural wiring (dead working)
130	LV overhead lines (live working)
139	Assist Craftsperson LV overhead lines (live working)
163	Low voltage live line pole erection

A.2.9 Table 9 – Overhead Lines (High Voltage)

131	Assist Craftsperson - wood pole lines (dead working)
132	Wood pole lines up to 33kV (dead working)
134	Wood pole lines up to 132kV (dead working)
147	Signing & guarding on wood pole lines
190	Overhead line support team member - wood pole (ground work only)
192	Patrolling of wood pole lines during emergency conditions
194	Work on dead 33kV wood pole lines
199	Inspection of wood pole lines inc. conductor height measurement

A.2.10 Table 10 – Overhead Lines (Towers)

137	Work on steel tower lines up to 132kV (Team Member)
138	Work on steel tower lines up to 132kV
161	Tower painting - steel tower lines
188	Painting Rigger – Steel Tower Lines Up 132kV
191	Overhead line support team member – steel tower (ground work only)

A.2.11 Table 11 – Overhead Lines (HV Live Line Work)

323	Authorised Person as a driver for HV live line pole erection
324	Authorised Person to carry out 11kV Rubber Glove live line work
326	Authorised to operate pole mounted and switchgear mounted auxiliary switches controlling auto reclose facilities and attach Caution Notices
333	Competent to carry out HV live line pole erection
335	Authorised to supervise HV live line pole erection
359	Authorised Person to fit bird flight diverters and Fault Passage Indicators in accordance with CP423 Section 1, Procedure 08/20 to live 11/6.6kV overhead lines from ground level.
398	Authorised to carry out Red Band Working in accordance with CP606 Procedure A12
399	Authorised to fit line trackers to live 6.6/11kV overhead lines in accordance with CP423

A.2.12 Table 12 – Overhead Lines (Tree Work)

135	Tree cutting work adjacent to live overhead lines up to 11kV
136	Tree cutting work adjacent to live overhead lines up to 11kV working from ground only
174	Assist in the application/removal of portable earths on dead wood pole lines
181	Tree cutting work adjacent to live wood pole lines up to 132kV
183	Tree cutting work adjacent to dead overhead lines (including receipt of Safety Document)
184	Tree cutting work adjacent to dead overhead lines (Team Member)
185	Application/removal of Additional Earths
189	Carry out Vegetation Surveys for Tree Work in Proximity to ENW Overhead lines upto and including 132kV
196	Tree cutting work adjacent to live overhead lines up to 132kV working from ground only
197	Tree cutting work adjacent to dead overhead lines (team member) working from ground only.
501	Contractor only - Tree cutting work adjacent to dead Overhead Lines up to 11kV under Supervision of an ENWL Safety Document holder OR an ENWL LV competent Person
502	Contactar Only – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
503	Contractor Only – Tree Cutting adjacent to DEAD overhead lines (team Member) Ground based felling and pruning.
504	Contractor Only – Tree Cutting adjacent to DEAD overhead lines (team Member) Aerial cutting from MEWP in line with competency / qualifications held
505	Contractor Only – Tree Cutting adjacent to DEAD overhead lines (team Member) Aerial cutting from Rope and Harness (Climbing Ops)
506	Contactar Only – Tree Cutting adjacent LIVE Overhead Lines up to 33kV with Insulated rods
507	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 132kV - Ground based felling and pruning
508	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 11kV – Aerial cutting from MEWP
509	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (climbing Ops)

A.2.13 Table 13 – Electrical Fitting

143	Switchgear installation - Distribution substations
144	Assist Craftsperson/Craftsperson (Electrical Fitting)
145	Electrical Fitting (11/6.6kV)
146	Work on LV fuseboard/pillars (live working)
154	Electrical Fitting (Grid & Primary)
156	Switchgear installation - Grid & Primary substation
160	Maintenance of underground link boxes (live working)
176	Maintain substation batteries
177	Refurbishment and Upgrade of Long and Crawford 6.6/11kV Oil Filled Switchgear

A.2.14 Table 14 – Metering

165	Work on metering VT/CT secondary wiring
167	Work on single phase metering supplied from 3 phase plastic cut-outs

A.2.15 Table 15 – LV Authorisation

313	Authorised Person to withdraw/replace LV fuses in wall mounted boxes
314	Authorised Person to replace LV fuses and/or attach LV fault restoration devices
315	Authorised Person to carry out LV operations
317	Authorised Person to remove/replace LV fuses and post Caution Notice, test dead and apply LV portable earths and post Caution Notice on the LV overhead system only (pre-arranged work only) for the purposes of planned tree clearance work.
318	Authorised Person to carry out LV operations on the overhead system (pre-arranged work only)
319	Authorised Person to carry out LV operations on the overhead system
320	Authorised Person to carry out LV operations on the underground system
321	Authorised Person to carry out LV operations on the underground system (pre-arranged work only)

A.2.16 Table 16 – HV Authorisation

309	Authorised Person to carry out HV operations up to 11/6.6kV limited to pre-arranged work
330	Authorised Person to operate HV pole mounted DOEF's links air break switches auto-reclosers and auto-sectionalisers
331	Authorised for fault restoration switching only at 11/6.6kV to operate DOEF's links air break switches auto-reclosers and auto-sectionalisers
340	Authorised Person to operate ground mounted switchgear at 11/6.6kV
353	Authorised Person to carry out HV operations up to 11/6.6kV
362	Authorised Person to operate on the 33kV and associated lower voltage system
363	Authorised Person up to 33kV
372	Authorised to operate at 132kV and associated lower voltage
373	Authorised Person up to 132kV
394	Authorised Person at 11/6.6kV for fault restoration switching (switches and circuit breakers)
396	Authorised Person for fault restoration (switches only) at 11/6.6kV

A.2.17 Table 17 – HV Authorisation (Special)

280	Customer appointed persons site specific code for BNFL Salwick
281	Customer appointed persons site specific code for Manchester Airport
282	Customer appointed persons site specific code for Manchester Royal Infirmary
283	Customer appointed persons site specific code for TFM Hillhouse
339	Authorised Person to issue/cancel Limitation of Access for excavation and cable laying work only in distribution substations
345	Authorised Person to issue/ cancel LOA for work on telecomms/telecontrol equipment
348	Authorised Person to operate Electricity North West equipment as stated
351	Authorised Person to issue/cancel LOA for civil works only
377	Authorised Person at 33kV and associated lower voltage system limited to CLASS AVC Replacement Work. Authorised to work to a Planned Switching Programme (with all circuit breaker open/close operations carried out by the Control Engineer) and issue/cancel LOA's for CLASS replacement work
381	Authorised Person to remote operate 11kV circuit breakers under Electricity North West control at BNFL
382	Authorised Person to remote operate 11kV circuit breakers under Electricity North West control at BNFL and to isolate and earth 11kV switchgear
384	Authorised Person to carry out Live Tank Oil Sampling in accordance with CP606 Procedure S43
386	Authorised Person to remote operate 132kV circuit breakers and 11kV circuit breakers under Electricity North West control at BNFL
398	Authorised Person to carry out Red Band Working
399	Authorised Person to fit Fault passage indicators to live 11/6.6kV overhead lines
409	CNS Limited Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only)

A.2.18 Table 18 – Limited Senior Authorisation

300	LSAP limited to issuing/ cancelling LOAs for plant maintenance up to 11kV
301	LSAP limited to issuing/ cancelling PTW, SFTs, LOAs for plant maintenance up to 11kV
302	LSAP limited to issuing/cancelling LOAs on the 33kV system including the 11/6.6kV bus-section and transformer circuit breakers for plant maintenance
303	LSAP limited to issuing/cancelling PTW, SFTs, LOAs on the 33kV system including the 11/6.6kV bus-section and transformer circuit breakers for plant maintenance
305	Now Blank
337	LSAP limited to issuing/cancelling LOA for protection work on systems up to 33kV/132kV
397	LSAP up to 11kV, limited to overhead lines, excluding operating ground mounted switchgear
407	CNS Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only) (ground mounted switchgear only)
410	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only) (ground mounted switchgear only)
415	LSAP limited to issuing PTW, SFTs, LOAs for plant maintenance up to 11kV on COMA networks having only one point of isolation
416	LSAP limited to plant maintenance up to 11kV on COMA customers plant but excluding work in exposed LV and HV conductor sites and systems with LV interconnection or ENW LV network connections. Includes planned switching on ground mounted Electricity North West equipment to release the COMA plant for work

A.2.19 Table 19 – Senior Authorisation

310	SAP up to 11/6.6kV – limited to pre-arranged work only
352	SAP at 33kV
356	SAP up to 11/6.6kV
357	SAP at 132kV
366	SAP up to 33kV
376	SAP up to 132kV

A.2.20 Table 20 – Field Control

306	Field Control Engineer on 33kV system limited to pre-arranged work
307	Field Control Engineer for Plant Maintenance up to 11kV
308	Field Control Engineer on 132kV system limited to pre-arranged work
311	Field Control Engineer on overhead systems up to 11kV
338	Field Control Engineer limited to issue/cancellation LOA for protection work up to 33kV/132kV
360	Field Control Engineer up to 11/6.6kV
361	Field Control Engineer up to 11/6.6kV limited to pre-arranged work
369	Field Control Engineer at 33kV
379	Field Control Engineer at 132kV

A.2.21 Table 21 – Control

358	SAP & Control Engineer on the 11/6.6kV system
365	Senior Authorised Person and Control Engineer on the 33kV systems and associated lower voltages, including telecontrol operation
367	Senior Authorised Person and Control Engineer on the 132kV systems and associated lower voltages, including telecontrol operation
375	LSAP & Control Engineer for CLASS commissioning

A.2.22 Table 22 – Safety Documents (Miscellaneous)

102	Receive/Clear LOA
195	Receive/Clear PTW / LOA
354	Authorised Person to receive/clear a SFT on the 11/6.6kV system
355	Authorised Person to receive/clear a SFT on the 33/132kV system
368	Authorised Person to issue/cancel LOA's for vegetation control only in sites with exposed HV conductors

A.2.23 Table 23 – HV Authorisation (Special)

118	Work on protection equipment at 33kV
121	Work on protection equipment at 132kV
162	Work & testing on scada apparatus on wood pole lines above the anti-climbing guard
166	Work on protection VT/CT secondary wiring
178	Receive/clear LOA for work on protection systems on the 33kV network (including associated 11/6.6kV)
179	Receive/clear LOA for work on protection systems on the 132kV network (including associated 33kV)
180	Receive/clear LOA for Maintenance protection testing ONLY, on the 33kV network (including associated 11/6.6kV)
182	Receive/clear LOA for Maintenance protection testing ONLY, on the 132kV network (including associated 33kV)
342	Authorised Person to carry out Telecontrol Database Management tasks subject to the approval of the Control Engineer
343	Authorised Person to carry 11/6.6kV Telecontrol operations to instructions of the Control Engineer
344	Authorised Person to operate via Telecontrol
347	Authorised Person to carry out local/remote switching for the sole purpose of testing and commissioning telecontrol outstations to actuators not connected to the system.
350	Authorised Person to carry out Telecontrol Database Maintenance tasks subject to the approval of the Control Engineer
364	Authorised Person to operate on the 11/6.6kV system, to a planned switching programme, for moving open points for the sole purpose of testing and commissioning telecontrol outstations

A.2.24 Table 24 – Stand by Test Van

115	Stand by test van and substation to prevent unauthorised access
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A.2.25 Table 25 – Mobile Generators

107	Stand by generator and substation to prevent unauthorised access whilst the generator is connected to the LV network
168	Connect generator to dead LV overhead system
169	Connect generator to dead LV underground system
170	Connect generator to dead LV system
171	Connect generator to dead LV underground system excluding substations
175	Connect generator to dead LV system and synchronise to live LV system

A.2.26 Table 26 – Third Party

114	Work on street furniture LV services termination equipment including removal/replacement of LV cut out fuses and shrouds but excludes work on the incoming terminals
140	ICP HV cable jointing
141	ICP LV service cable jointing (live working)
142	ICP LV cable jointing (live working)
148	ICP LV street furniture service cable jointing (live working)

A.2.27 Table 27 – Miscellaneous

103	Inspection & test customer's installation prior to re-energisation following neutral fault
106	Install RTU/Actuator to ground mounted switchgear CP306 FM9 (Previously FM2/010 & FM2/011)
108	Top up SF ₆ units and take gas samples (Including Gas Carts)
109	Top up SF ₆ units and take gas samples (Excluding Gas Carts)
112	Checking linking arrangements in underground link boxes and feeder pillars
113	Fitting of Blast Mitigation Measures (Link Boxes Only)
149	Install / Commission App based Actuator to ground mounted switchgear to CP306 Module FM9 001, FM9 002
158	Inspection, including checking and tightening of connections, in link boxes and feeder pillars
186	Visual Inspection only in LV Feeder Pillars & Cabinets.
187	Earth security marking on the OH network
198	Installation of LV monitoring equipment in substations in accordance with CP303
304	Extension of authorisation under emergency conditions
390	Authorising Engineer
525	Use of the sniffer device for LV underground fault location

Appendix B – Competency Authorisation Codes

B.1 Authorisation Codes 100-199

100	Removal/replacement of cut-out fuses on single phase cut-outs. Replacement of neutral fuse with neutral link to CP411N ST 13.8. Installation of neutral block to CP411N ST13.7 Section 7. Replacement of cut-out to meter tails where required. Testing on incoming terminals. (excludes work on incoming terminals).
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Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	3 months relevant experience as a Competent Person
Formal Training	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations and LVJ017 – Neutral Fuse Replacement and Neutral Block Installation
On Job Training	On-job training under Personal Supervision – 5 fused neutral cut-outs and neutral block installations.
Refresher	H200CA Electrical Competency Accreditation every 3 years
Assessment	Practical assessment at the Training Academy.
Interview	System Operations Engineer / Nominated Engineer

101	Competent Person to remove the pavement cover and blast bag of LV Link Boxes for Civil Remedial Work
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Qualifications	Civil Tradesperson
Experience	
Formal Training	NRSWA 003 for ENWL Operatives or SW1 – street works qualification for contractors AND CT053 – Fitting of blast mitigation measures (link boxes only) including relevant safety checks
On Job Training	Removal and replacement of 5 pavement covers and blast bags under personal supervision
Refresher	
Assessment	
Interview	System Operations Engineer or nominated deputy

NOTE: This code allows for the Civil remedial work of LV link Boxes only – it does not allow access to HV cable pits.

102	Receive/Clear LOA
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Qualifications	
Experience	Competent Person with minimum 3 months relevant experience
Formal Training	
On Job Training	On-job training under Personal Supervision including the receipt of 5 Limitation of Access
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Work Activity Code also required.

103	
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

Code no longer available – existing holders to retain.

104	Assist Craftsperson (Jointing)
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Qualifications	
Experience	Minimum of 3 months relevant experience
Formal Training	JM001 - Jointer's Mate Training OR JM004 Jointers mate electrical safety module for experienced contract staff AND NRSWA 003 for ENWL Operatives or SW1 – street works qualification for contractors
On Job Training	If not attended NRSWA 003/SW1 course then on-job training on the interpretation of Standard Mains Records and use of Cable Avoidance Tool (CAT)
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

105	Assist Craftsperson (Cut-outs only)
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Qualifications	
Experience	Minimum of 2 weeks relevant experience
Formal Training	JM001 - Joints Mate Training OR JM004 Joints mate electrical safety module for experienced contract staff
On Job Training	On job training under personal supervision as a third person
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Code to be used to assist Electricians specifically trained for cut-out change work holding code 119.

This code is only to be used for Mates for the changing of single phase cut-outs (live working). No understanding of mains records or safe digging practices is expected.

Code enables staff to work independently, subject to relevant training and experience, for cut-out site surveys including non-intrusive current / voltage measurements using Rogowski Coil / Fluke etc.

106	Install RTU/Actuator to ground mounted switchgear CP306 FM9 (Previously FM2/010 & FM2/011)
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Qualifications	Electrical Craft Training
Experience	Working in Electricity North West distribution environment for minimum 6 months
Formal Training	
On Job Training	Modular training under Personal Supervision
Refresher	
Assessment	Complete without assistance (but under the Personal Supervision of mentor) 2 actuator installations.
Interview	System Operations Engineer or nominated deputy.

NOTE: See CP306 Module FM9 (previously FM2/010 & FM2/011)

Authorisation does not include installation of fuse spur for LV connection (Authorisation Code 231 required for work on power and lighting circuits)

107	Stand by a generator and substation to prevent unauthorised access whilst the generator is connected to the LV network
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Qualifications	
Experience	Competent Person with substation access authorisation
Formal Training	
On Job Training	CP613 On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Authorisation for Craft Attendants and non-electrical staff

Not required for Craftsmen with substation access authorisation ie Jointers / Linesperson / Fitters / Electricians

108	Top up SF ₆ units and take gas samples (Including Gas Carts)
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Qualifications	
Experience	Electrical Engineer / Craftsperson (Fitting) / Oil/Gas Mechanic background
Formal Training	SF ₆ Training Course by EA Technology (or equivalent)
On Job Training	Minimum of 5 operations
Refresher	Safe handling of SF ₆ gas in HV switchgear - EAT
Assessment	Formal assessment included in on job training
Interview	By Nominated Assessor during Assessment

NOTE: Includes:

Take samples (using **approved** equipment)
 Top up chambers from bottles
 Use of gas cart to empty / refill SF₆ Chambers
 EAT Certificate valid for 4 years

109	Top up SF ₆ units and take gas samples (excluding Gas Carts)
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Qualifications	
Experience	Electrical Engineer / Craftsperson (Fitting) / Oil/Gas Mechanic background
Formal Training	SF ₆ Training Course by EA Technology (or equivalent)
On Job Training	Minimum of 5 operations
Refresher	Safe handling of SF ₆ gas in HV switchgear - EAT
Assessment	Formal assessment included in on job training
Interview	By Nominated Assessor during Assessment

NOTE: Includes:

Take samples (using **approved** equipment)
 Top up chambers from bottles
 EAT Certificate valid for 4 years

110	Safety standby in substations with exposed HV conductors – includes the receipt of LoA for safety standby only.
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Qualifications	Electrical craft/craft attendant
Experience	Minimum of 2 years experience in substations with exposed HV conductors
Formal Training	FT023 - Duties of Safety Standby Personnel
On Job Training	On-job training under Personal Supervision (receipt of 5 LOA's)
Refresher	H200CA Electrical Competency Accreditation
Assessment	On site assessment by nominated G&P SAP
Interview	System Operations Engineer / Nominated G&P Engineer

NOTE: Needs 2 years experience in substations with exposed HV conductors

No requirement to hold Code 102 for Safety Standby purposes only.

111	Work on Single phase, plastic only, non-compound filled, LV service termination equipment for the purposes of removal/ replacement of cut-out fuses and shrouds (excludes work on the live incoming terminals)
------------	--

Qualifications	Electrical City & Guilds level 2 or qualified to latest IET Wiring Regs.
Experience	Electrical contractor/craftsperson with minimum of 3 months relevant experience
Formal Training	LVJ022 Basic Electrical Safety for the Inspection of Service Terminations
On Job Training	
Refresher	H200CA Electrical Competency Accreditation
Assessment	Practical Assessment during formal training course.
Interview	System Operations

112	Inspection and checking linking arrangements only in link boxes and feeder pillars
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Qualifications	
Experience	Electrical planning / design or craft background with a minimum of 6 months experience
Formal Training	ENG/EO1162 – Visual Inspection link boxes and feeder pillars
On Job Training	On-job training under personal supervision
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above

113	Fitting of Blast Mitigation Measures (Link Boxes Only)
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Qualifications	
Experience	Competent Person
Formal Training	CT051 – Fitting of blast mitigation measures (link boxes only) including relevant safety checks
On Job Training	On-job training under personal supervision
Refresher	
Assessment	
Interview	System Operations Engineer or nominated deputy

NOTE: Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above
- Competent persons holding code 158

NB: This was the old 'Competent Person for the inspection of cable bridges' (no longer used/available - current holders retain entitlement)

114	Work on street furniture LV service termination equipment including removal and replacement of the cut-out fuse and shroud (excludes work on the incoming terminals)
------------	--

Qualifications	G39 external certificate
Experience	6 months minimum relevant experience with Highway Authority / Contractor
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Issued to Local Authority staff / contractors only

115	Stand by test van and substation to prevent unauthorised access
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Qualifications	
Experience	Competent Person with substation access authorisation and minimum of 3 months experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Authorisation for Craft Attendants and non-electrical staff

Substation access authorisation also required.

Not required for electrical Craftsmen with substation access authorisation ie Jointers / Linesperson / Fitters / Electricians.

116	Work on LV service termination equipment including removal/ replacement of cut-out fuses and shrouds. Testing on incoming terminals. (excludes work on incoming terminals).
------------	---

Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Electrical craftsperson with minimum of 3 months relevant experience
Formal Training	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Not required for staff who are LV AP's or who hold LV live working codes (Code 117; Code 122; Code 130)

Includes work on Mod 156 panels and Bemco fuse units – subject to training and experience.

117	Replacement of single phase cut-outs and all insulated single pole 3-phase units up to 100A (live working)
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Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Electrical craftsman with minimum of 3 months relevant experience
Formal Training	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations
On Job Training	On-job training under Personal Supervision with a minimum of 25 single phase insulated and 15 single phase metal clad (of three different types) cut-outs changed and satisfactory level of hazard assessment achieved
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Includes single phase all insulated cut-outs and metal clad cut-outs of the type **approved** for live changing.

Requirement to assess hazards associated with suspect cables/terminations and decide on live or dead working.

118	Work on protection equipment at 33kV
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Qualifications	Electrical HNC (or equivalent)
Experience	33kV SAP Engineer with minimum 6 months experience on 33kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	
Interview	Nominated Engineer

NOTE: Authorisation allows suitably authorised SAP's to carry out protection investigations

119	Replacement of single phase all insulated cut-outs only (live working)
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Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Electrical craftsperson with minimum of three months experience of live LV working / Electrician specifically trained for this work
Formal Training	LVJ014 - REPLACEMENT OF INSULATED SINGLE PHASE CUT OUTS - LIVE WORKING - PLASTIC CUT-OUTS ONLY - ENWS ONLY
On Job Training	On-job training under Personal Supervision with a minimum of 25 cut-outs changed and satisfactory level of hazard assessment achieved
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only

Interview to determine understanding of risk assessments and requirements of live working. Must understand there is always the option to carry out work dead by authorised jointers.

120	Make cable terminations up to 11kV
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrical craftsperson with minimum 6 months experience
Formal Training	HVJ001a - HV JOINTING 6.6 /11KV POLE TOP (POLY OUTDOOR) TERMINATIONS - TRAINING COURSE
On Job Training	OR
Refresher	HVJ002a - HV JOINTING 6.6 /11KV SWITCHGEAR (POLY INDOOR) TERMINATIONS - TRAINING COURSE
Assessment	On-job training under Personal Supervision
Interview	H200CA Electrical Competency Accreditation

NOTE: Can include, subject to training and experience:

Pole top terminations (for suitable trained Linesperson)

or

Switchgear terminations (for suitably trained Electrical Fitters)

Authorisation not required for HV cable jointers (holding Code 124)

121	Work on protection equipment at 132kV
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Qualifications	Electrical HNC (or equivalent)
Experience	132kV SAP Engineer with minimum 6 months experience on 132kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	
Interview	Nominated Engineer

NOTE: Authorisation allows suitably authorised SAP's to carry out protection investigations

122	LV cable jointing (live working)
Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Apprentice / Adult Trainee OR (for experienced Contractors) Equivalent training and a minimum of 3 months experience holding code 157 (Module 1)
Formal Training	Module 2 – mains joints and terminations comprising; LVJ005 – LV Waveform/Waveform Jointing LVJ006 – LV Waveform/PILC jointing LVJ007 – LV Waveform/CONSAC jointing (optional) LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Link box PLUS LVJ015a and b – New LV Jointing Techniques OR Assessment and CAG only for experienced contractors
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – jointing assessment LVJ015b – LV Jointing electrical safety module (CAG)
Interview	System Operations Engineer

NOTE: Includes work on all LV cables within the limits of the individuals training and experience

Includes link box inspection and testing

123	11/6.6kV cable jointing – Triplex cables only (inc terminations)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Minimum of 6 months as a Craftsperson Joiner
Formal Training	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	HVJ009 HV Jointing Electrical Safety Module CAG
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

NB: This was the old CONSAC cable code (not used for some time and no longer available) – Now included in Code 122

Replace with Code 122 for existing holder on Authorisation renewal

124	11/6.6kV cable jointing
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Apprentice / Adult Trainee OR Minimum of 6 months as a Craftsperson Jointer
Formal Training	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing HVJ004 Mod 4 – HV Jointing 6.6/11kV (paper/poly) Jointing Optional HVJ005 Mod 5 – HV Advanced Jointing Special – (not required for standard HV jointing)
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	HVJ009 - HV Jointing Electrical Safety Module CAG HVJ011 – HV trade test for experienced persons
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/ clearance of PTW / LOA

125	Underground service fault location and repair (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electricity North West cable jointer with :- 12 months experience holding Code 122 AND Code 117 in full for a minimum of 3 months
Formal Training	
On Job Training	On-job training under Personal Supervision (3 months)
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Excludes fault work on LV mains

Not required for staff holding Code 315 or Code 320

126	Work on service termination equipment including removal of illegal connections from the incoming terminals (must be accompanied for work on live incoming terminals)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrician / Electrical craftsperson
Formal Training	LVJ016 - basic electrical safety for the inspection and testing of service terminations
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Code specifically for Revenue Protection staff

127	33kV cable jointing
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electricity North West HV Joints / Contractor 33kV Joints
Formal Training	ED265 - 33kV PILC Polymeric Cable Jointing OR ED210A - 33kV Gas Filled Cable Jointing OR ED210B - 33kV Oil Filled Cable Jointing OR HVJ18 - 33kV Jointing Assessment for Contractors
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	ED860AT Electrical Competency Accreditation
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

Includes jointing on all 33kV cables (including Gas / Oil assisted cables)

128	132kV cable jointing
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electricity North West HV Jointer / Contractor 132kV Jointer
Formal Training	ED280 - 132kV XLPE Cable Jointing OR 132kV Jointing Assessment for Contractors OR 132kV Cable Manufacturers Training and Certification OR Evidence of training / experience of maintenance of 132kV cable systems
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	ED860AT Electrical Competency Accreditation
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

Includes jointing on all 132kV cables (including Gas / Oil assisted cables)

129	Work on mural wiring (dead working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrician / Electrical craftsperson Minimum of 3 months relevant experience
Formal Training	ED91 - Mural and service wiring for Electricians
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	
Interview	System Operations Engineer

130	LV Overhead Lines (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Overhead craftsperson (Code 132) with a minimum of 6 months experience
Formal Training	OH004 - LV Live Line Working AND OH034 - Working at height/wood pole rescue
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND OH034 - Working at height/wood pole rescue
Assessment	OH029 Assessment & CAG
Interview	System Operations Engineer

NOTE: Can remove / replace LV pole mounted fuses for testing purposes only

131	Assist Craftsperson - wood pole lines (dead working)
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Qualifications	
Experience	Minimum of 3 months relevant experience
Formal Training	OH001 Overhead mate OR Training and experience of an equivalent standard outside of Electricity North West AND OH034 - Working at height/wood pole rescue AND OH030 - Overhead Line Patrolling
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND OH034 - Working at height/wood pole rescue
Assessment	OH037 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
Interview	System Operations Engineer

132	Wood pole lines up to 33kV (dead working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with DNO experience and craft training / experience on wood pole lines
Formal Training	OH003 – O/H distribution Lines LV/HV dead work up to 33kV AND OH034 - Working at height/wood pole rescue
On Job Training	Completion of on job training record book for ENWL employees
Refresher	H200CA Electrical Competency Accreditation AND OH034 - Working at height/wood pole rescue
Assessment	OH037 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
Interview	System Operations Engineer

NOTE: Includes LV dead pole work (including ABC)

Includes, where necessary, LV testing for phase rotation / polarity before and after work

Also requires Code 195 for receipt/clearance of PTW / LOA

133	Work on ABC conductor systems
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code no longer available (to be removed on authorisation renewal)

Work on ABC included in Code 132 (for dead working) and Code 130 (for live working)

134	Wood pole lines up to 132kV (dead working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of apprenticeship / adult trainee programme to include construction of Trident lines OR Contractor with DNO experience and craft training / experience on wood pole lines (including Trident)
Formal Training	ED850 - Adult Trainee Overhead Lines AND H588 - O/H line rescue techniques (wood pole)
On Job Training	Completion of on job training record book for ENWL employees
Refresher	H200CA Electrical Competency Accreditation AND H592 - O/H line rescue (refresher) wood pole
Assessment	H107 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
Interview	System Operations Engineer

NOTE: Includes, where necessary, LV testing for phase rotation / polarity before and after work

Also requires Code 195 for receipt/clearance of PTW / LOA

135	Tree cutting work adjacent to live overhead lines up to 11kV
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Qualifications	ENWL UA2 or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
Experience	3 months UPS (or previous relevant experience)
Formal Training	VM011 – Live Line Tree Cutting AND CS38 – Climbing and rescue. AND CC008a – Celox and Tourniquet Application
On Job Training	Completion of ENWL UA2 work book under personal supervision
Refresher	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
Assessment	CAG and ENWL UA2 assessment
Interview	System Operations Engineer + Vegetation Management Trainer

136	Tree cutting work adjacent to live overhead lines up to 11kV working from ground only
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Qualifications	NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
Experience	3 months UPS (or previous relevant experience)
Formal Training	VM011 – Live Line Tree Cutting AND CC008a – Celox and Tourniquet Application
On Job Training	On-job training under Personal Supervision (3 months / min 5 jobs)
Refresher	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
Assessment	CAG and ENWL UA2 assessment
Interview	System Operations Engineer + Vegetation Management Trainer

137	Work on steel tower lines up to 132kV (Team Member)
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Qualifications	
Experience	Overhead line training for tower lines and a minimum of 3 months experience
Formal Training	OH036 - Electrical Safety on Steel Tower Overhead Line Systems AND OH013 Rescue from a Steel Tower
On Job Training	On-job training under Personal Supervision for Electricity North West employees
Refresher	H200CA Electrical Competency Accreditation AND OH013 Rescue from a Steel Tower
Assessment	OH036 - Electrical Safety on Steel Tower Overhead Line Systems
Interview	System Operations Engineer

138	Work on steel tower lines up to 132kV
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with DNO experience and craft training / experience on tower lines
Formal Training	OH007 Transmission OH Steel Tower working up to 132kV AND OH013 Rescue from a Steel Tower
On Job Training	On job training under Personal Supervision for Electricity North West employees.
Refresher	H200CA Electrical Competency Accreditation AND OH013 Rescue from a Steel Tower
Assessment	OH036 - Electrical Safety on Steel Tower Overhead Line Systems
Interview	Nominated Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

139	Assist Craftsperson - LV overhead lines (live working)
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Qualifications	
Experience	Overhead line Craft Attendant (Code 131) with minimum of 3 months experience OR Contractor with equivalent training / experience
Formal Training	OH002 – Overhead mate Live LV Line Working OR OH034 - Working at height/wood pole rescue
On Job Training	On-job training under Personal Supervision
Refresher	H200CA - Electrical Competency Accreditation
Assessment	OH034 - Working at height/wood pole rescue
Interview	Completion of on-job training

140	ICP HV cable jointing
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Minimum of 6 months as a Craftsperson Joints
Formal Training	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing HVJ004 Mod 4 – HV Jointing 6.6/11kV (paper/poly) Jointing
On Job Training	
Refresher	H200CA Electrical Competency Accreditation
Assessment	HVJ011 – HV Trade Test (For Experienced Persons) HVJ009 – HV Jointing Electrical Safety Module
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

141	ICP LV service cable jointing (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craftsperson Joiner (employed by NERS accredited company)
Formal Training	Module 1 comprising; LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing OPTIONAL LVJ004 – Service / CONSAC Mains Jointing
On Job Training	On-job training as required
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
Interview	System Operations Engineer

NOTE: Includes service to mains joints

142	ICP LV cable jointing (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craftsperson Joiner (employed by NERS accredited company)
Formal Training	Experienced craftsperson should be trained to 122 equivalent covering all the following:- LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing LVJ005 – LV Waveform / Waveform Jointing LVJ006 – LV Waveform / PILC Jointing LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Linkbox OPTIONAL LVJ004 – Service / CONSAC Mains Jointing LVJ007 – LV Waveform / CONSAC Jointing
On Job Training	On-job training as required
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
Interview	System Operations Engineer

143	Switchgear installation – Distribution substations
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craft training / experience on electrical fitting (installation)
Formal Training	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT006 – Installation of Plant – Distribution Substations
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
Interview	System Operations Engineer

NOTE: Includes:

- Switchgear assembly / installation
- Earthing installation, connections & testing

Also requires Code 195 for receipt/clearance of PTW / LOA

144	Assist Craftsperson (Electrical Fitting)
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Qualifications	
Experience	Training and a minimum of 3 months experience
Formal Training	FM001 – Fitters mates training course
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

145	Electrical Fitting (11/6.6kV)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with equivalent training / experience
Formal Training	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT002 – Maintenance of Battery Systems FT003 – Maintenance of Busbar Equipment FT009 – Maintenance and Installation of Distribution Circuit Breakers and Switchgear FT024 – Lucy VRNs Cat 2 unit repairs
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

Covers all electrical fitting activities including plant & equipment installation and maintenance

146	Work on LV fuseboards/pillars (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrical Fitter
Formal Training	FT022 – Electrical Safety – Electrical Fitting
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

147	Signing & guarding on wood pole lines
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Qualifications	
Experience	Training and a minimum of 3 months relevant experience
Formal Training	OH017 - Signing & Guarding on wood pole overhead lines AND OH034 – Working at height (wood pole rescue)
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation H592 – O/H Line Rescue Refresher (Wood Pole)
Assessment	
Interview	System Operations Engineer

148	ICP LV street furniture service cable jointing (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craftsperson Jinter (employed by NERS accredited company)
Formal Training	LVJ001 – Service / Service LV jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing LVJ004 – Service / CONSAC Mains Jointing – optional OR Assessment only for experienced contractors
On Job Training	On-job training as required
Refresher	H200CA Electrical Competency Accreditation H592 – O/H Line Rescue Refresher (Wood Pole)
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
Interview	System Operations Engineer

149	Install / Commission App based Actuator to ground mounted switchgear to CP306 Module FM9 004
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Qualifications	Electrical Craft Training
Experience	Working within Electricity North West distribution environment for minimum 6 months
Formal Training	ENG/EO1170 - REFLEX RX10 Operators Training
On Job Training	Modular training under Personal Supervision (10 installations demonstrating different switchgear manufacturers)
Refresher	
Assessment	Complete without assistance (but under Personal Supervision of Mentor) 2 Actuator installations and commissions
Interview	System Operations or Nominated deputy.

NOTE: See CP306 Module FM09 004

If Applicant already holds Code 106 and has completed EO1170 then Code 149 can be added without interview.

Authorisation does not include installation of fuse spur for LV connection (code 231 for work on power and lighting circuits)

150	Work on oil assisted cable systems
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with equivalent training / experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Authorisation is for work on the oil system (not cable jointing)

Jointing of oil assisted cables to be carried under Code 127

151	Assist craftsperson (oil assisted cable systems)
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Qualifications	
Experience	Craft Attendant with training and a minimum of 3 months experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

152	Work on gas assisted cable systems
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with equivalent training / experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Authorisation is for work on the gas system (not cable jointing)

Jointing of gas assisted cables to be carried under Code 127

153	Assist Craftsperson (gas assisted cable systems)
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Qualifications	
Experience	Craft Attendant with training and a minimum of 3 months experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

154	Electrical Fitting (Grid & Primary)
Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Completion of Apprenticeship / Adult Trainee programme OR Contractor with equivalent training / experience
Formal Training	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT002 – Maintenance of Battery Systems FT003 – Maintenance of Busbar Equipment FT008 – Maintenance & Installation of Transmission Transformers, Circuit Breakers & Switchgear
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt/clearance of PTW / LOA

Covers all electrical fitting activities including plant & equipment installation and maintenance

155	LV Single Phase service jointing (live working – excluding mains service jointing)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Apprentice / Adult Trainee OR Contractor with equivalent training / experience
Formal Training	LVJ001 – Service / Service LV Jointing
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
Interview	System Operations Engineer

156	Switchgear Installation - Grid & Primary substations
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craft training / experience on electrical fitting (installation)
Formal Training	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT007 – Switchgear Installation – Grid & Primary Substations FT011 – Control & Panel Wiring
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
Interview	System Operations Engineer

NOTE: Includes:

- Switchgear assembly / installation (inc. HV switchboard in Primary/Grid s/s)
- Installation of ancillary equipment eg protection panels, AVC equipment, CT, VT etc
- Installation/extension of bus-bars including exposed b/bar compounds as appropriate to authorisation
- Installation of isolators
- Installation of Cable Sealing End structures
- Installation of Neutral Earthing Resistors
- Earthing installation, connections & testing
- Battery installation

Also requires Code 195 for receipt/clearance of PTW/LOA

157	LV service jointing (live working)
------------	------------------------------------

Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Apprentice / Adult Trainee OR Contractor with equivalent training / experience
Formal Training	Module 1 comprising; LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing OPTIONAL LVJ004 – Service / CONSAC Mains Jointing
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
Interview	System Operations Engineer

158	Inspection, including checking and tightening of connections, in link boxes and feeder pillars
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Qualifications	
Experience	Electrical planning / design or craft background with a minimum of 6 months experience
Formal Training	ENG/EO1163 – Inspection, including checking and tightening of connections, in link boxes and feeder pillars
On Job Training	On-job training under personal supervision
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Allows for testing and tightening of connection but excludes fuse/link removal or replacement

Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above

159	LV jointing on Waveform cables only (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Apprentice / Adult Trainee OR Contractor with equivalent training / experience
Formal Training	LVJ002 – Service / Main Waveform LV Jointing LVJ005 – LV Waveform / Waveform Jointing OPTIONAL LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Link box
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
Interview	System Operations Engineer

160	Maintenance of underground link boxes (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craftsperson (Jointing / Fitting) with 12 months experience
Formal Training	Modular training (F/M 3/4 - CP306)
On Job Training	As required
Refresher	H200CA Electrical Competency Accreditation
Assessment	By Electricity North West Training Instructor
Interview	System Operations Engineer

161	Tower Painting - steel tower lines
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Qualifications	EUSR BESC overhead lines or equivalent
Experience	Contractor with experience of tower painting and competence in rope access works
Formal Training	ED110 - Tower painting AND Certificate in advanced climbing / rope Access (including tower rescue)
On Job Training	
Refresher	H200CA Electrical Competency Accreditation AND Certificate in advanced climbing / rope Access (including tower rescue) Note: non Electricity North West staff can use in-house training for rescue
Assessment	OH036 - Electrical Safety on Steel Tower Overhead Line Systems (Contractor Assessment) AND Formal instructor assessment AND CAG test
Interview	System Operations Engineer

NOTE: If PTW holder will also require Code 195 for receipt/clearance of PTW/LOA

162	Work on telemetry equipment on wood pole lines above the ACD.
------------	---

Qualifications	Telemetry Engineer
Experience	Must hold code 218 and Pole Top rescue
Formal Training	OH034 – Working at Height – Wood Pole Rescue
On Job Training	On-job training under Personal Supervision
Refresher	OH034 – Working at Height – Wood Pole Rescue
Assessment	
Interview	Nominated interviewer as per matrix with Ops support as required

NOTE: This is for site work but does NOT include any element of switching either to a simulator or to live plant or apparatus – therefore do not include any testing.

It will simply be the above the ACD version of code 218.

All switching operations will be covered under codes 350, 347 and 344.

163	Low voltage live line pole erection
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Qualifications	
Experience	Minimum 12 months relevant experience
Formal Training	ED100 – Live line pole erection and pole top inspection OR Authorisation and experience of LV pole erection in other DNO
On Job Training	LV live line pole erection under Personal Supervision
Refresher	
Assessment	On site assessment
Interview	System Operations Engineer

164	Replacement of single phase cut-outs (live working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Minimum of two months holding code 119
Formal Training	
On Job Training	On-job training under Personal Supervision with a minimum of 15 metal clad cut-outs (of three different types) changed and satisfactory level of hazard assessment achieved
Refresher	H200CA Electrical Competency Accreditation
Assessment	Training Academy
Interview	System Operations Engineer

NOTE: Includes single phase all insulated cut-outs and metal clad cut-outs of the type **approved** for live changing.

Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working.

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only.

Assessment and Interview to determine Craft Competency in changing metal clad cut-outs, and the type of metal clad cut-outs permitted to be changed live.

165	Work on metering VT/CT secondary wiring
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrical craftsperson with minimum of 3 months experience
Formal Training	LVJ016 – Basic Electrical Safety for the Inspection and Testing of Service Terminations
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

166	Work on protection and control wiring, including VT/CT secondary wiring
------------	---

Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electrical craftsperson with minimum of 3 months experience
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Work to be carried out under issue of Safety document (Code 102 required for receipt of LOA)

167	Work on single phase metering supplied from 3 phase modern design plastic cut-outs only (excludes work on live incoming terminals)
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Qualifications	
Experience	Meter Operator with 6 months relevant experience
Formal Training	LVJ016 – Basic Electrical Safety for the Inspection and Testing of Service Terminations
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

168	Connect generator to dead LV overhead system
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	LV Authorised Craftsperson (o/h) with minimum of 3 months experience
Formal Training	CT047a – Generator Training Course
On Job Training	Connect generator under Personal Supervision (5 occasions)
Refresher	CT047b – Generator Refresher Training Course
Assessment	
Interview	System Operations Engineer

NOTE: Not required for HV AP and above subject to training.

169	Connect generator to dead LV underground system
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	LV Authorised Craftsperson (u/g) with minimum of 3 months experience
Formal Training	CT047a – Generator Training Course
On Job Training	Connect generator under Personal Supervision (5 occasions)
Refresher	CT047b – Generator Refresher Training Course
Assessment	
Interview	System Operations Engineer

NOTE: Not required for HV AP and above subject to training.

170	Connect generator to dead LV system
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	LV Authorised Craftsperson (o/h & u/g) with minimum of 3 months experience
Formal Training	CT047a – Generator Training Course
On Job Training	Connect generator under Personal Supervision (5 occasions)
Refresher	CT047b – Generator Refresher Training Course
Assessment	
Interview	System Operations Engineer

NOTE: Includes connections to underground and overhead systems.

Not required for HV AP and above subject to training.

171	Connect generator to dead LV underground system excluding substations
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	LV Authorised Craftsperson (u/g) with minimum of 3 months experience
Formal Training	CT047a – Generator Training Course
On Job Training	Connect generator under Personal Supervision (5 occasions)
Refresher	CT047b – Generator Refresher Training Course
Assessment	
Interview	System Operations Engineer

NOTE: Allows for connection of generators to service terminations and open u/g cable ends

Not required for HV AP and above subject to training.

172	Render inoperative and restore the automatic feature on fixed CO2 equipment including the posting/removing of a Caution Notice
------------	--

Qualifications	
Experience	Competent Person with substation access authorisation
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	Confirmation of on-job training
Interview	Nominated Engineer

NOTE: Authorisation allows a Competent Person to post a Caution Notice.

Authorisation not required for LV Authorised Persons (u/g) and above

173	Assist Craftsperson (Safety Mate ONLY)
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Qualifications	
Experience	Minimum of 2 weeks relevant experience
Formal Training	JM003 – Safety Mate Training (including LVJ015a (trade test) and LVJ015b (CAG))
On Job Training	On job training under personal supervision as a third person
Refresher	H200CA Electrical Competency Accreditation
Assessment	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
Interview	System Operations Engineer

NOTE: This code only allows basic safety mate duties that include:

- To act as a safety person for jointing including cut outs
- Mixing of resin and preparation of shells, connectors and cut outs
- Handling of LPG gas

Please note that where the applicant can demonstrate clearly previous experience acting as a mate in this capacity then there is no requirement for the JM003 course, however they must do the LVJ015a (assessment), LVJ015b (CAG) and Interview to achieve the code in full. Where the applicant has no prior experience (or cannot evidence experience) they need to attend the full course (JM003 with the LVJ015a (assessment), LVJ015b (CAG) included) and then be issued the code under personal supervision for a period of 2 weeks. This 2 week on job experience must include mating on jointing work on a minimum of 3 occasions and must be as part of a 3 person team. After this period of on-job they can then be interviewed for the code in full.

174	Assists in the application / removal of portable earths on dead wood pole lines
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Qualifications	NPTC Unit UA1 (VM002) or equivalent.
Experience	Competent Person (must hold Code 184 as a minimum) with at least 6 months experience
Formal Training	OH037 – Electrical Safety on Wood Pole Overhead Line Systems AND OH034 – Working at Height – Wood Pole Rescue
On Job Training	
Refresher	H200CA - Electrical Competency Accreditation OH034 – Working at Height – Wood Pole Rescue
Assessment	By Electricity North West Training Academy Trainer
Interview	System Operations Engineer

NOTE: Authorisation for Tree cutting staff who hold Code 183.

Can apply Circuit Main Earths under the Personal Supervision of AP/SAP.

Can apply Additional Earths under Personal Supervision of PTW holder.

175	Connect generator to dead LV system and synchronise to live LV system
------------	---

Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	LV Authorised Craftsperson (Code 315) with minimum of 3 months experience
Formal Training	CT047a - Generator Training Course
On Job Training	Connect generator under Personal Supervision (5 occasions)
Refresher	CT047b – Generator Refresher Training Course
Assessment	Complete on-job training modules
Interview	System Operations Engineer

176	Maintain substation batteries
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Craftsperson holding FT001 and FT002
Formal Training	FT002 – Maintenance of Battery Systems if not already held.
On Job Training	On-job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer

NOTE: Not required if holding Code 213.

Covers subject to training:-

- Inspection and Cleaning
- Battery Maintenance
- Oil sampling
- Spraying of external mechanism
- S/S minor civils

177	Refurbishment and Upgrade of Long and Crawford 6.6/11kV Oil Filled Switchgear
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Qualifications	Evidence of L&C Apprenticeship / Training Scheme OR Electrical City & Guilds – level 2 (or equivalent)
Experience	Electrical Fitting Craft training / experience on L&C Switchgear
Formal Training	FT001/FM001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) AND FT009 - Refurbishment and upgrade of Long and Crawford 11/6.6 kV Oil Filled Switchgear
On Job Training	On-job training under Personal Supervision of Refurbishment and Upgrade work on T3/T4, J3/J4, GF3 and variants.
Refresher	H200CA Electrical Competency Accreditation
Assessment	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
Interview	Systems Operations Engineer / Nominated Engineer

NOTE: Must hold Code 202 and 243 (if anticipated they will undertake advance survey work).

Includes:

- Maintenance, Refurbishment, and Upgrade work on the specified L&C equipment.

Also requires Code 195 for receipt/clearance of PTW / LOA

This code is ONLY to be used for existing experienced L&C trained staff.

178	Receive/clear Limitation of Access for work on protection systems on the 33kV network (including associated 11/6.6kV)
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Qualifications	Electrical HNC (or equivalent)
Experience	Engineer with minimum 6 months experience on 33kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	Complete both Commissioning protection testing of 5 installations and Maintenance protection testing of 5 installations under Personal Supervision.
Refresher	
Assessment	Complete without assistance (but under the Personal Supervision of the Mentor) Commissioning protection testing of 1 installation and Maintenance protection testing of 1 installation.
Interview	Nominated Engineer

NOTE: Allows for authorisation of Engineers, who are not SAP's, for both Commissioning protection testing and Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA Existing holders of Code 180 will NOT be required to complete training or an assessment for Maintenance protection testing.

Training shall include Receipt of 5 LOA's Under Personal Supervision (unless holds code180 or equivalent code covering receipt of Safety Document)

179	Receive/clear Limitation of Access for work on protection systems on the 132kV network (including associated 33kV)
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Qualifications	Electrical HNC (or equivalent)
Experience	Engineer with minimum 6 months experience on 132kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	Complete both Commissioning protection testing of 5 installations and Maintenance protection testing of 5 installations under Personal Supervision.
Refresher	
Assessment	Complete without assistance (but under the Personal Supervision of the Mentor) Commissioning protection testing of 1 installation and Maintenance protection testing of 1 installation.
Interview	Nominated Engineer

NOTE: Allows for authorisation of Engineers, who are not SAP's, for both Commissioning protection testing and Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

Existing holders of Code 182 will NOT be required to complete training or an assessment for Maintenance protection testing.

Training shall include Receipt of 5 LOA's Under Personal Supervision (unless holds code182 or equivalent code covering receipt of Safety Document)

180	Receive/clear Limitation of Access for Maintenance protection testing ONLY, on the 33kV network (including associated 11/6.6kV)
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Qualifications	Electrical HNC (or equivalent)
Experience	Engineer with minimum 6 months experience on 33kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	Complete Maintenance protection testing of 5 installations under Personal Supervision.
Refresher	
Assessment	Complete without assistance (but under the Personal Supervision of the Mentor) Maintenance protection testing of 1 installation.
Interview	Nominated Engineer

NOTE: Allows for authorisation of Engineers, who are not SAP's, for ONLY Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

The training will NOT include for Commissioning protection testing.

Training shall include receipt of 5 LOA's Under Personal Supervision (unless holds code covering receipt of Safety Document).

181	Tree cutting work adjacent to live overhead lines up to 132kV
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Qualifications	ENWL UA2 or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
Experience	3 months UPS (or previous relevant experience)
Formal Training	VM011 – Live Line Tree Cutting AND CS38 – Climbing and Rescue AND CC008a – Celox and Tourniquet Application
On Job Training	Completion of ENWL UA2 work book under personal supervision
Refresher	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
Assessment	CAG and ENWL UA2 assessment
Interview	System Operations Engineer and Vegetation Management Trainer

NOTE: Includes wood pole and steel tower lines.

182	Receive/clear Limitation of Access for Maintenance protection testing ONLY, on the 132kV network (including associated 33kV)
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Qualifications	Electrical HNC (or equivalent)
Experience	Engineer with minimum 6 months experience on 132kV protection
Formal Training	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
On Job Training	Complete Maintenance protection testing of 5 installations under Personal Supervision.
Refresher	
Assessment	Complete without assistance (but under the Personal Supervision of the Mentor) Maintenance protection testing of 1 installation.
Interview	Nominated Engineer

NOTE: Allows for authorisation of Engineers, who are not SAP's, for ONLY Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

The training will NOT include for Commissioning protection testing.

Training shall include receipt of 5 LOA's Under Personal Supervision (unless holds code covering receipt of Safety Document).

183	Trees cutting work adjacent to dead overhead lines
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Qualifications	ENWL UA1 or NPTC Unit UA1 (VM002) (or equivalent)
Experience	3 months experience at 184 (or equivalent)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CS38 – Climbing and rescue AND CC008a – Celox and Tourniquet Application
On Job Training	Under Personal Supervision (to include receipt & clearance of 5 PTW's)
Refresher	H200CA Electrical Competency Accreditation AND VM002b – Utility Arb UA1
Assessment	
Interview	System Operations Engineer

NOTE: All work adjacent to dead HV lines to be done under PTW.

Requires Code 195 for receipt of PTW for tree cutting work adjacent to dead wood pole lines

184	Tree cutting work adjacent to dead overhead lines (team member)
------------	---

Qualifications	ENWL UA1 or NPTC Unit UA1 (VM002) (or equivalent)
Experience	Previous relevant experience (or 3 months UPS)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CS38 – Climbing and Rescue AND CC008a – Celox and Tourniquet Application
On Job Training	3 months Under Personal Supervision (if appropriate) and completion of ENWL UA1 work book
Refresher	H200CA Electrical Competency Accreditation AND VM002b – Utility Arb UA1
Assessment	CAG and ENWL UA1 assessment
Interview	System Operations Engineer and Vegetation Management Trainer

NOTE: Tree cutting work adjacent to dead Tower Lines to be carried out under Permit-to-Work issued to Tower Linesperson / Engineer

185	Application / removal of Additional Earths
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Qualifications	NPTC Unit UA1 (VM002) (or equivalent)
Experience	Competent Person holding Code 183 and Code 174 with minimum of 6 months experience
Formal Training	OH037 - Electrical safety on wood pole overhead systems AND OH034 - O/H Line Rescue Techniques (wood pole)
On Job Training	Application of Additional Earths on at least 5 occasions under Personal Supervision
Refresher	H200CA - Electrical Competency Accreditation OH034 - O/H Line Rescue Techniques (wood pole)
Assessment	By Electricity North West TC Trainer
Interview	System Operations Engineer

NOTE: As recipient of the Safety Document can apply or personally supervise the application and removal of Additional Earths.

Can apply / remove portable Circuit Main Earths under the Personal Supervision of AP/SAP

186	Visual Inspection only in LV Feeder Pillars & Cabinets.
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Qualifications	
Experience	Substation access and visual inspection with a minimum of 6 months experience
Formal Training	ENG/EO1162 – Inspection and checking of linking arrangements in LV feeder pillars and Cabinets
On Job Training	On – Job training under personal supervision (Minimum 6 months if no electrical background).
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Must hold Code substation access to the appropriate level.

Allows Staff carrying out asbestos Surveys to open LV Feeder Pillars, cabinets and TOC's.

187	Earth security marking on the OH network
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Qualifications	
Experience	Competent person within ENWL
Formal Training	OH 016 Earth security marking on the OH network
On Job Training	On job training shall be completed as part of formal course OH016
Refresher	H200CA Electrical Competency Accreditation
Assessment	Formal Assessment at the Training Academy
Interview	System Operations Engineer

188	Painting Rigger – Steel Tower Lines Up 132kV
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Qualifications	EUSR BESC Overhead lines or Equivalent
Experience	Existing 161 holder, minimum 6 months OR Contractor with experience of tower painting and competence in rope access works
Formal Training	ED110 Tower Painter AND OH026 - Tower Painter/Rigger - steel tower lines up to 132kV training course AND Certificate in advanced climbing / rope Access (including tower rescue)
On Job Training	
Refresher	H200CA – Electrical Competency Accreditation AND Proof of advanced climbing / rope access (including tower rescue) refresher AND First aid refresher
Assessment	OH036 – Electrical Safety on Steel Tower Overhead Line Systems (Contractor Assessment) AND OH026 - Tower Painter/Rigger - steel tower lines up to 132kV training course AND Formal instructor assessment AND CAG test
Interview	System Operations Engineer / Designated Engineer

NOTE: Requires 195 for receipt/clearance of PTW / LOA & 200 for substation access.

189	Carry out Vegetation Surveys for Tree Work in Proximity to ENW Overhead lines upto and including 132kV
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Qualifications	NPTC UA 1, NPTC UA2.1, NPTC UA 5.1 and 5.2 (or Equivalent)
Experience	Previous relevant experience or 3 months under 189 P
Formal Training	VM013 - Safe Working Adjacent to Overhead Lines for Tree Contractors and VM011 ENWL Live Line Tree Cutting
On Job Training	5 live line work packs submitted for Authorisation
Refresher	H200CA - Electrical Competency Accreditation plus NPTC refreshers (or equivalent)
Assessment	CAG paper
Interview	System Operations Engineer and TC Trainer

NOTE: Holders of Live tree cutting code 181 can hold code 189 subject to submission of 5 planned packs to System Ops or their nominated deputy.

190	Overhead line support team member - wood pole (ground work only)
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Qualifications	
Experience	6 months relevant experience
Formal Training	OH010 – Overhead Line Support Team Member (Wood Pole) Ground Work Only AND OH037 – Electrical Safety on Wood Pole Overhead Line Systems
On Job Training	
Refresher	H200CA – Electrical Competency Assessment
Assessment	Contractor Assessment: OH037 - Electrical Safety on wood pole o/h line systems
Interview	System Operations Engineer

NOTE: Ground work support to wood pole Overhead Team only.

Only required to undertake support work as part of the working party (under the Immediate Supervision of the Safety Document holder).

Can include:

- Vehicle / hi-ab operation for erection of plant (replaces Code 149 issued previously)
- Tie on tools and equipment for work at pole top
- Winch operation
- Excavation for earthing etc.

Not required for material delivery etc.

191	Overhead line support team member - steel tower (ground work only)
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Qualifications	
Experience	6 months relevant experience
Formal Training	
On Job Training	
Refresher	H200CA - Electrical Competency Assessment
Assessment	Contractor Assessment: OH036 - Electrical Safety on steel tower o/h line systems
Interview	System Operations Engineer

NOTE: Ground work support to wood pole Overhead Team only.

Only required to undertake support work as part of the working party (under the Immediate Supervision of the Safety Document holder).

Can include:

- Vehicle / hi-ab operation for erection of plant (replaces Code 149 issued previously)
- Tie on tools and equipment for work at pole top
- Winch operation
- Excavation for earthing etc.

Not required for material delivery etc.

192	Patrolling of wood pole lines during emergency conditions
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Qualifications	
Experience	Formal training and assessment
Formal Training	CT033a - Storm Damage Recce Training
On Job Training	
Refresher	CT033b - Storm Damage Recce Team CAG assessment – Annual attendance
Assessment	CT033b - Storm Damage Recce Team CAG assessment
Interview	

NOTE: Authorisation issued for a period of 12 months from date of training / assessment.

Authorisation renewed annually subject to satisfactory completion of training / assessment.

193	Checking, extracting and updating protection software, settings and records either directly or indirectly through the use of a computer link up to and including 132kV.
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Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Minimum 6 months operating on protection relays
Formal Training	EA Technology advanced protection course or ETA distance learning protection course or demonstration of knowledge by interview.
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	
Interview	Nominated Engineer

194	Work on 33kV wood pole lines (dead working)
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Contractor with DNO experience and craft training / experience on wood pole lines OR ENWL transmission lines man
Formal Training	OH009 - Wood pole overhead lines – heavy construction AND OH034 – Working at Height – Wood Pole Rescue
On Job Training	Completion of on job training record book for ENWL employees
Refresher	H200CA Electrical Competency Accreditation AND OH034 – Working at Height – Wood Pole Rescue
Assessment	OH009 – Overhead Heavy-Duty Wood Pole Overhead Lines up to 33kV
Interview	System Operations Engineer

NOTE: Code for ENWL staff and contractors with insufficient experience of LV, 6.6kV and 11kV overhead construction.

Code 195 required for receipt/clearance of PTW/LOA

195	Receive/Clear PTW / LOA
------------	-------------------------

Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Electrical Craftsperson
Formal Training	
On Job Training	Receipt & Clearance of 5 Safety documents UPS (or previous relevant experience)
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Requires work/activity code.

196	Tree cutting work adjacent to live overhead lines up to 132kV working from ground only
------------	--

Qualifications	ENWL UA2 or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
Experience	3 months UPS (or previous relevant experience)
Formal Training	VM011 – Live Line Tree Cutting AND CC008a – Celox and Tourniquet Application
On Job Training	Completion of ENWL UA2 work book under personal supervision
Refresher	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
Assessment	CAG and ENWL UA2 assessment
Interview	System Operations Engineer + Vegetation Management Trainer

NOTE: Includes wood pole and steel tower lines

197	Tree cutting work adjacent to dead overhead lines (team member) working from ground only.
------------	---

Qualifications	ENWL UA1 or NPTC Unit UA1 (VM002) (or equivalent)
Experience	Previous relevant experience (or 3 months UPS)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application
On Job Training	3 months Under Personal Supervision (if appropriate) and completion of ENWL UA1 work book
Refresher	H200CA Electrical Competency Accreditation AND VM002b – Utility Arb UA1
Assessment	CAG and ENWL UA1 assessment
Interview	System Operations Engineer + Vegetation Management Trainer

NOTE: Includes wood pole and steel tower lines

198	Install LV monitoring equipment in substations in accordance with CP303
------------	---

Qualifications	
Experience	LV Authorised Person (Code 315)
Formal Training	
On Job Training	On-Site training and familiar with requirements of CP303
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: New authorisation (Initially issued to Fault Technicians)

199	Inspection of wood pole lines including conductor height measurement
------------	--

Qualifications	
Experience	Formal training and assessment OR Holding code 132
Formal Training	OH030 – Overhead Line Patrolling AND OH031 – Overhead Line Patrolling Camera Only OR Holding code 132
On Job Training	As required
Refresher	H200CA Electrical Competency Accreditation
Assessment	Formal assessment at the Electricity North West training facility
Interview	System Operations Engineer

NOTE: Can include Photographing a pole top using camera mounted on hand-held telescopic device (Voltage up to and including 11kV) in accordance with CP423 Procedure 17-01, Module 864 subject to training.

Appendix C – Substation Access Authorisation Codes

C.1 Authorisation Codes 200-299

200	All substations, compounds & buildings
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Qualifications	
Experience	
Formal Training	H100 – Basic Electrical Safety (including substations)
On Job Training	Visit under Personal Supervision a minimum of 4 open busbar substations, 3 Primary substations and 3 distribution substations with open LV boards. These Shall be logged on a substation visit log and signed off by their trainer.
Refresher	H200CA Electrical Competency Accreditation
Assessment	Successful completion of CA
Interview	Systems Operations Engineer / Nominated Engineer

NOTE: Add Code 203 to exclude substations with exposed HV conductors (if appropriate)

201	Distribution & Primary substations
------------	------------------------------------

Qualifications	
Experience	
Formal Training	H100 – Basic Electrical Safety (including substations)
On Job Training	Visit under Personal Supervision a minimum of 3 Primary substations and 3 distribution substations with open LV boards. These Shall be logged on a substation visit log and signed off by their trainer. If open busbar access is required an additional 4 open busbar sites Shall be included.
Refresher	H200CA Electrical Competency Accreditation
Assessment	Successful completion of CA
Interview	Systems Operations Engineer / Nominated Engineer

NOTE: Add Code 203 to exclude substations with exposed HV conductors (if appropriate)

202	Distribution substations only
------------	-------------------------------

Qualifications	
Experience	
Formal Training	H100 – Basic Electrical Safety (including substations)
On Job Training	Visit under Personal Supervision a minimum of 5 distribution substations 3 of which Shall contain open LV boards. These Shall be logged on a substation visit log and signed off by their trainer.
Refresher	H200CA Electrical Competency Accreditation
Assessment	Successful completion of CA
Interview	Systems Operations Engineer / Nominated Engineer

203	Excluding substations with exposed HV conductors
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Can be included with Code 200 or Code 201 (if appropriate)

204	Excluding National Grid interface site
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Can be included with Code 200 (if appropriate)

205	Access restricted to buildings and established safe walkways on sites with exposed live HV conductors.
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Can be included with Code 200 or Code 201 (if appropriate)

Only the carrying of SMALL hand tools/instruments/equipment is permitted on sites with exposed live HV conductors where access is via the established safe walkway.

The movement of larger objects will require prior consultation with a Senior Authorised Person

206	Work in substations with exposed HV conductors under Safety Standby only
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: All civil trade work in substations with exposed HV conductors to be carried out under issue of a safety document

All excavation work in substations with exposed HV conductors to be carried out under issue of a safety document

207	The following substation(s) <free format field >
------------	--

Qualifications	
Experience	
Formal Training	H100 – Basic Electrical Safety (including substations)
On Job Training	Visit a selection of typical substations under Personal Supervision
Refresher	N/A
Assessment	Successful completion of CA
Interview	Systems Operations Engineer

NOTE: Code 207 is used for Site Specific Authorisation (see below)

Site specific limited duration substation access authorisations

The following procedure must be followed and requests made to System Operations on a site by site basis.

1. Prior to any works being carried out at whatever voltage, ENWL will request the names and CV's of all staff required to carry out said works.
2. On receipt of said CV's, ENWL SAP and Programme Manager will vet the staff's suitability to operate in a substation environment.
3. A request can then be made to System Operations for 'Site specific limited duration substation access authorisations' (see below) via an application for authorisation submitted to ENWL including evidence of current first aid certificates, photographs and CVs and confirmation of insurance indemnity certificate. (Note: for companies currently on the ENWL data base this will already be in place).
4. ENWL will provide suitably authorised staff to receive an LOA/PTW to lead the working party under immediate supervision.
5. The ENWL SAP will hold a site induction for all staff involved in the works; the inductees will sign on to the induction. The SAP will sign and issue the substation access authorisations and return copy to System Operations for confirmation of issue and updating of the data base.
6. As per normal if the LOA/PTW holder has to leave site for whatever reason, all works must cease and the working party will be stood down and asked to leave site.
7. Under this system, the requirement for contractor staff to undergo ENWL H100 training will be waived.
8. If there are any additions/substitutions to the working party all works will cease until a further induction has taken place and a substation access authorisation has been obtained from System Operations.
9. Authorisation will be issued for a specific period of time, no longer than necessary for completion of work.
10. Keys will not be issued to staff holding this authorisation

Typical Authorisation

Code 207 xxx substation (No xxx) for the purpose of <free format field> under the Immediate Supervision of an ENWL Safety Document holder

209i	Access to substations of the type shown above under the Immediate Supervision of a nominated person for the purpose of craft training only
-------------	--

Qualifications	Apprentice Craftsperson
Experience	
Formal Training	H100 - Basic Electrical Safety (including substations)
On Job Training	Visit a selection of typical substations under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	Successful completion of CA
Interview	Systems Operations Engineer

NOTE: New authorisation for issue to Apprentices to allow access to substations for on-job training only

Authorisation is a limitation on access requirements under Code 200 / 201 or 203

210	Delivery and collection of materials and equipment
------------	--

Qualifications	
Experience	Substation access authorisation (Code 200, 201 or 202)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: This is a standalone code, applicable to staff who have no other substation access authorisation.

Code is suitable for Jointers / Linesperson / Craft Attendants etc who may be required to deliver / collect materials, also includes visual inspection of substations.

Code not required for Craftsperson who are LV Authorised Person (u/g)

211	Routine compound cleaning and tidying
------------	---------------------------------------

Qualifications	
Experience	Substation access authorisation (Code 200, 201 or 202)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Authorisation allows for routine compound cleaning and tidying including grass cutting/weeding

Also includes:

- Visual inspection
- Delivery and collection of materials and equipment

Not required for staff holding Code 239

All work to be at ground level

All other work to be the subject of a Safety document

212	Routine maintenance of oil assisted cable equipment
------------	---

Qualifications	
Experience	Substation access authorisation (Code 200) Oil Mechanic holding Code 150
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Allows access to substation for specific task of routine maintenance of oil assisted cable equipment.

Also includes:

- Visual inspection
- Delivery and collection of materials and equipment

All other work to be the subject of a Safety document

213	Routine maintenance of ancillary substation equipment
------------	---

Qualifications	Electrical Fitter holding Code 145 or Code 154
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	FT001 – Substation fitting training
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	FT022 – Electrical safety – Electrical fitting
Interview	System Operations Engineer

NOTE: Can include, subject to training and experience:

- Substation inspection and cleaning including grass cutting and weeding
- Battery maintenance
- Spraying of switchgear mechanisms
- Taking oil samples and renewing breather crystals
- Clean out line and compressor drains
- Taking load readings and reading HV/LV metering equipment
- Delivery and collection of equipment and materials
- Minor Substation heating and lighting repairs excluding work on tails connected to live LV bus-bars
- May include LV auxiliary fuse removal
- Supervise service by specialist of CO₂ equipment
- Minor civil works including fence repairs
- Battery and Sim card replacement in ground mounted EFI's – subject to attending course FT026

All other work to be the subject of a Safety document

217	Work on telecommunications equipment
------------	--------------------------------------

Qualifications	Telemetry Engineer/Technician
Experience	Substation access authorisation (Code 200)
Formal Training	
On Job Training	Completion of On-job training modules relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Can include, subject to training and experience:

- Equipment energised by Class 1, Class 2 and Class 3 lasers as defined by European Standard EN 60825:1991
- Jointing of pilot and telecommunications cables
- Identifying pilot/telephone cables and to supervise Communication Cable Craftsperson whilst opening these cables using LIVE techniques

Also needs Code 102 for receipt of Limitation of Access (if required)

218	Work on telemetry equipment ground level only
------------	---

Qualifications	Telemetry Engineer/Technician
Experience	Substation access authorisation (Code 200)
Formal Training	
On Job Training	Completion of On-job training modules relevant to activity
Refresher	
Assessment	
Interview	Nominated interviewer as per matrix with Ops support as required

NOTE: This is for site work but does NOT include any element of switching either to a simulator or to live plant or apparatus – therefore do not include any testing.

Can include, subject to training and experience:

- Work on connections between HAM metering
- Telecontrol/RTU cubicles
- Remote Control/Automation/Telecontrol equipment
- Voltage checks on the secondary side of the supply VT on pole mounted RTUs
- Work on connections between Distribution Automation actuators and RTUs
- Excludes work on connections beyond the Klippon terminals within RTU/Telecontrol Cubicles

Code 106 required for the installation of RTU/Actuator on ground mounted switchgear in accordance with FM9 (previously FM2/010 and FM2/011)

Code 350 required to undertake switching operations to simulated plant for commissioning purposes

Also needs Code 102 for receipt of Limitation of Access (if required)

219	Work on Telecommunications equipment within a Telemetry enclosure
------------	---

Qualifications	Telecommunications Engineer
Experience	Substation access authorisation (Code 200) and code 217
Formal Training	TC007 Telemetry System Awareness
On Job Training	On-job training relevant to activity, minimum 2 installations under personal supervision.
Refresher	
Assessment	Complete without assistance (but under Personal Supervision of mentor) 1 installation
Interview	System Operations Engineer / Nominated Engineer

NOTE: Includes, subject to training and competence:

- Installation and replacement of hardware including Firewalls, Routers, Switches, Radio (receiver/modem/IDU), & 3G devices.
- Provide connectivity between the Telecommunications hardware and Telemetry system.
- Connection of Telecommunication hardware to the existing 50V DC bus bar within the Telemetry enclosure.
- Drilling Telemetry enclosure to terminate new cables.
- Installation of steel work to mount Telecommunications hardware on, and earth to existing earth bar.
- Modification of existing lightning arrestor systems.
- Alteration of 50V DC power provided to the Telemetry enclosure.

220	Substation Washroom and Toilet cleaning
------------	---

Qualifications	
Experience	Substation access authorisation (Code 200, 201 or 202)
Formal Training	
On Job Training	As required
Refresher	
Assessment	
Interview	

NOTE: Authorisation allows for the specific task of substation Washroom / toilet cleaning.

Any other cleaning in other areas of the substation is to be carried out under code 221.

221	Substation inspection and cleaning and visual inspection of live LV board
------------	---

Qualifications	Electrical Fitter / Craft Attendant
Experience	Substation access authorisation (Code 200, 201 or 202)
Formal Training	FT001 – Substation fitting training
On Job Training	On-job training relevant to activity
Refresher	
Assessment	FT022 – Electrical safety – Electrical fitting
Interview	System Operations Engineer / Nominated Engineer

NOTE: Authorisation allows for the specific task of substation cleaning including visual inspection of live LV boards.

Also includes:

- Delivery and collection of materials and equipment
- Routine compound cleaning and tidying including grass cutting and weeding.

Authorisation is for staff who have electrical training / experience (ie Fitters / Mates)

All work to be at ground level

All other work to be the subject of a Safety document

223	Routine maintenance on gas assisted cable equipment
------------	---

Qualifications	Craftsperson holding Code 152
Experience	Substation access authorisation (Code 200)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Authorisation includes:

- Visual inspection
- Delivery and collection of materials and equipment

All other work to be subject to the receipt of a safety document

226	Work on metering equipment
------------	----------------------------

Qualifications	Metering Craftsperson
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Can include, subject to training and experience:

- Visual Inspection
- Meter reading
- Removal and replacement of metering potential fuses
- Connecting/removing shorts on metering CT secondary circuits at meter panels only
- Work on metering equipment including multi-core cables/connections.
- Verifying correct metering operation by making load current measurements other than in protection CT secondary circuits
- Taking measurements to verify correct operation of metering installations including carrying out load current measurements in protection CT secondary circuits subject to the requirements of CP341

231	Work on power and lighting circuits
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Qualifications	Electrical Craftsperson - City & Guilds level 2 (or equivalent)
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Excludes work on tails connected to live LV bus-bars

In substations with a live LV board, this must be shrouded before work commences using an **Approved** protective screen positioned by a person authorised to do so

All other work is subject to the receipt of an appropriate Safety Document

237	Painting electrical plant (including receipt of Safety Document)
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Qualifications	Craftsperson Painter
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training under Personal Supervision including the receipt of 5 Safety Documents
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Painting in accordance with CP306 and subject to receipt of an appropriate Safety Document

239	Specified minor civil trade work
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Qualifications	Civil Tradesman / Mate
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Duties include, subject to training and experience:

- Visual inspection
- Delivery and collection of materials
- Site survey and physical measurements
- External painting and the painting of internal access doors and ventilation louvers
- External joinery repairs and the joinery repair of internal access doors and ventilation louvers
- External roof repairs not involving activities which could affect the inside of the substation
- External down spout repairs
- Fence and gate repairs not involving excavation
- Repairs to external brickwork not affecting the inside of the substation
- Painting work associated with the above repairs
- Stoning/Paving remove & relay (without excavation)
- Compound tidying and rubbish removal
- Routine hedge trimming / gardening
- Pump out cable trenched
- Clean contaminated oil spills- Erect / dismantle scaffolding (Scafftag **approved** personnel only)

In substations with live LV boards this must be shrouded, if appropriate, before work commences using an **Approved** protective screen positioned by a person authorised to do so.

All work involving excavation requires Code 249 and **SHALL** be carried out under receipt of a LOA

All work in sites with exposed HV conductors to be carried subject to receipt of LOA and Safety Standby (see CP606 G2).

241	Operation and Connection of Transformer Oil Regeneration Unit to Grid and Primary Transformers
------------	--

Qualifications	
Experience	Substation access authorisation (Code 200, 201)
Formal Training	
On Job Training	On-job training as required
Refresher	
Assessment	On site assessment of Training supervisor
Interview	System Operations Engineer / Nominated Engineer

NOTE: Work always done under an LOA

242	Visual inspection only
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Qualifications	
Experience	Substation access authorisation (Code 200, 201 or 202)
Formal Training	
On Job Training	On-job training as required
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: This is a standalone code only applicable to staff who have no other substation access authorisation.

Excludes all work activities

Code suitable for managers / supervisors who only visit substations on an ad hoc basis

243	Site surveys / measurements
------------	-----------------------------

Qualifications	
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training as required
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Includes taking physical measurements

Pre-vetting work

Also include taking readings not requiring direct connection of equipment

245	Electrical Measurements
------------	-------------------------

Qualifications	
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	Relevant electrical background/experience
On Job Training	
Refresher	On-job training relevant to activity
Assessment	
Interview	

NOTE: Can include the following (subject to training and experience);

- Direct connection to LV
- Clip on ammeters / squirrels

Requires the wearing of PPE as appropriate

246	Asbestos sampling and remedial work
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Qualifications	Asbestos in air sampling (Specialist Service)
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	CC011a - Working with asbestos
On Job Training	On-job training relevant to activity
Refresher	CC011c - Asbestos Awareness (Awareness Only)
Assessment	By Workplace Environment Solutions Ltd or other nominated assessor.
Interview	System Operations Engineer / Nominated Engineer

NOTE: Inspection and taking samples of suspect materials for asbestos analysis

249	Excavation in substations under issue of Limitation of Access
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Qualifications	
Experience	Relevant substation access authorisation AND Training and a minimum of 3 months relevant experience
Formal Training	NRSWA 003 – NRSWA for Operatives
On Job Training	If not attended NRSWA course then on-job training on the interpretation of Standard Mains Records and use of Cable Avoidance Tool (CAT)
Refresher	NRSWA RF01 – NRSWA refresher training course for operatives
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Also requires Code 206 if authorised for substations with exposed HV conductors

Person in charge of team requires Code 102 for receipt of Limitation of Access

In addition Safety Standby required for all excavation work in substations with exposed HV conductors

Not required if holding Fitting / Jointing craftsperson code

252	Specialised Vegetation Control
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Qualifications	NPTC Arborist and/or training and qualifications in the application of weed killer
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Specialist authorisation for staff specifically trained in vegetation control

Also includes site clearance & rubbish removal

(Use Code 211 for routine compound cleaning)

Also requires Code 206 if holding Substation Access Code 200

253	Specialised Pest Control Services
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Qualifications	Formal qualifications in the use of pest control applications
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Specialist authorisation for staff specifically trained in pest & vermin control

Also includes site clearance & rubbish removal

(Use Code 211 for routine compound cleaning)

254	Earth tape security marking
------------	-----------------------------

Qualifications	
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	Training course CT048 – Metal marking
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Authorisation for Signature Materials staff trained in earth tape security marking

255	Lock installation and replacement at Grid & Primary substations
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Qualifications	Trained in installation of new Abloy locking system
Experience	Substation access authorisation (Code 200)
Formal Training	
On Job Training	On-job training relevant to activity
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Duties include, subject to training and experience:

- Visual inspection
- Delivery and collection of materials
- Site survey and physical measurements

Authorisation required for Lincoln Security staff specifically trained to install new Abloy locking system at Grid & Primary substations

256	Vegetation Control in exposed HV conductor compounds
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Qualifications	Training appropriate to equipment being used
Experience	Substation access authorisation (Code 200) Held Code 252 for a minimum of 6 months
Formal Training	SM12– Vegetation Control in Exposed HV Conductor Compounds
On Job Training	Evidence of work in exposed HV conductor site (under LOA & either Safety Standby or existing 256 holder) on at least 3 occasions
Refresher	
Assessment	Nominated 132kV SAP
Interview	System Operations Nominated Engineer

NOTE: Specialist authorisation for staff specifically trained in vegetation control

Allows for specified work in sites with exposed HV conductor, under issue of Limitation of Access, without the need for Safety Stand-by

Code 102 required.

257	Dismantling and removal of electrical equipment
------------	---

Qualifications	
Experience	Relevant experience of working in substations
Formal Training	H100 – Basic Electrical Safety (including substations)
On Job Training	Familiarisation visits to substations following H100
Refresher	H200CA Electrical Competency Accreditation
Assessment	Successful completion of CA
Interview	System Operations Engineer

NOTE: Equipment to include switchboards / open bus-bars / support structures etc

Dismantling of equipment previously connected to the system to be carried out under issue of LOA

(Code 102 required for receipt of LOA)

Code 200 & Code 206 also required for work in substations with exposed HV conductors

278	Shroud live LV board in indoor substations
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Qualifications	Specifically trained Electricity North West Competent Person
Experience	Substation access authorisation (Code 201)
Formal Training	Minimum 6 months experience of regular work in distribution substations
On Job Training	
Refresher	On-job training under Personal Supervision
Assessment	
Interview	On-job by mentor

NOTE: Authorisation not required for staff that hold LV Authorisation (u/g)

279	PRESense Installation within LV Boards/Cabinets subject to on job training relevant to activity
------------	---

Qualifications	Minimum Electrical City & Guild - level 2 (or equivalent)
Experience	Substation access authorisation (Code 200 or 201) & Electrical Measurements (Code 245)
Formal Training	N/A
On Job Training	On-job training relevant to activity, minimum six installations under personal supervision on open LV board in an indoor substation and six installations under personal supervision in LV cabinet indoor/outdoor.
Refresher	N/A
Assessment	Complete without assistance (but under Personal Supervision of mentor) one installation on open LV board and one installation in LV cabinet.
Interview	System Operations Engineer / Nominated Engineer

NOTE: Duties include, subject to training and experience:

Install PRESense units to open style LV boards

Install PRESense units to LV cabinets

i.e if you have only been trained and assessed on open boards then you can only fit the PRESense unit to open boards.

- Direct connection to LV Busbar with fused LV plugin clamp.
- Drilling in distribution substation wall for mounting of the PRESense unit bracket.
- Inserting a spare LV dummy fuse carrier into a spare LV way to pick up voltage reference.
- Clip on ammeters.
- Phase rotation testing.

280	Springfield fuels limited – At Salwick no.3 and no.20 substations, to act as an authorised person on ENWL 11kV T13 and T14 CBs (open / close in normal service and carry out isolation) to the specific instructions of the ENWL Control Engineer
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Qualifications	
Experience	AP/SAP on the customer network – regular operating practice
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

281	Manchester Airport site - ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
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Qualifications	
Experience	Customer authorised person for the duties specified above
Formal Training	H100
On Job Training	
Refresher	H100
Assessment	
Interview	System Operations Engineer / Nominated Engineer

282	Manchester Royal Infirmary - ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
------------	---

Qualifications	
Experience	Customer authorised person for the duties specified above
Formal Training	H100
On Job Training	
Refresher	H100
Assessment	
Interview	System Operations Engineer / Nominated Engineer

283	TFM Hillhouse site (Ardvark) – Access to Thornton BSP s/s for the purposes of operating TFM owned 33kV switchgear only
------------	--

Qualifications	
Experience	Customer authorised person for the duties specified above
Formal Training	H100
On Job Training	
Refresher	H200CA Electrical Competency Accreditation
Assessment	
Interview	System Operations Engineer / Nominated Engineer

284	Trafford General and Withington Community Hospitals- ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
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Qualifications	
Experience	Customer authorised person for the duties specified above
Formal Training	H100
On Job Training	
Refresher	H100
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Codes 285 – 299 to be reserved for future Customer appointed persons codes.

Appendix D – Operational Authorisation Codes

D.1 Authorisation Codes 300-599

300	Limited Senior Authorised Person – Limited to issuing/cancelling LOAs for plant maintenance up to 11kV
------------	--

Qualifications	Electrical Fitting Craftsperson
Experience	2 years maintenance fitting
Formal Training	ENG/EO1134 Introductory Course for Limited Senior Authorisation (Fitter) Followed by: on-job training Finally: ENG/EO1135 Limited SAP Fitters
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

301	Limited Senior Authorised Person - Limited to plant maintenance up to 11kV
------------	--

Qualifications	Electrical Fitting Craftsperson
Experience	HV AP Code 353 & LSAP Code 300 for minimum 6 months
Formal Training	ENG/EO1134 Introductory Course for Limited Senior Authorisation (Fitter) Followed by : on-job training Finally: ENG/EO1135 Limited SAP Fitters
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

NOTE: Includes issue/cancellation of LOA, PTW & SFT

302	Limited Senior Authorised Person - Limited to issuing/cancelling LOAs for plant maintenance on the 33kV system (includes the 11/6.6kV bus-section and transformer circuit breakers)
------------	---

Qualifications	Electrical Fitting Craftsperson
Experience	2 years maintenance fitting experience
Formal Training	ENG/EO1134 - Limited SAP Fitting Introduction Followed by: on-job training Finally: ENG/EO1137 - Limited SAP Fitting 33kV
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

303	Limited Senior Authorised Person - Limited to Plant Maintenance on the 33kV system (includes the 11/6.6kV bus-section and transformer circuit breakers)
------------	---

Qualifications	Electrical Fitting Craftsperson
Experience	33kV AP & LSAP Code 302 for minimum 6 months
Formal Training	ENG/EO1134 - Limited SAP Fitting Introduction Followed by: on-job training Finally: ENG/EO1137 - Limited SAP Fitting 33kV
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

NOTE: Includes issue/cancellation of LOA / PTW & SFT

304	Extension of authorisation under emergency conditions
------------	---

Qualifications	Authorised previously by another DNO
Experience	With own employer
Formal Training	With own employer
On Job Training	With own employer
Refresher	With own employer
Assessment	Production of current authorisation
Interview	Systems Operations Engineer or nominated Engineers for emergency conditions. See Appendix I and CP604

305	
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Now Code 415

305 available for use

306	Field Control Engineer on the 33kV system and associated lower voltage limited to prearranged work
------------	--

Qualifications	SAP at 33kV
Experience	Minimum of 6 months experience as practising 33kV SAP
Formal Training	
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires 33kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

307	Field Control Engineer limited for plant maintenance up to 11kV
------------	---

Qualifications	Fitting craftsperson holding Limited SAP Code 301
Experience	Minimum 6 months experience as practising LSAP
Formal Training	
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires LSAP Authorisation Code 301

SAP Code to be added to existing holders

308	Field Control Engineer on the 132kV system and associated lower voltage limited to prearranged work
------------	---

Qualifications	132kV SAP
Experience	Minimum of 6 months experience as practising 132kV SAP
Formal Training	
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires 132kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

309	Authorised Person on systems up to 11kV (pre-arranged work only)
------------	--

Qualifications	Minimum of codes 318 and 321 or code 315 OR Contractors engineer with DNO experience at 11/6.6kV
Experience	Minimum 6 months of regular operating practice
Formal Training	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

310	Senior Authorised Person on systems up to 11kV (pre-arranged work only)
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum of 6 months operating practice as 11kV AP
Formal Training	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

311	Field Control Engineer limited to overhead lines up to 11kV (pre-arranged work only)
------------	--

Qualifications	Craftsperson overhead lines holding Limited SAP codes 395 or 397
Experience	Minimum 6 months experience as practising LSAP
Formal Training	ENG/EO1161 – Field Control Limited Senior Authorisation Overhead
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires LSAP Authorisation Code 397.

SAP Code to be added to existing holders on Authorisation renewal

312	Authorised Person to carry out remote operation of the “Rezap Fault Master”
------------	---

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available - Existing holders keep authorisation

313	Authorised Person to withdraw/replace LV fuses in wall mounted boxes
------------	--

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	No refresher required if this is only operational code held
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

314	Authorised Person to replace LV fuses and/or attach LV fault restoration devices
Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO341 - System Operations LV Refresher
Assessment	
Interview	System Operations Engineer

NOTE: Includes planned and fault situations in Substations, feeder Pillars and Link Boxes.
Includes fault restoration devices ie Rezap Faultmaster, Modular Rezap, Bidoyng, Fusemate

315	Authorised Person to carry out LV operations
------------	--

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience and substation access at the appropriate level
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO341 - System Operations LV Refresher
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

316	Authorised Person to carry out Low Voltage (LV) Telecontrol switching ONLY to the instructions of an LV Authorised Person
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months of regular operating practice with the Network Management System (NMS)
Formal Training	ENG/EO343 – System Operations LV OR EO344 – Remote LV Network Management Operations via Telecontrol
On Job Training	Witness successful completion of a minimum of 6 on site Commissioning procedures of Smart Street systems AND Successful completion of 6 Approved switching programmes to instruction in the HUB
Refresher	ENG/E341 – System operations LV refresher
Assessment	Control room Manager or Nominated Deputy
Interview	System Operations Engineer

NOTE: Code is designed for LV Network Management Tech to switch from the centre to instruction. To remove the need to Switch to instruction – full LV AP code 315 shall be obtained as laid out in CP614

317	Authorised Person to remove/replace LV fuses and post Caution Notice, test dead and apply LV portable earths and post Caution Notice on the LV overhead system only (pre-arranged work only) for the purposes of planned tree clearance work.
------------	---

Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Minimum of 12 months experience holding code 181 Code 183 and has received/cleared PTW on 10 occasions
Formal Training	OH039 – LV Overhead Isolation and Application of Temporary LV Earths – for Arborists Only (course includes OH034 Rescue a casualty from height – wood pole) OH027 - Pole and MEWP rescue course CT022 – Use and rescue from Ladder course
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	EO341 - System Operations LV Refresher at 3 yearly intervals PL024d - MEWP refresher CT022 - Safe working with Ladders OH034 - Working at Height - Pole Top Rescue
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

318	Authorised Person to carry out LV operations on the overhead system (pre-arranged work only)
------------	--

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	No refresher required if this is only operational code held
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

319	Authorised Person to carry out LV operations on the overhead system
------------	---

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	No refresher required if this is only operational code held
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

320	Authorised Person to carry out LV operations on the underground system
------------	--

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience and substation access at the appropriate level
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO341 - System Operations LV Refresher
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

321	Authorised Person to carry out LV operations on the underground system (pre-arranged work only)
------------	---

Qualifications	Electrical Craftsperson or Electrical Engineer
Experience	Minimum of 12 months experience and substation access at the appropriate level
Formal Training	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO341 - System Operations LV Refresher
Assessment	Evidence to be assessed by System Operations Engineer
Interview	System Operations Engineer

322	Authorised Person to remove/replace LV pole mounted fuses of Bonar Long PC400 type fuses only for work in which he is directly involved
------------	---

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available for issue - Current holders retain entitlement

323	Authorised Person as Driver for HV live line pole erection
------------	--

Qualifications	Attendance on following CPCS Training courses: ENWL PL006a – 180° Wheeled Excavator
Experience	Minimum 12 months experience
Formal Training	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
On Job Training	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
Refresher	
Assessment	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
Interview	

NOTE: Work in accordance with CP423 Sections 1 & 2

324	Authorised Person to carry out 11kV Live Line Rubber Glove Work
------------	---

Qualifications	Overhead line craftsperson
Experience	Minimum 12 months experience Code 132
Formal Training	OH006a - 11kV Live Line RGW Techniques
On Job Training	Two weeks assessment of on-job training by appointed assessors
Refresher	OH006a - 11kV live line RGW techniques refresher
Assessment	On site assessment by a Electricity North West appointed assessor (eg overhead line training instructor)
Interview	

NOTE: Work in accordance with CP423 Section 4 modules

325	Authorised Person to test HV equipment earths and LV neutral earths on unearthed construction lines with conductors live
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn

326	Authorised Person to operate pole mounted and switchgear mounted auxiliary switches controlling auto reclose facilities and post Caution Notices
------------	--

Qualifications	Overhead line craftsperson
Experience	Substation access for the type of substation required HV Authorisation to operate HV pole mounted switchgear Minimum of 6 months of regular operating practice at HV
Formal Training	
On Job Training	Type specific on job training in the operation of pole mounted and switchgear mounted auxiliary switches controlling auto re-close facilities prior to commencement of switching operations from relevant sites.
Refresher	
Assessment	On site assessment by a Electricity North West appointed assessor
Interview	System Operations Engineer

327	Authorised Person to withdraw and replace HV and LV pole mounted fuses and links
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn – Replace with Code 330

328	Authorised Person to operate HV pole mounted DOEF's links, auto-reclosers and auto-sectionalisers to the instructions of the Control Engineer and to post/remove caution notices
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn – Replace with Code 330

329	Authorised Person to operate HV pole mounted air break switches to the instructions of the Control Engineer and to post/remove caution notices (including/excluding* 33kV ABS's)
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn – Replace with Code 330

330	Authorised Person to operate HV pole mounted switchgear and to post/remove Caution Notices
------------	--

Qualifications	Overhead line craftsperson
Experience	LV AP overhead authorisation and a minimum of 6 months of regular operating practice
Formal Training	ENG/ED355 - Operation of Overhead Line Switchgear
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Includes, subject to training and experience, operation of the following:

- pole mounted DOEF's & links
- air break switches
- auto-reclosers
- auto-sectionalisers

331	Authorised Person (for Fault Restoration switching only)* at 11/6.6kV only, to operate HV pole mounted DOEF's links, air break switches, auto-reclosers and auto-sectionalisers to the instructions of the Control Engineer (excludes posting of Caution Notices)
------------	---

Qualifications	Competent Person
Experience	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience
Formal Training	ENG/ED355 – Operation of OH Line Switchgear OR ENG/EO1155 - HV Switching (Service Electricians)
On Job Training	Completion of ED355/EO1155 on-job training modules under personal supervision (10 operations minimum on a variety of overhead apparatus)
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Initial assessment by HV Authorised Person then on site/training academy assessments every 6 months for infrequent operators
Interview	System Operations Engineer

NOTE: * Delete “for Fault Restoration Switching only” when code issued under Personal Supervision to enable training on planned work.

When code issued in full must include “for Fault Restoration switching only”

332	Authorised Person to supervise the movement of ladders and long objects, in substations with exposed conductors, to the instructions of a Senior Authorised Person
------------	--

Qualifications	Electricity North West electrical fitting craft training
Experience	Minimum 3 years experience in exposed HV conductor sites
Formal Training	FT023 - Duties of Safety Standby Personnel
On Job Training	Local training and practice under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	On site assessment by nominated G&P SAP
Interview	System Operations Engineer / Nominated G&P Engineer

333	Authorised to carry out live line pole erection
------------	---

Qualifications	Overhead craftsperson
Experience	Minimum 12 months experience Code 132
Formal Training	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
On Job Training	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
Refresher	
Assessment	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
Interview	

NOTE: Work in accordance with CP423 Sections 1 & 2

334	Authorised Person to supervise the movement of cranes and scaffolds, in substations with exposed conductors, as defined by and to the instructions of a Senior Authorised Person
------------	--

Qualifications	Electricity North West electrical fitting craft training
Experience	Minimum 3 years experience in exposed HV conductor sites
Formal Training	FT023 - Duties of Safety Standby Personnel
On Job Training	Local training and practice under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	On site assessment by nominated G&P SAP
Interview	System Operations Engineer / Nominated G&P Engineer

335	Authorised Person to supervise live line pole erection
------------	--

Qualifications	Overhead craftsperson
Experience	Minimum 12 months experience Code 132
Formal Training	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
On Job Training	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
Refresher	
Assessment	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
Interview	

NOTE: Work in accordance with CP423 Sections 1 & 2

336	Authorised Person to control the safe access into and work within underground chambers
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn

337	Limited Senior Authorised Person - Limited to issuing/cancelling LOAs for protection work on systems up to 33kV/132kV*
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Engineering Trainee
Formal Training	ENG/EO300 – System Operations Prior to Senior Authorisation
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	Systems Operations Engineer

NOTE: * Delete as appropriate.

338	Field Control Engineer limited to issuing/cancelling LOAs for protection work on systems up to 33kV/132kV*
------------	--

Qualifications	Previously held code 337 for minimum of 6 months
Experience	SAP Engineering
Formal Training	ENG/EO300 – System Operations Prior to Senior Authorisation
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	Systems Operations Engineer

NOTE: Also requires SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

339	Authorised Person to issue/cancel Limitation of Access for excavation and cable laying work only in distribution substations
------------	--

Qualifications	Technical Supervisor (LV AP) / Project Engineer (HNC)
Experience	LV Authorised (code 315) for 6 months minimum AND / OR Relevant project management experience
Formal Training	
On Job Training	Issue / cancel LOA on 5 occasions under personal supervision
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Project Engineer must have electrical HNC (or equivalent) and relevant project management experience.

Technical Supervisors require full LV AP authorisation (Code 315)

340	Authorised Person to operate ground mounted switchgear at 11/6.6kV
------------	--

Qualifications	G&P SAP's who do not have LV authorisation
Experience	Minimum 6 months of regular operating practice
Formal Training	ENG/EO345 - System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	Systems Operations Engineer

341	Authorised Person to operate pole mounted and switchgear mounted auxiliary switches controlling auto-reclose facilities, and post Caution Notices, and to supervise HV live line pole erection in accordance with CP423 Sections 1 & 2 modules <->
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn

342	Authorised Person to carry out Telecontrol Database Management tasks at Telecontrol control centres subject to the approval of the Control Engineer
------------	---

Qualifications	Electricity North West electrical engineering training
Experience	
Formal Training	
On Job Training	Under Personal Supervision
Refresher	
Assessment	
Interview	Nominated interviewer as per matrix with Ops support as required

NOTE: Covers desk based database management tasks. It therefore does not require first aid or substation access.

There is no switching allowed under this code.

343	Authorised Person to carry out 11/6.6kV operations on the Telecontrol equipment to the instructions of the Control Engineer
------------	---

Qualifications	HV Authorisation at 11/6.6kV
Experience	Minimum 6 months of regular operating practice
Formal Training	
On Job Training	Minimum of 10 switching programmes under Personal Supervision Telecontrol Keyboard Skills on-job
Refresher	
Assessment	Control Room Manager or nominated deputy
Interview	Control Room Manager or nominated deputy

344	Authorised Person to switch 'off' and 'on' SEF and AR protection on Polarr relays connected to GVRs and to carry out test operations on Telecontrol equipment at outstations to the instructions of the Control Engineer.
------------	---

Qualifications	Telemetry Engineer/Technician
Experience	Held codes 218 and 162 both for a minimum of 6 months
Formal Training	
On Job Training	Complete 10 operations under Personal Supervision
Refresher	N/A
Assessment	Telemetry Support Manager
Interview	System Operations Engineer

NOTE: All operations to be done to the instruction of the **Control Engineer**.

Includes replacement of batteries on Polar relays.

Includes disconnection and reconnection of actuator mechanical linkages when necessary.

345	Authorised Person to issue/cancel LOA on Telecoms/Telecontrol equipment
------------	---

Qualifications	Telemetry / Telecoms Engineer
Experience	12 months experience of relevant work
Formal Training	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
On Job Training	Issue/cancel LOA under Personal Supervision on at least 5 occasions
Refresher	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
Assessment	
Interview	System Operations Engineer

NOTE: Issue LOA's for Telecoms equipment.

Can, subject to training and experience, include:

- Pilot/telecom cable identification (including signal injection)
- Issue of LOA for jointing pilot/telecoms cables following identification.
- Issue of LOA for installation, splicing and maintenance of fibre optic cables.
- Removal of whitely box isolation links or patch links
- Isolation of fibre optic links

All subject to the approval of the **Control Engineer** when necessary

Does not allow for issue of LOA's in sites with exposed HV conductors (LOA to be issued by a suitably authorised SAP)

346	<p>Authorised Person to issue/cancel of Limitations of Access for work on:- Telecomms equipment (excluding connections to HV apparatus), including/excluding* jointing pilot/telecomms cables following identification including/excluding* installation, splicing and maintenance of fibre optic cables, including/excluding* provision of Safety Standby for such work and for work on pilot cables All subject to the approval of the Control Engineer when necessary</p>
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code Withdrawn – Authorisation now covered by Code 345.

For existing holders replace with Code 345 on Authorisation renewal.

347	Authorised Person to carry out local/remote switching for the sole purpose of testing and commissioning telecontrol outstations to actuators not connected to the system.
------------	---

Qualifications	Electricity North West Engineer/Technician + relevant substation access authorisation.
Experience	N/A
Formal Training	
On Job Training	Under personal supervision – site surveys and demonstrations by existing code holders Complete 10 secondary test/commissioning schemes on different types of switchgear under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	The trainee to complete a full test/commissioning scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
Interview	Nominated interviewer as per matrix with Ops support as required

NOTE: Allows for limited switching on the network to an actuator physically disconnected from plant. Can be for either staff working in the centre or in the field and therefore it is not a requirement to hold first aid or substation access. However if staff are field based they MUST have first aid and the appropriate sub access codes.

The switching to the simulated plant is with the approval of the **Control engineer** but NOT to the instruction of the **Control engineer**.

348	Authorised Person at <-> substation to operate ENW' <-> kV <-> switch to the specific instructions of Electricity North West Control Engineer
------------	---

Qualifications	Written declaration from employer to confirm employee's training and experience satisfies Electricity at Work Regulations
Experience	
Formal Training	
On Job Training	Operation of specified switchgear
Refresher	
Assessment	On site by Systems Operations Engineer
Interview	System Operations Engineer

349	Authorised Person to switch off and on SEF and AR protection systems on Polarr relays connected to GVRs to the instruction of the Control Engineer
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code Withdrawn – Authorisation now covered by Code 344.

For existing holders replace with Code 344 on Authorisation renewal.

350	<p>Authorised Person to carry out work on telecontrol centres and outstation equipment subject to the approval of the Control Engineer</p> <p>To carry out switching operations to simulated plant at substation sites with all Telecontrol Klippon links to all primary plant isolated</p>
------------	---

Qualifications	Electricity North West Engineer/Technician + relevant substation access authorisation.
Experience	N/A
Formal Training	
On Job Training	Complete 10 Primary and 10 secondary test/commissioning installations Under Personal Supervision
Refresher	
Assessment	The trainee to complete a full installation scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
Interview	Nominated interviewer as per matrix with Ops support as required

NOTE: Allows for limited switching on the network to a simulator box. Can be for either staff working in the centre or in the field and therefore it is not a requirement to hold first aid or substation access. However if staff are field based they **MUST** have first aid and the appropriate sub access codes. If work is above the ACD then pole top rescue is required.

The switching to the simulated plant is with the approval of the **Control engineer** but NOT to the instruction of the **Control engineer**.

Does not allow for switching with the actuator disconnected from the switchgear – Code 347 required for this.

351	Authorised Person to issue/cancel Limitation of Access for Civil Works only (excluding sites with exposed HV conductors)
------------	--

Qualifications	Civil Trades Supervisor
Experience	12 months experience of relevant work activity
Formal Training	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
On Job Training	Issue/cancel LOA under Personal Supervision on at least 5 occasions
Refresher	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
Assessment	
Interview	System Operations Engineer

NOTE: Issue of LOA is for Civil Trades work only and does not include for the issue of LOA's for cable laying in s/s compounds (this requires Code 339 or SAP authorisation).

352	Senior Authorised Person on the 33kV and associated lower voltage system
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Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months of regular operating practice (33kV AP)
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

353	Authorised Person to operate on systems up to 11/6.6kV
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Qualifications	LV Authorisation OR Contractors electrical engineer with DNO experience at 11/6.6kV
Experience	Minimum 6 months of regular operating practice
Formal Training	ENG/EO345 - System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

354	Authorised Person to receive/clear a SFT on the 11/6.6kV system for testing purposes only and excludes work permitted under the SFT allowed by Explanatory Note No. 26
------------	--

Qualifications	HV Authorisation
Experience	Minimum 6 months of regular operating practice
Formal Training	
On Job Training	SFT receipt, testing and clearance carried out under Personal Supervision on at least 10 occasions
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

355	Authorised Person to receive/clear a Sanction for Test on the 33/132kV system for testing purposes only and excludes work permitted under the SFT allowed by Explanatory Note No. 26
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Qualifications	HV Authorisation
Experience	Minimum 6 months of regular operating practice
Formal Training	
On Job Training	SFT receipt, testing and clearance carried out under Personal Supervision on at least 10 occasions
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

356	Senior Authorised Person on systems up to 11/6.6kV
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months of regular operating practice (11kV AP) OR SAP with other DNO Authorisation
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

357	Senior Authorised Person on the 132kV and associated lower voltage system
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months of regular operating practice (132kV AP)
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation OR ENG/EO347 if already SAP at lower voltage. See Appendix E7 for authorisation of Contractors SAP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

358	Senior Authorised Person and Control Engineer on systems up to 11/6.6kV including telecontrol operation
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Option 1 – Field Staff

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	SAP/FCE at 11/6.6kV with minimum of 12 months of regular operating practice
Formal Training	
On Job Training	Minimum of 10 days of daytime duty under Personal Supervision Minimum of 20 days of daytime duty under Immediate Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer or nominated deputy.

Option 2 – Network Management Hub Staff

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	
Formal Training	ENG/EO345 - System Operations and Control THEN ENG/EO300 - System Operations Prior to Senior Authorisation
On Job Training	Minimum 10 days on job (Control) under Personal Supervision AND 10 days on-job (Field) as Authorised Person under Personal Supervision, for field appreciation THEN (following EO300 course) Minimum 20 working days on job (Control) under Immediate Supervision AND 10 days on-job (Field) as Senior Authorised Person under Personal Supervision for field appreciation
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer or nominated deputy.

359	Authorised Person to fit bird flight diverters to live 11/6.6kV overhead lines in accordance with CP423 Section 1, Procedure 08/20 to live 11/6.6kV overhead lines from ground level.
------------	---

Qualifications	
Experience	Minimum 12 months experience as overhead linesperson Code 132
Formal Training	Modular training
On Job Training	
Refresher	
Assessment	Assessment by a Electricity North West appointed assessor eg Electricity North West TC overhead line training staff
Interview	

NOTE: This is for work from ground level. Code 399 refers to application from the pole.

360	Field Control Engineer on systems up to 11/6.6kV
------------	--

Qualifications	Senior Authorisation at 11/6.6kV with Field Control on pre-arranged work (Code 361)
Experience	Minimum of 6 months of regular operating practice as an 11kV SAP and FCE limited to pre-arranged work
Formal Training	Previously completed for Senior Authorisation
On Job Training	Completion of a minimum of 10 Field Control switching programmes for pre-arranged work
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires 11/6.6kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

361	Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only)
------------	--

Qualifications	Senior Authorisation at 11/6.6kV
Experience	Minimum 6 months of regular operating practice as SAP before starting on-job training module
Formal Training	Previously completed for Senior Authorisation
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires 11/6.6kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

362	Authorised Person to operate on the 33kV and associated lower voltage system
------------	--

Qualifications	Electricity North West electrical craft/engineering training OR Contractors electrical engineer with DNO experience at 33kV
Experience	
Formal Training	ENG/EO347 - 33/132kV System Operations and Control (or EO346) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

363	Authorised Person to operate on systems up to 33kV
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Qualifications	Minimum Authorised Person up to 11/6.6kV OR Contractors electrical engineer with DNO experience at 33kV
Experience	Minimum 6 months of regular operating practice at previous level
Formal Training	ENG/EO347 - 33/132kV System Operations and Control (or EO346) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

364	Authorised Person to operate on the 11/6.6kV system, to a planned switching programme, for moving open points for the sole purpose of testing and commissioning telecontrol outstations
------------	---

Qualifications	Substation access authorisation Hold Code 347 for a minimum of 6 months
Experience	At least 12 months in electrical fitting/engineering and/or database management.
Formal Training	ENG/EO345 – System Ops and Control (for Telecoms staff)
On Job Training	Completion of on-job modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer plus CAG Assessment
Interview	System Operations Engineer

NOTE: Excludes the application of Safety Locks and the Posting of Caution & Danger Notices

365	Senior Authorised Person and Control Engineer on the 33kV systems and associated lower voltages, including telecontrol operation
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Must hold code 358
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation ENG/EO347 - 33/132kV System Operations & Control
On Job Training	Minimum 10 working days on-job (Control) under Personal Supervision AND On-job (Field) as Authorised Person under Personal Supervision, for field appreciation as determined by the Electricity Control Manager Minimum 20 working days on-job (Control) under Immediate Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer or nominated deputy.

366	Senior Authorised Person on systems up to 33kV
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months of regular operating practice (11kV & 33kV AP)
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

367	Senior Authorised Person and Control Engineer on the 132kV systems and associated lower voltages, including telecontrol operation
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Must hold codes 358 and 365
Formal Training	ENG/EO300 - System Operations Prior to Senior Authorisation ENG/EO347 - 33/132kV System Operations & Control
On Job Training	Minimum 10 working days on job (Control) under Personal Supervision AND On-job (Field) as Senior Authorised Person under Personal Supervision, for field appreciation as determined by the Electricity Control Manager Minimum 3 months on-job (Control) under Immediate Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	System Operations for non Electricity North West staff
Interview	System Operations Engineer or nominated deputy.

368	Authorised Person to issue/cancel Limitation of Access for vegetation control only in sites with exposed HV Conductors
------------	--

Qualifications	Technical Supervisor / Project Engineer
Experience	Electrical background with relevant experience of working in sites with exposed HV Conductors (Code 200) for at least 1 year
Formal Training	SM12 – Vegetation Control in Exposed HV Conductor Compounds
On Job Training	Issue/cancel LOA on 3 occasions under Personal Supervision
Refresher	
Assessment	
Interview	System Operations Engineer

NOTE: Staff to identify safe Working and Access Clearances and issue LOA for vegetation control work only

369	Field Control Engineer on the 33kV system
------------	---

Qualifications	Senior Authorisation at 33kV
Experience	Minimum of 6 months experience
Formal Training	
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires SAP Authorisation Code 352 or Code 366

SAP Code to be added to existing holders on Authorisation renewal

370	Senior Authorised Person and Field Control Engineer on systems up to 33kV
------------	---

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available, use 306 or 369 – existing holders keep authorisation

371	Work involving NGC and MANWEB staff shall be subject to their Safety Rules
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available – integral part of Code 367. Existing holders can keep authorisation.

372	Authorised Person to operate on the 132kV and associated lower voltage system
------------	---

Qualifications	
Experience	Electricity North West electrical craft/engineering training OR Contractors electrical engineer with DNO experience at 132kV
Formal Training	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

373	Authorised Person to operate on systems up to 132kV
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Qualifications	
Experience	Minimum Authorised Person up to 33kV OR Contractors electrical engineer with DNO experience up to 132kV Minimum 6 months of regular operating practice
Formal Training	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

374	Authorised Person to carry out manual switching at Dickinson Street 132kV and Primary substations only
------------	--

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available - Existing holders keep authorisation.

375	Limited Senior Authorised Person and Class Control Engineer for Class Operations
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 12 months as an 11/6.6kV control engineer (Code 358)
Formal Training	
On Job Training	Minimum of 6 (Class Transformer) outages under Personal supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	Electricity Control Manager or Nominated Deputy

NOTE: Allows for 11kV **control engineer** to carry out limited 33kV switching for the purposes of class operations.

Includes:-

- Making dead and isolation of 33kV transformer feeders via 33kV circuit breakers and 11/6.6kV CBs, may include inter-connectors if teed.
- Making taps non-auto/ auto and adjusting as required
- Dressing 33kV transformer feeder circuit breakers as **isolated**
- Endorse and approve CLASS switching programmes

376	Senior Authorised Person on systems up to 132kV
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Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	HV authorisation up to 132kV OR SAP on systems up to 33kV OR Contractors electrical engineer with DNO experience on systems up to 132kV Minimum 6 months of regular operating practice
Formal Training	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Evidence to be assessed by Systems Operations Engineer
Interview	System Operations Engineer

377	Authorised Person at 33kV and associated lower voltage system limited to CLASS AVC Replacement Work. Authorised to work to a Planned Switching Programme (with all circuit breaker open/close operations carried out by the Control Engineer) and issue/cancel LOA's for CLASS replacement work
------------	---

Qualifications	Either SAP at 11kV (internal/external) or 33kV SAP (external) OR Protection Commissioning Engineer (HNC) and LOA receiver
Experience	11kV or 33kV SAP for 6 months minimum OR relevant Protection/AVC Commissioning experience with codes 102 & 166 held for 6 months minimum
Formal Training	
On Job Training	Complete a minimum of 3 x CLASS/AVC Replacement schemes under personal supervision. Complete 1 x CLASS/AVC replacement scheme as an assessment under personal supervision All Training Elements listed in the notes below to be covered to the satisfaction of the On Job Mentor
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	The trainee to complete a full CLASS/AVC replacement scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
Interview	An interview to be undertaken by a member of the CLASS team other than the On Job Mentor The Interviewer to be approved by System Operations

See notes on next page.

NOTE: It is proposed to be a single authorisation code but with different entry routes to achieving the code. One for existing 11kV or external 33kV SAPs and the other route for experienced Protection Commissioning Engineers (as assessed by On Job Mentor)

It is proposed that the Authorised person under this code should complete the following training elements:

- Write 33kV switching programs - To open/close Primary transformer 33kV and 11kV CBs ONLY BY TELECONTROL (NO ISOLATION)
- Operate to switching program in co-ordination with Control
- CP606 S30 Pre-Outage checks
- Tap Transformer and control AVC scheme (If not already authorised to do so)
- Isolate VT and disable Closing
- Shorting the LDC CT
- Isolate tap change LV supplies,
- Identify and confirm AC & DC wiring to be worked on and that remaining in service, make dead or apply tape and/or shroud as appropriate
- Isolate telecontrol alarms/controls via links,
- Make alarm supplies dead
- Apply **Danger** and Caution Tape as appropriate
- Issue LOA
- Use of Safety Lock and Lock Boxes

378	Senior Authorised Person on the 132kV and associated lower voltage Transformer breakers limited to Substation Plant only
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Previous SAP up to 400kV for Substations with National Grid
Formal Training	ENG/EO416 System operations SAP Conversion Course
On Job Training	Completion of a specific on job training programme agreed with System Operations/The Academy covering use of switching programmes and operation of Grid Transformer associated equipment.
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG test and evidence asses by 132kV SAP
Interview	Academy Nominated Person

NOTE: Any LSAP who are required to convert to AP or full SAP are required to follow the formal training as set out in various codes

379	Field Control Engineer on the 132kV system
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Qualifications	Senior Authorisation at 132kV
Experience	Minimum of 6 months of regular operating practice as 132kV SAP
Formal Training	
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires 132kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal.

380	Senior Authorised Person and Field Control Engineer on systems up to 132kV.
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available – existing holders to retain

381	<p>Authorised Person on the BNFL system for the purpose of the operational tasks detailed below:</p> <p>To carry out remote operation of 11kV circuit breakers, under Electricity North West control at Works Substation 9, Sellafield, from substation 9 Control Room to the instructions of the Electricity North West Control Engineer</p>
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Qualifications	Written declaration from employer to confirm employee's training and experience satisfies Electricity at Work Regulations
Experience	
Formal Training	
On Job Training	Experience on specified switchgear
Refresher	
Assessment	On-job by mentor
Interview	System Operations Engineer

382	<p>Authorised Person on the BNFL system for the purpose of the operational tasks detailed below:</p> <p>To carry out operation of 11kV circuit breakers, under Electricity North West control, at Works Substation 9 & 11 at Sellafield, from Works 9 Control Room, to the instructions of the Electricity North West Control Engineer</p> <p>To carry out isolation and earthing of the 11kV switchgear at Works Substation 9 & 11 at Sellafield, from Work 9 Control Room, to the instructions of the Electricity North West Control Engineer</p>
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Qualifications	Written declaration from employer to confirm employee's training and experience satisfies Electricity at Work Regulations
Experience	
Formal Training	
On Job Training	Experience on specified switchgear
Refresher	
Assessment	On-job by mentor
Interview	System Operations Engineer

383	Authorised to issue/cancel LOA for work on 33kV gas cable feeding systems
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum 6 months regular operating practice at 33kV AP
Formal Training	Understanding of the operation of the 33kV cable gas systems
On Job Training	Trained on procedures for work on gas assisted networks
Refresher	ENG/EO310 System Operations Refresher (course only)
Assessment	Transmission plant engineer SAP
Interview	System Ops or Nominated Engineer

NOTE: Allows for AP to issue LoAs for the specified work.

384	Authorised Person to carry out Live Tank Oil Sampling (LTOS)
------------	--

Qualifications	11/6.6kV Authorised Person
Experience	Minimum 12 months regular operating practice as 11/6.6kV AP
Formal Training	None
On Job Training	Carry out 2 samples on site with current code 384 holder
Refresher	None
Assessment	None
Interview	None

NOTE: Sampling in accordance with CP606 Procedure S43

385	For Ferranti Engineers to work on Ferranti Tapchangers only on Grid and Primary Transformers
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Qualifications	Minimum Electrical City & Guild - level 2 (or equivalent)
Experience	Demonstrate experience of working on all variants of Ferranti tapchangers on Grid and Primary Transformers. Hold substation access at the appropriate level
Formal Training	1st aid training
On Job Training	On-job training under Personal Supervision of Refurbishment /replacement work on Ferranti tap changers.
Refresher	H200CA – Electrical Competency Accreditation
Assessment	Transmission plant engineer
Interview	System Ops or Nominated Engineer

NOTE: Must hold Code substation access to the appropriate level.

Includes:

- Maintenance, Refurbishment, Replacement work on the specified Ferranti equipment.

Also requires Code 195 for receipt of PTW / LOA.

This code is ONLY to be used for existing experienced Ferranti trained staff.

386	<p>Authorised Person on the BNFL system for the purpose of the operational tasks detailed below:</p> <p>To carry out remote operation of 11kV circuit breakers, under Electricity North West control, at Calder substation from the Calder Control Room to the instructions of the Electricity North West 132kV Control Engineer</p>
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Qualifications	Written declaration from employer to confirm employee's training and experience satisfies Electricity at Work Regulations
Experience	
Formal Training	
On Job Training	Experience on specified switchgear
Refresher	
Assessment	On-job by mentor
Interview	System Operations Engineer

387	
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

388	Authorised Person to switch on the Operational Training system at Electricity North West TC with the primary system dead and with/without secondary simulation. All operations to be carried out to the instructions of the Electricity North West TC Control Engineer
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available

389	Senior Authorised Person limited to the System Operation Training area at Electricity North West TC
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available

390	Authorising Engineer
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Qualifications	Electrical Engineer
Experience	Minimum of 2 years relevant experience Must hold ENWL AP / SAP Authorisation
Formal Training	
On Job Training	Conduct interviews under supervision of Authorising Engineer
Refresher	As required to retain Operational Authorisation
Assessment	
Interview	Designated Engineer or Nominated Deputy

NOTE: Can carry out authorisation interviews, in accordance with CP614, up to and including the level of authorisation held

391	Senior Authorised Person to issue/cancel Limitation of Access
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code withdrawn – Existing holder to retain

392	Senior Authorised Person, including the duties of Control Engineer, limited to the System Operation Training area at Electricity North West TC
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available

393	Senior Authorised Person to interview and issue temporary Authorisation to Electricity North West staff and Contractors for operation under Personal Supervision of a Senior Authorised Person on an authorised training course in the System Operation Training area at Electricity North West TC
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available

394	Authorised Person (for Fault Restoration Switching only)* at 11/6.6kV, limited to opening/closing switches and circuit breakers, to the instructions of the Control Engineer (excludes posting of Caution Notices)
------------	--

Qualifications	Electrical craftsperson holding codes 315, or 315 & 396
Experience	6 months regular operating practice under code 315
Formal Training	ENG/EO1155 - HV Switching (Service Electricians)
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: * Delete “for Fault Restoration Switching only” when code issued under **Personal Supervision** to enable training on planned work.

When code issued in full must include “for Fault Restoration Switching only” excludes posting of Caution Notice.

395	Senior Authorised Person up to and including 11kV, limited to overhead lines, including operating ground mounted switchgear
------------	---

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	

NOTE: Authorisation code no longer available – existing holders retain.

Now need Code 353 for operation of ground mounted switchgear (and need to attend the EO345)

396	Limited Authorised Person - Fault Restoration Switching only at 11/6.6kV limited to opening/closing switches (excludes circuit breakers and overhead switches), under the instructions of the Control Engineer (excludes posting Caution Notices and application of Safety Locks) excludes field control
------------	--

Qualifications	Competent Person
Experience	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience AND Hold Substation access code 201 minimum
Formal Training	ENG/EO345 – System Operations and Control OR ENG/EO1156 (HV switching only) OR ENG/EO1155 – HV switching (Fault Technician)
On Job Training	Completion of EO1156 or EO345/EO1155 on-job training modules under personal supervision (10 operations minimum on a variety of switches)
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	Initial assessment by HV Authorised Person then on site/training academy assessments every 6 months for infrequent operators AND CAG
Interview	System Operations Engineer

397	Senior Authorised Person up to and including 11kV, limited to overhead lines, excluding operating ground mounted switchgear
------------	---

Qualifications	Overhead lines craftsperson
Experience	Minimum of 6 months regular operating practice HV AP to operate pole mounted switchgear (Code 330)
Formal Training	ENG/EO1129 Introductory course for LSAP linesperson FOLLOWED BY modular on-job training, FINALLY ENG/EO1130 Linesperson LSAP
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Need authorisation Code 353 for operation of ground mounted switchgear.

398	Authorised Person to carry out Red Band Working in accordance with CP606 Procedure A12
------------	--

Qualifications	Electricity North West craft training
Experience	Minimum 12 months experience as overhead linesperson
Formal Training	Modular training
On Job Training	
Refresher	
Assessment	Assessment by Electricity North West Training Centre appointed assessor
Interview	Electricity North West craft training

399	Authorised Person to fit Fault Passage Indicators to live 11/6.6kV overhead lines in accordance with CP423 Section 1, Procedure 8/27
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Qualifications	Electricity North West craft training or equivalent
Experience	Minimum 12 months experience as overhead linesperson (Code 132)
Formal Training	OH015 – Fault Passage Indicator Training
On Job Training	
Refresher	
Assessment	Assessment by ENWTC appointed assessor
Interview	Electricity North West craft training or equivalent

NOTE: All fitting of Fault Passage Indicators from a pole requires operators to hold code 399.

Holders of Authorisation code 324 may fit Fault Passage Indicators using Rubber Glove Working from an IAD under their 324 code.

405	CNS 66kV Cable Jointing
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Qualifications	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Electricity North West HV Joints / Contractor 66kV Joints Minimum of 6 months of relevant jointing experience
Formal Training	66kV Manufacturers Jointing training
On Job Training	On job training under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation
Assessment	ED860AT Electrical Competency Accreditation
Interview	System Operations Engineer

NOTE: Also requires Code 195 for receipt of PTW / LOA

Includes jointing on all 66kV cables (including Gas / Oil assisted cables) subject to training and experience.

407	CNS Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only) (ground mounted switchgear only)
------------	---

Qualifications	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only) Code 410
Experience	Minimum 6 months of regular operating practice as CNS LSAP before starting on-job training module
Formal Training	Previously completed for Senior Authorisation
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

NOTE: Also requires LSAP Authorisation - code 410 on Authorisation

Code only for CNS engineers to work on COMA networks.

408	CNS Authorised Person to work on Customers private LV Network (pre-arranged work only)
------------	--

Qualifications	LV Authorisation OR CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
Experience	Minimum of 2 years electrical contracting experience OR approved technical apprenticeship scheme AND Hold ENWL Substation access code 202 (Distribution Substations)
Formal Training	
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	
Assessment	Practical Assessment on site by CNS manager
Interview	System Operations Engineer

NOTE: Code for CNS engineers to work on Customers private LV Network (pre-arranged work only).

The Network Shall be under a COMA agreement.

409	CNS Limited Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only)
------------	---

Qualifications	LV Authorisation OR CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent) OR Contractors engineer with DNO experience at 11/6.6kV
Experience	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience AND Hold Substation access code 201 minimum
Formal Training	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE: Code for CNS engineers to work on COMA networks only.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching.

410	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only)
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum of 6 months operating practice as either 11kV AP or code 409 holder
Formal Training	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE: Code only for CNS engineers to work on COMA networks.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching

411	ENECML Limited Authorised Person on the South Tees Network up to 66kV (pre-arranged work only)
------------	--

Qualifications	LV Authorisation OR CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent) OR Contractors engineer with DNO experience at 11/6.6kV
Experience	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience AND Hold Substation access code 201 minimum
Formal Training	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE: Code for CNS engineers working for ENECML to work on South Tees Network only.

412	ENECML Limited Senior Authorised Person on the South Tees Network up to 66kV (pre-arranged work only)
------------	---

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum of 6 months operating practice as either 11kV AP or code 409 holder
Formal Training	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE: Code for CNS engineers working for ENECML to work on South Tees Network only.

415	Limited Senior Authorised Person - Limited to plant maintenance up to 11kV on COMA networks having only one HV point of supply.
------------	---

Qualifications	Electrical Fitting craftsman authorised to receive safety documents
Experience	Minimum 2 years as craftsman on substation type work
Formal Training	ENG/EO1135 – Fitters Limited Senior Authorisation
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

NOTE: (Previous code 305)

Includes issue of LOA / PTW & SFT

Includes switching on Electricity North West equipment to release the COMA plant for work, Isolation of incoming supply and VT

(Excludes work in exposed LV and HV conductor sites and systems with LV interconnection or Electricity North West LV network connections)

416	LSAP limited to plant maintenance up to 11kV on COMA customers plant but excluding work in exposed LV and HV conductor sites and systems with LV interconnection or ENW LV network connections. Includes planned switching on ground mounted Electricity North West equipment to release the COMA plant for work.
------------	---

Qualifications	Electrical Fitting craftsman authorised to receive safety documents
Experience	LSAP Code 415 for minimum 6 months
Formal Training	ENG/EO1136 - Fitters Limited Senior Authorisation (ENWLCML)
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	On-job mentor
Interview	System Operations Engineer

NOTE:

Includes issue of LOA / PTW & SFT

1. LV authorisation not required
2. On job workbook to include switching on ENWL HV network

419	CNS Limited Authorised Person on systems at 6.6/11kV (ground mounted switchgear only)
------------	---

Qualifications	LV Authorisation OR City and Guilds level 2 (or equivalent) OR Contractors engineer with DNO experience at 11/6.6kV
Experience	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience AND Hold Substation access code 201 minimum
Formal Training	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE:

Code for CNS engineers to work on COMA networks only. Includes Control directed switching.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching.

420	CNS Limited Senior Authorised Person on systems at 6.6/11kV (ground mounted switchgear only)
------------	--

Qualifications	HNC in Electrical Engineering (or equivalent)
Experience	Minimum of 6 months operating practice as either 11kV AP or code 409 holder
Formal Training	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
On Job Training	Completion of relevant on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	CAG
Interview	System Operations Engineer

NOTE:

Code for CNS engineers to work on COMA networks only. Includes Control directed switching.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching

501	Contractor only - Tree cutting work adjacent to dead Overhead Lines up to 11kV under Supervision of an ENWL Safety Document holder OR an ENWL LV competent Person
------------	---

Qualifications	Must hold Tree Cutting competencies
Experience	Previous relevant Tree Cutting experience (12 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application
On Job Training	12 months Arborist experience assessed by Vegetation management trainer OR 5 Jobs completed to the satisfaction of the Site Supervisor and signed off.
Refresher	H200CA Electrical Competency Accreditation AND Annual on job assessment
Assessment	On site assessment by training mentor/supervisor
Interview	Vegetation Management Trainer

NOTE:

This code mirrors Code 184 for contractors without the Utility Arb Unit training.

Also allows for ground level work without climbing eg Brash clearance.

All work under a Safety Document held by suitably authorised team leader.

Refresher is via CAG and annual on site assessment.

502	Contactor Only – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
------------	--

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent
Experience	Previous relevant Tree Cutting experience (3 months) (as Labourer for example)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	n/a
Refresher	H200CA Electrical Competency Accreditation AND UA refresher training or CPD evidence every 3 yrs
Assessment	184 CAG assessment
Interview	System Operations Engineer / Vegetation Management

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.

503	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Ground based felling and pruning.
------------	--

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 3 jobs on site as team member under personal supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refresher or CPD evidence every 3 yrs AND NPTC / Lantra refresher training or CPD evidence including chainsaw maintenance (5 yrs)
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.
- Code 195 required for issue of safety documents.

504	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Aerial cutting from MEWP in line with competency / qualifications held
------------	---

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. Recognised MEWP qualification.
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 3 jobs on site as team member under personal supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refresher or CPD evidence every 3 yrs AND MEWP refresher AND Any competencies / qualification held
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.
- Code 195 required for issue of safety documents.

505	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Aerial cutting from Rope and Harness (Climbing Ops)
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Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) and NPTC CS 38 39 (0039-22 and 0039-23) or Lantra Equivalent
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 3 jobs on site as team member under personal supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refresher or CPD evidence every 3 yrs AND NPTC / Lantra refresher training or CPD evidence including chainsaw maintenance, aerial rescue and aerial cutting (5 yrs)
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.
- Code 195 required for issue of safety documents.

506	Contactor Only – Tree Cutting adjacent LIVE Overhead Lines up to 33kV with Insulated rods
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Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent.
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND VM0011 – Live Line Tree Cutting (ED1112) AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 5 jobs on site under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refresher or CPD evidence every 3 yrs
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer / Vegetation Management

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.

507	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 132kV - Ground based felling and pruning
------------	---

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. NPTC UA Assisted Tree Felling 0038-34 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND VM0011 – Live Line Tree Cutting (ED1112) AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 5 jobs on site under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refresher or CPD evidence every 3 yrs AND NPTC / Lantra refresher training or CPD evidence including chainsaw maintenance (5 yrs)
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer / Vegetation Management

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.

508	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 11kV – Aerial cutting from MEWP
------------	--

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. Recognised MEWP qualification.
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND VM0011 – Live Line Tree Cutting (ED1112) AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 5 jobs on site under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refreshers or CPD evidence every 3 yrs AND MEWP (5 yrs)
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer / Vegetation Management

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.

509	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (climbing Ops)
------------	---

Qualifications	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31 or Lantra Equivalent. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent. NPTC UA Aerial Pruning 0038-33. NPTC CS 38 39 (0039-22 and 0039-23) or Lantra Equivalent.
Experience	Previous relevant Tree Cutting experience (3 months)
Formal Training	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors AND VM0011 – Live Line Tree Cutting (ED1112) AND CC008a – Celox and Tourniquet Application or equivalent
On Job Training	Complete 5 jobs on site under Personal Supervision
Refresher	H200CA Electrical Competency Accreditation AND UA refreshers or CPD evidence every 3 yrs AND NPTC / Lantra refresher training or CPD evidence including chainsaw maintenance, Aerial Rescue, Aerial Cutting (5 yrs)
Assessment	On site assessment Academy Assessor
Interview	System Operations Engineer / Vegetation Management

NOTE:

- 1st Aid to include either +F or celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed or CPD evidenced for skill set to be used.
- All codes requiring use of chainsaw (ground or aerial) must include chainsaw maintenance in the refresher / CPD records.

515	Routine maintenance, repair and resetting of Sump Alarms
------------	--

Qualifications	Electrical Craftsperson - City & Guilds level 2 (or equivalent)
Experience	Substation access authorisation (Code 200 or 201)
Formal Training	
On Job Training	On-job training under Personal Supervision
Refresher	
Assessment	
Interview	System Operations Engineer / Nominated Engineer

NOTE: Includes, subject to training and experience:

- Sump pump Isolation from a distribution board
- Sump pump Isolation from and access to a Marshalling kiosk (X56 key)
- Sump pump maintenance
- Sump pump fault repair
- Sump pump Alarms resetting

Excludes work on tails connected to live LV bus-bars

519	Replacement of single phase all insulated cut-outs only (live working) including looped cut outs
------------	--

Qualifications	Electrical City & Guilds level 2 (or equivalent)
Experience	Electrical craftsman holding Code 119 for a minimum of 6 months
Formal Training	LVJ014 - REPLACEMENT OF INSULATED SINGLE PHASE CUT OUTS - LIVE WORKING - PLASTIC CUT-OUTS ONLY - ENWS ONLY (LVJ05)
On Job Training	On-job training under Personal Supervision with a minimum of 6 looped cut-outs changed (3 PVC/PVC, 3 PILC/PILC)
Refresher	H200CA Electrical Competency Accreditation
Assessment	On job Assessment
Interview	System Operations Engineer

NOTE:

Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working.

Understanding the risks associated with looped cut outs and testing required.

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only

Interview to determine understanding of risk assessments and requirements of live working. Must understand there is always the option to carry out work dead by authorised jointers.

525	Use of a sniffer device for the location of LV underground faults.
------------	--

Qualifications	
Experience	Competent Person for 3 months
Formal Training	NRSWA 003 for ENW Operatives or SW1 – street works qualification for contractors
On Job Training	A minimum of 5 completed sniff jobs in separate locations under Personal Supervision – Demonstrating a full understanding of the use of the cable sniffing device. The final job to be completed as an assessment under Personal Supervision to the satisfaction of the on job trainer.
Refresher	NRSWA RF01 – NRSWA refresher training course for operatives
Assessment	The trainee to complete a full sniff location without assistance under the Personal Supervision and to the satisfaction of the On Job Trainer.
Interview	System Operations Engineer

NOTE:

The holder **Shall** be able to demonstrate the use of the CAT and show a full understanding of mains records.

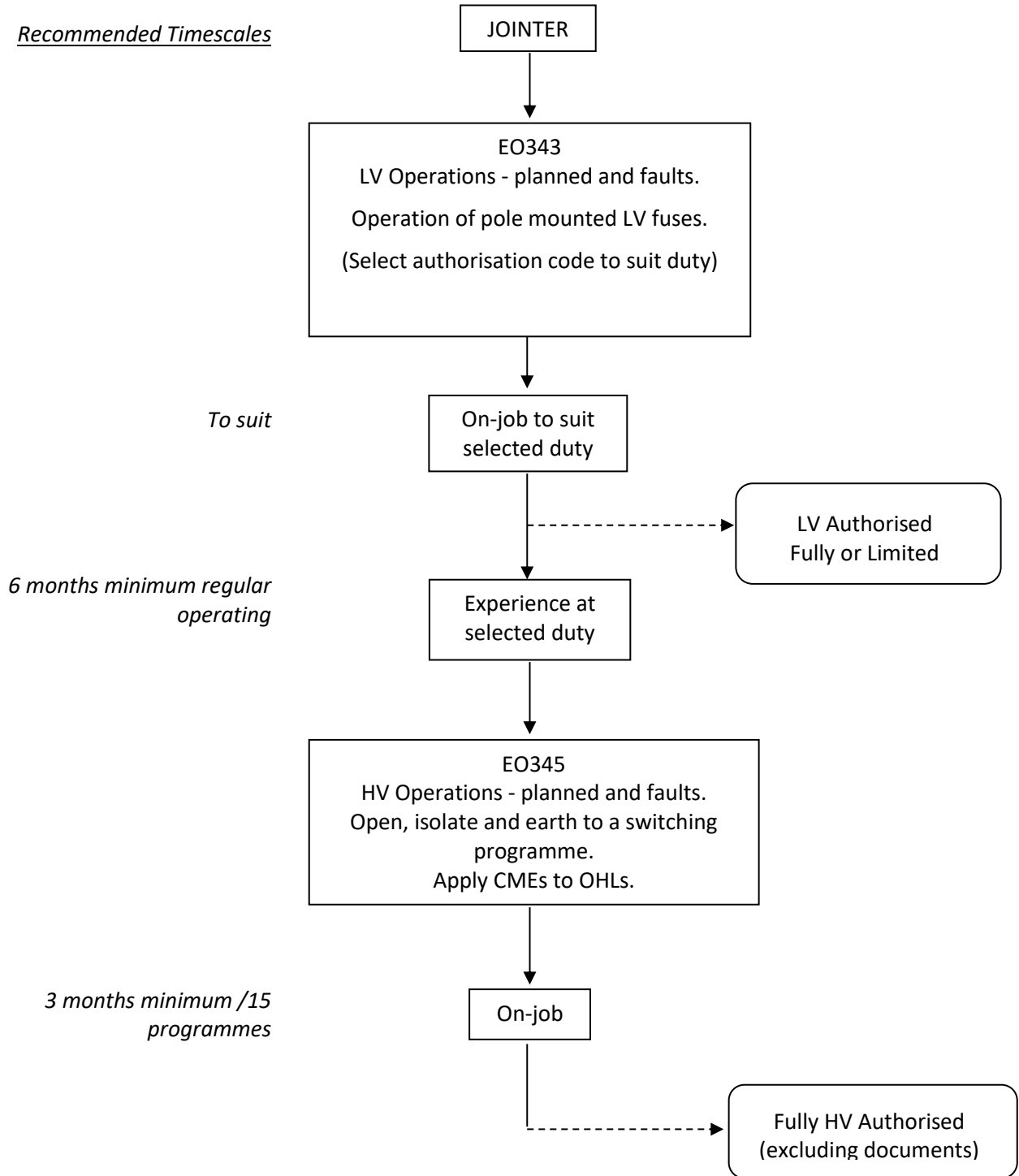
There is no requirement to disable any auto reclose features on the circuit and hence substation access and operational codes are not required.

Authorisation not required for staff holding full LV and LV underground codes 315 and 320 respectively.

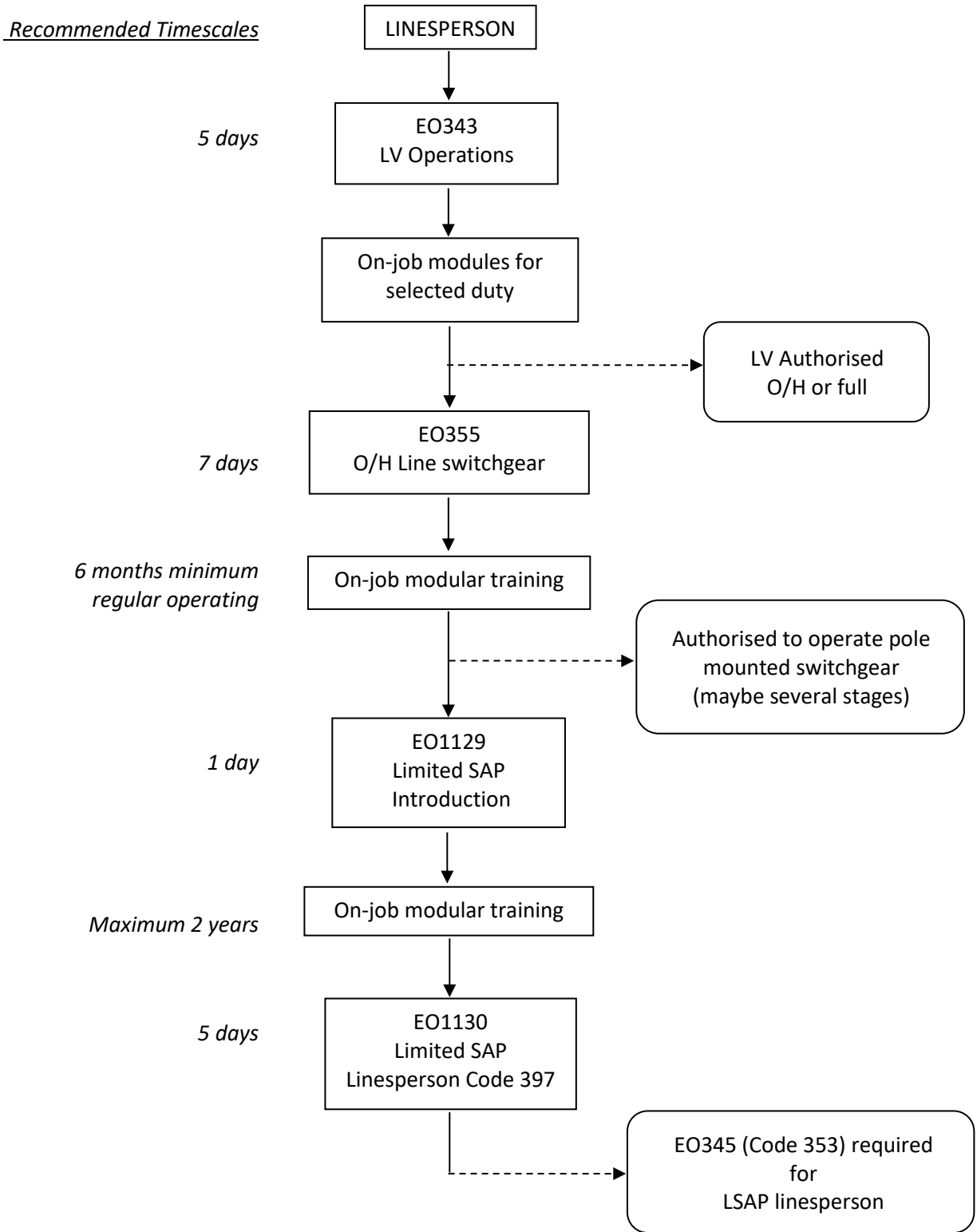
Appendix E – Authorisation Routes

E.1 Authorisation Route for Jointers (Progression to AP)

Recommended Timescales

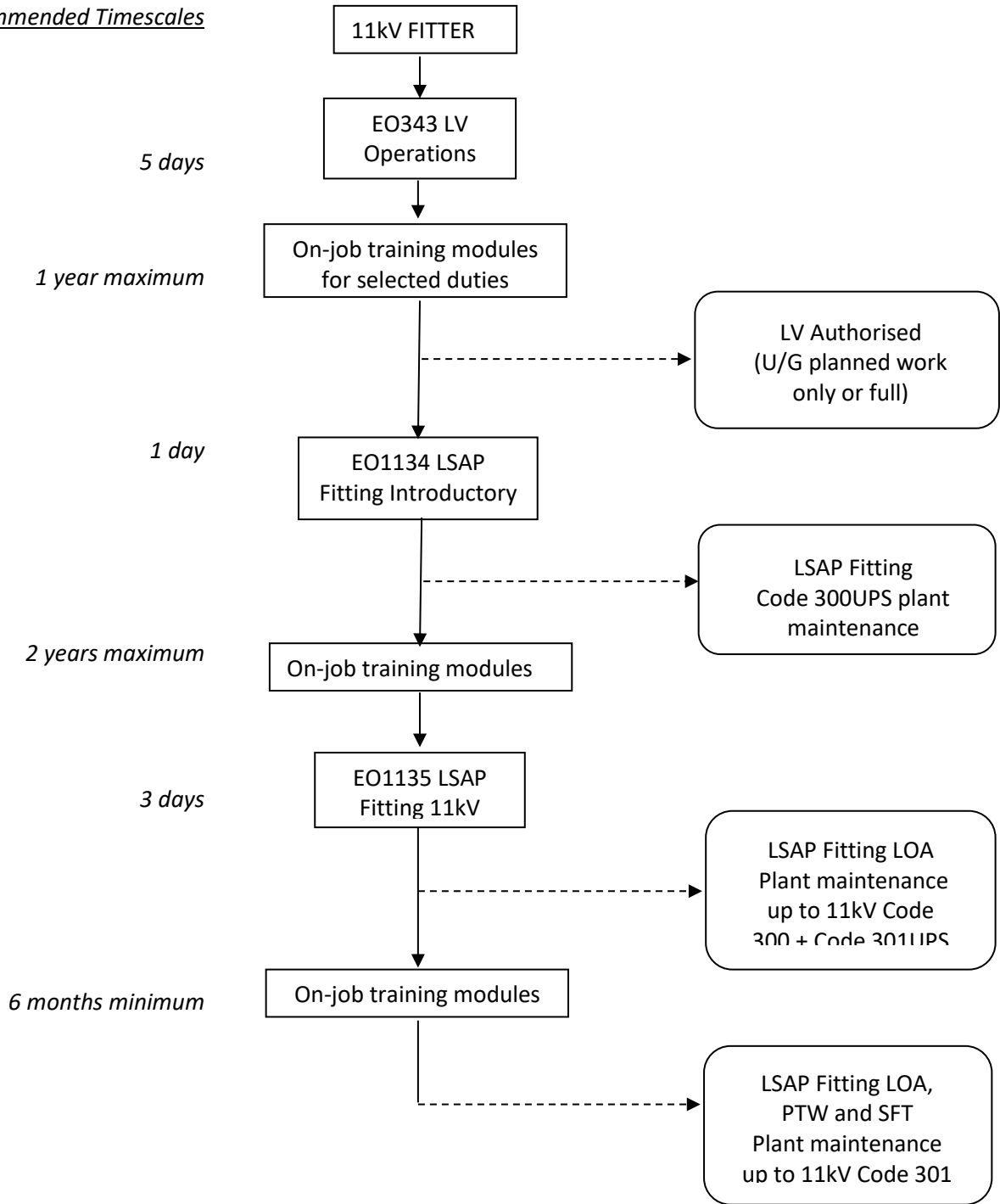


E.2 Authorisation Route for Linesperson (Progression to AP/LSAP)



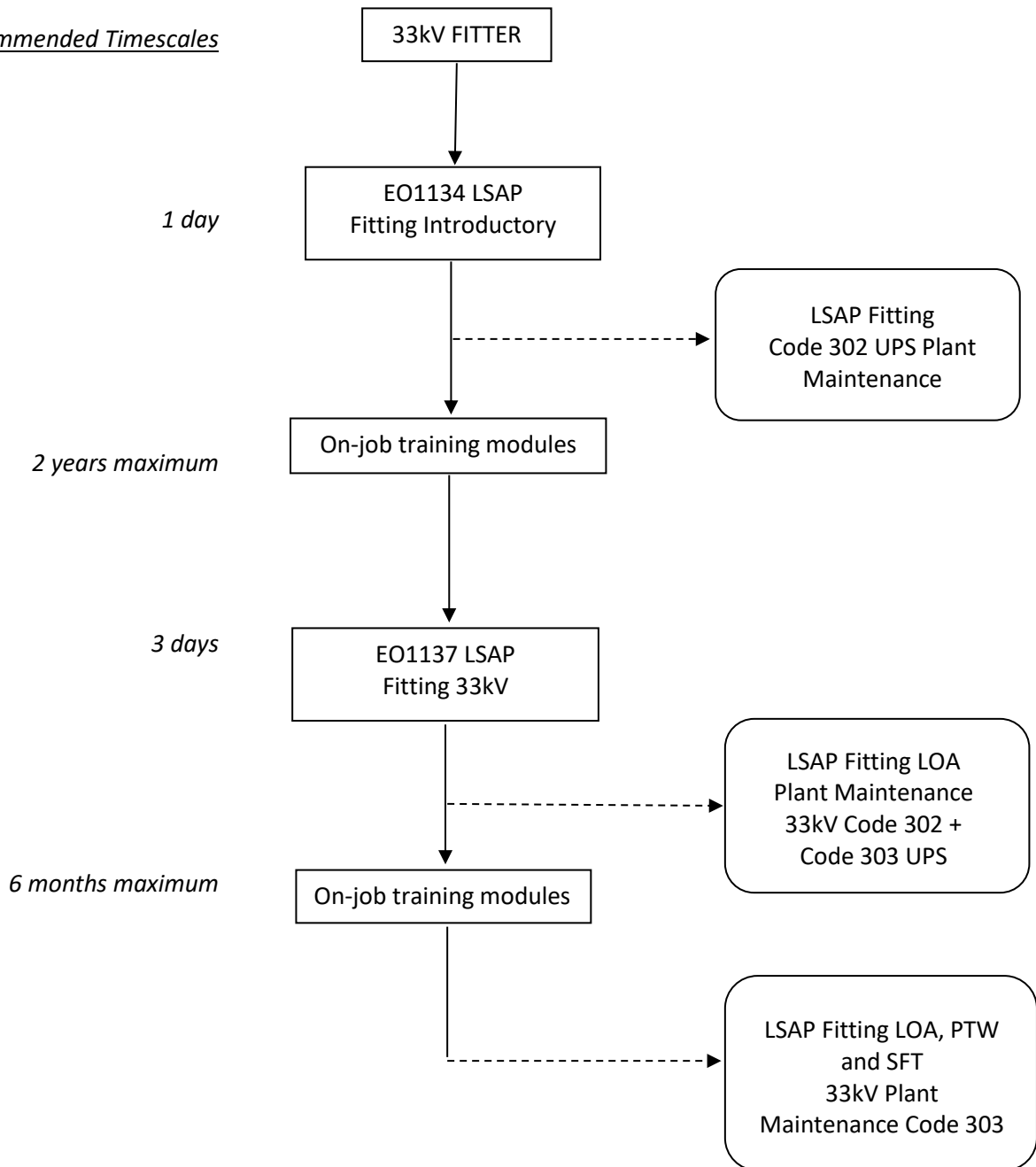
E.3 Authorisation Route for 11kV Fitters (Progression to AP/LSAP)

Recommended Timescales

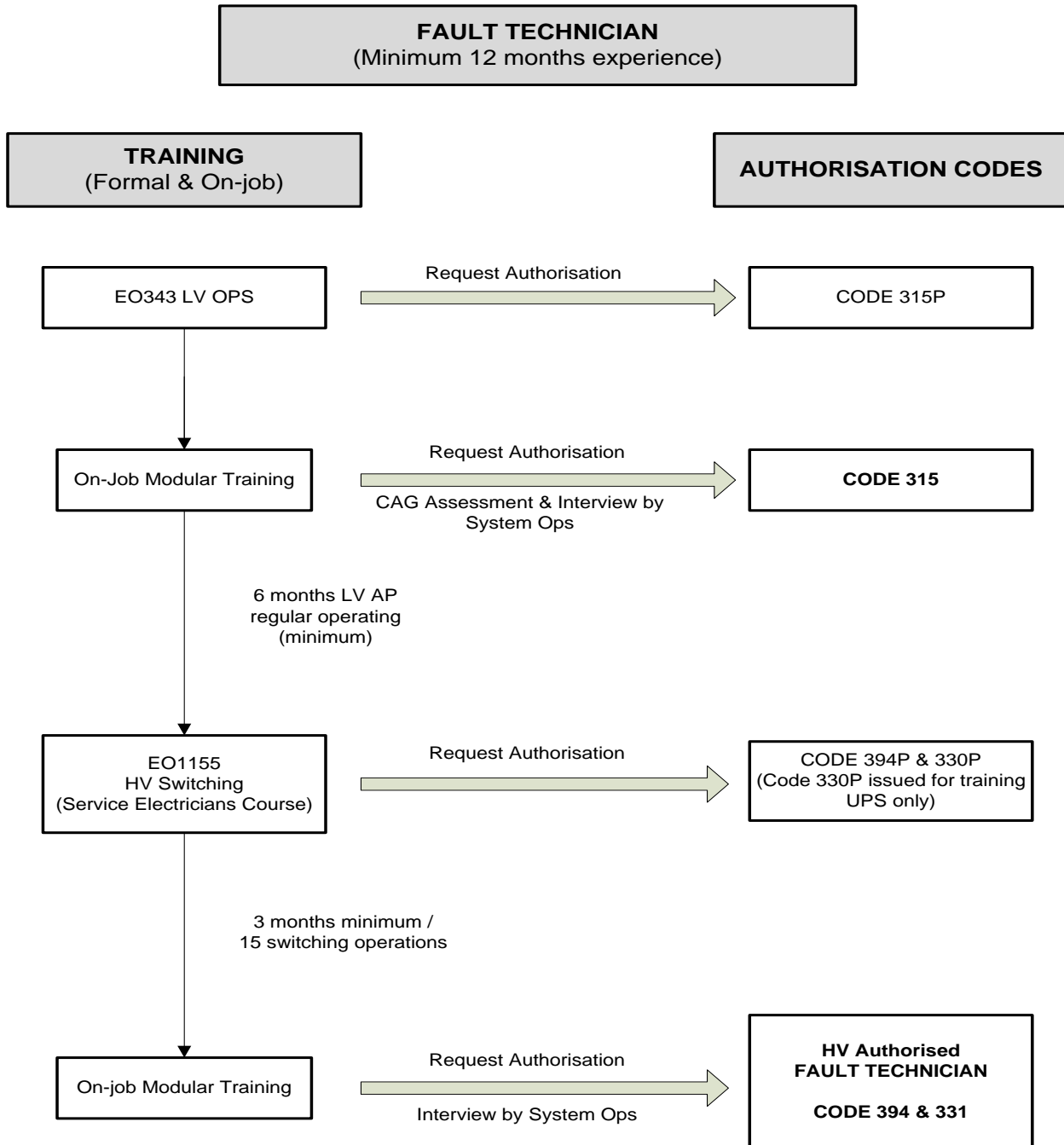


E.4 Authorisation Route for 33kV Fitters (Progression to AP/LSAP)

Recommended Timescales



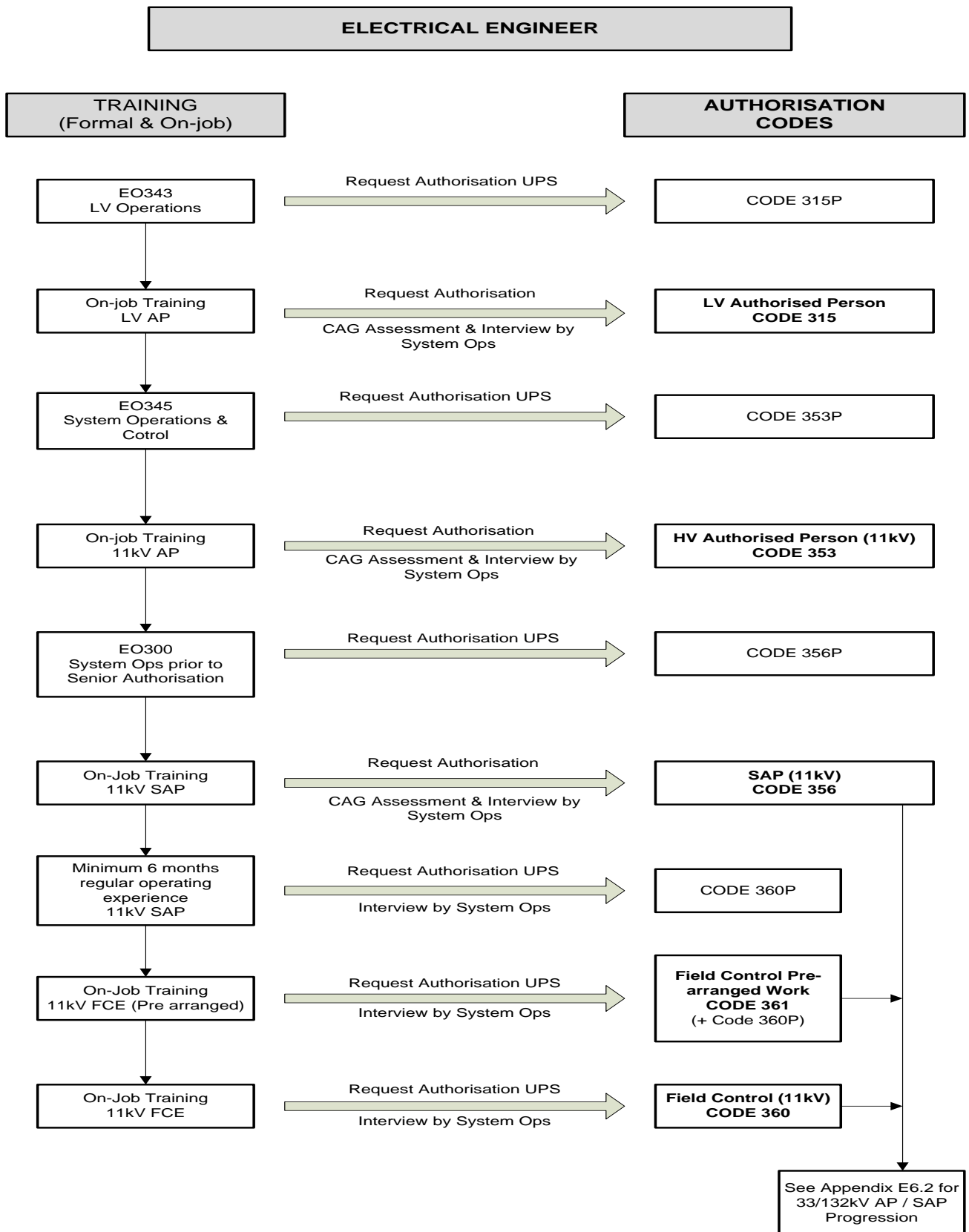
E.5 Authorisation Route for Fault Technicians (Progression to AP)



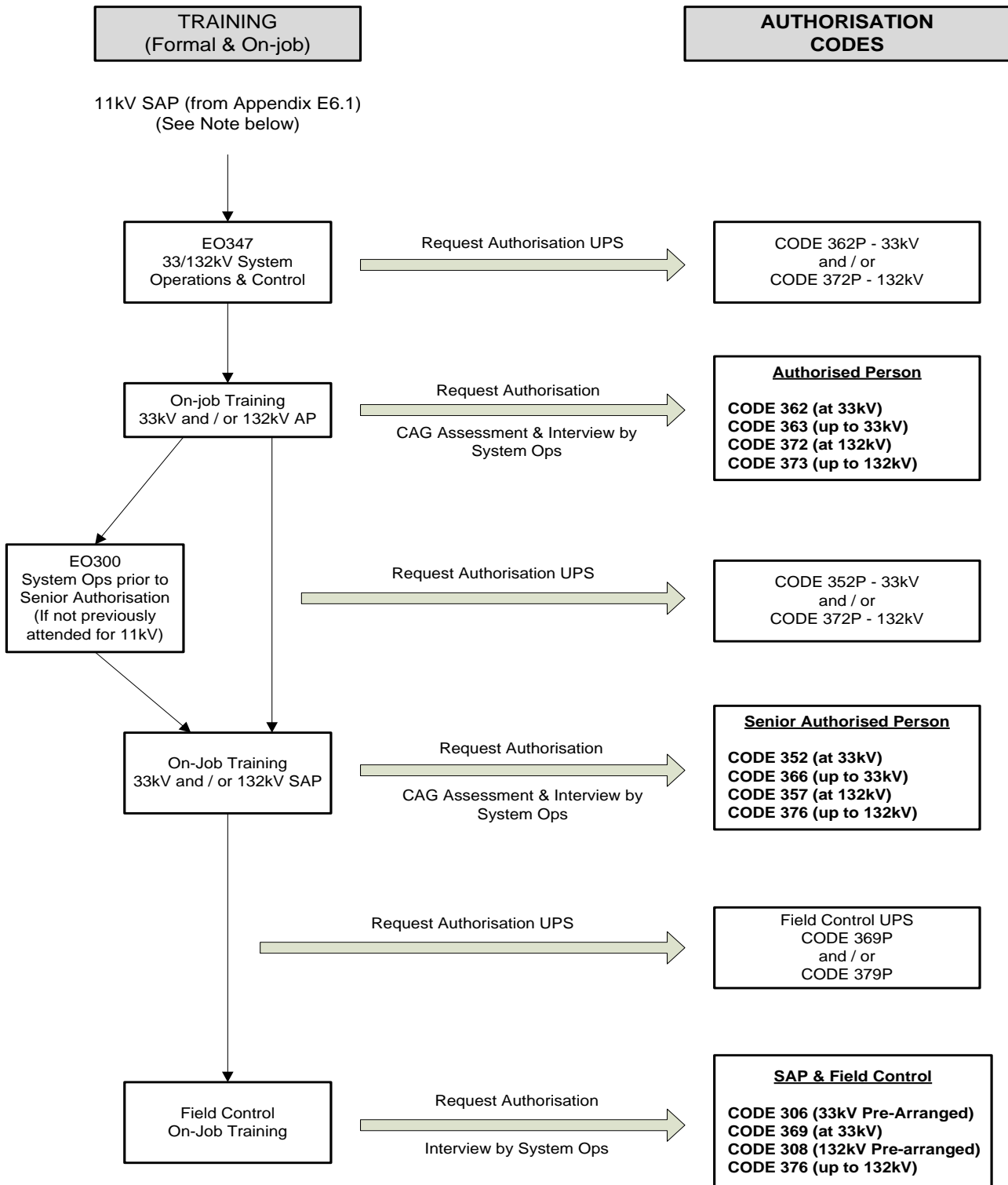
Note

Code 331 & Code 394 excludes the posting of a Caution Notice

E.6 Authorisation Route for 11kV Engineers



E.7 Authorisation Route for Engineers (33kV/132kV Progression)



NOTE

Can subject to agreement come in at 33/132kV level without having LV or 11kV Authorisation / background

E.8 Authorisation Route for Contractor's Authorised Person

E.8.1 General

A contractor's employee may be issued with levels of authorisation as outlined in the authorisation profiles in this Code of Practice. In the case of authorising Contractor's employees, it is recognised that the experience and knowledge of the employees will vary on a candidate basis. Consequently, the training and on-job training and/or familiarisation will need to be specific to the needs of the candidate

The authorisation process will generally fall into the following main stages:

- (i) Pre-assessment questionnaire
- (ii) Pre-training/authorisation assessment
- (iii) Training (formal and on-job)
- (iv) Authorisation interview
- (v) Issue of Authorisation

The process is based on an assessment of the candidate to determine the knowledge and experience of the candidate concerned and therefore identify the formal and on job training that is required. Following a satisfactory authorisation interview, the candidate will be appropriately authorised (eg SAP, AP) for a period of up to 3 years or the length of the contract as appropriate. The training and experience of the contractor's employee will influence the training required.

It is anticipated that there will be two or three suitable training courses available and the appropriate one should be selected following a 'pre-training and authorisation' assessment with the System Operations Engineer. The purpose of this initial assessment is to identify:

- (i) Knowledge of the Distribution Safety Rules (if candidate is from another DNO, does/did that DNO use the National Model Rules?)
- (ii) Knowledge of the Statutory Legislation
- (iii) Breadth and depth of experience - what did they actually do?
- (iv) Knowledge of Electricity North West Policy and Procedures

The candidate will be required to attend operational refresher training at yearly intervals or at the commencement of the contract as appropriate. This training should include any updates to the Safety Rules, operational policy and procedures.

The overall process is summarised at the end of this appendix.

E.8.2 Pre-Assessment Questionnaire

A pre-assessment questionnaire should be completed by the Contractor for each person requiring Authorisation. This may be satisfied by a 'Curriculum Vitae' for the candidate concerned, and should include:

- (i) What experience has the candidate? (records to be provided)
- (ii) What training? (records to be provided)
- (iii) Has candidate been an Authorised Person / Senior Authorised Person before? If so where and who issued the authorisation?
- (iv) Has the candidate ever been refused authorisation? If so why and by whom?

E.8.3 Pre-training/Authorisation Assessment

The Contractor's candidate should be assessed for the following:

- (i) Electricity at Work Regulations
- (ii) Electricity Safety, Quality and Continuity Regulations
- (iii) Health and Safety Executive Guidance Notes GS 6
- (iv) Health and Safety Executive Guidance Notes HS(G) 47
- (v) Distribution Safety Rules, including the requirement for 'Approved Procedures' and 'Explanatory Notes'
- (vi) Electricity North West operational policy relevant to selected activity
- (vii) Electricity North West operational procedures relevant to selected activity

In the case of an 'ex DNO (non Electricity North West) SAP', it is unlikely that they will have any knowledge of Electricity North West procedures but if their Senior Authorisation is recent they should be familiar with national legislation. Therefore the training appropriate in this case would concentrate on familiarising the candidate to Electricity North West policy and procedures.

E.8.4 Experience

The Contractor's candidate must have had sufficient relevant experience at the appropriate voltage and authorisation level in the selected activity for the contract in question. The amount of training necessary will be determined in each case by the candidate's experience.

The Contractor's candidate must provide a summary of their experience which must include:

- (i) Evidence that the authorisation level has actually been used on relevant work in the selected activity.
- (ii) Documentary evidence of previous authorisations and experience (eg authorisation dates and certificates, switching programmes, operational audit reports).

As a guide, the authorisation should have been current in the last twelve months. If not, more training may be required.

E.8.5 Training

As referred to in E8.3, it is most likely that the contractor's employee will have little, if any knowledge of the Distribution Safety Rules and Electricity North West policy and procedures. They should have, especially if they is an 'ex DNO engineer' or have been previously authorised by another DNO, a knowledge of the statutory requirements and the National Distribution Safety Rules (if the DNO used the National Distribution Safety Rules).

The training is therefore based on three areas:

- (i) Safety Rules
- (ii) Operational Policy (CP605)
- (iii) Operational Procedures (CP606)

and should comprise formal and on-job training as appropriate to the candidate.

It is likely that all candidates will be required to attend the relevant formal training courses identified in Appendix D. Agreement on the on-job training necessary will be determined following the pre-training/authorisation assessment as referred to in section 2 above.

As part of the on-job training the contractor's employee should be made familiar with the following subjects:

- (i) Local substations.
- (ii) Communications - radio, mobile telephone, Electricity North West internal telephone contact addresses and telephone numbers control centres.
- (iii) Unusual items - use of schedule.
- (iv) System diagrams, plans, mains records. Interpretation and understanding (including the colour coding).
- (v) Network to be worked on.
- (vi) Personal Protective Equipment (PPE) - within testing date.
- (vii) Engineers tools and equipment eg operating rods, insulated tools, testers, torch, test bushings etc
- (viii) Operational equipment eg safety locks, danger notices, caution notices, lock-out boxes.
- (ix) Keys - substation and switchgear.
- (x) Switching programmes and documents - issue and the use of.
- (xi) Depot access (security arrangements).
- (xii) Types of switchgear either local or Electricity North West eg Long and Crawford.
- (xiii) System running arrangements.

- (xiv) Outage management - 'carding off' use of generators fault history of circuits to be worked on (rogue circuit?).
- (xv) Handling customers.
- (xvi) Wayleaves and access arrangements.
- (xvii) Update on amendments to Safety Rules/Codes of Practice.
- (xviii) Switchgear familiarisation training.

NOTE: The above topics may need to be specifically covered in the contract specification and additionally incorporated into the project health and safety plan.

The Contractor must submit a Request for Authorisation Form to System Operations for their employee prior to them starting any on-job training. This request will detail the authorisations required Under Personal Supervision to enable this on-job training to be carried out. A maintained set of the Distribution Safety Rules and Operations Manual (CP606) should be issued at the same time as this authorisation, and should be surrendered when the authorisation is returned.

E.8.6 Authorisation Interview

The authorisation interview will be carried out by the nominated System Operations Engineer. The System Operations Engineer must be confident from the interview that the Contractor's Employee is familiar with the Distribution Safety Rules (including the Explanatory Notes and Approved Procedures), Electricity North West Policy (CP605) and Electricity North West Operational Procedures (CP606).

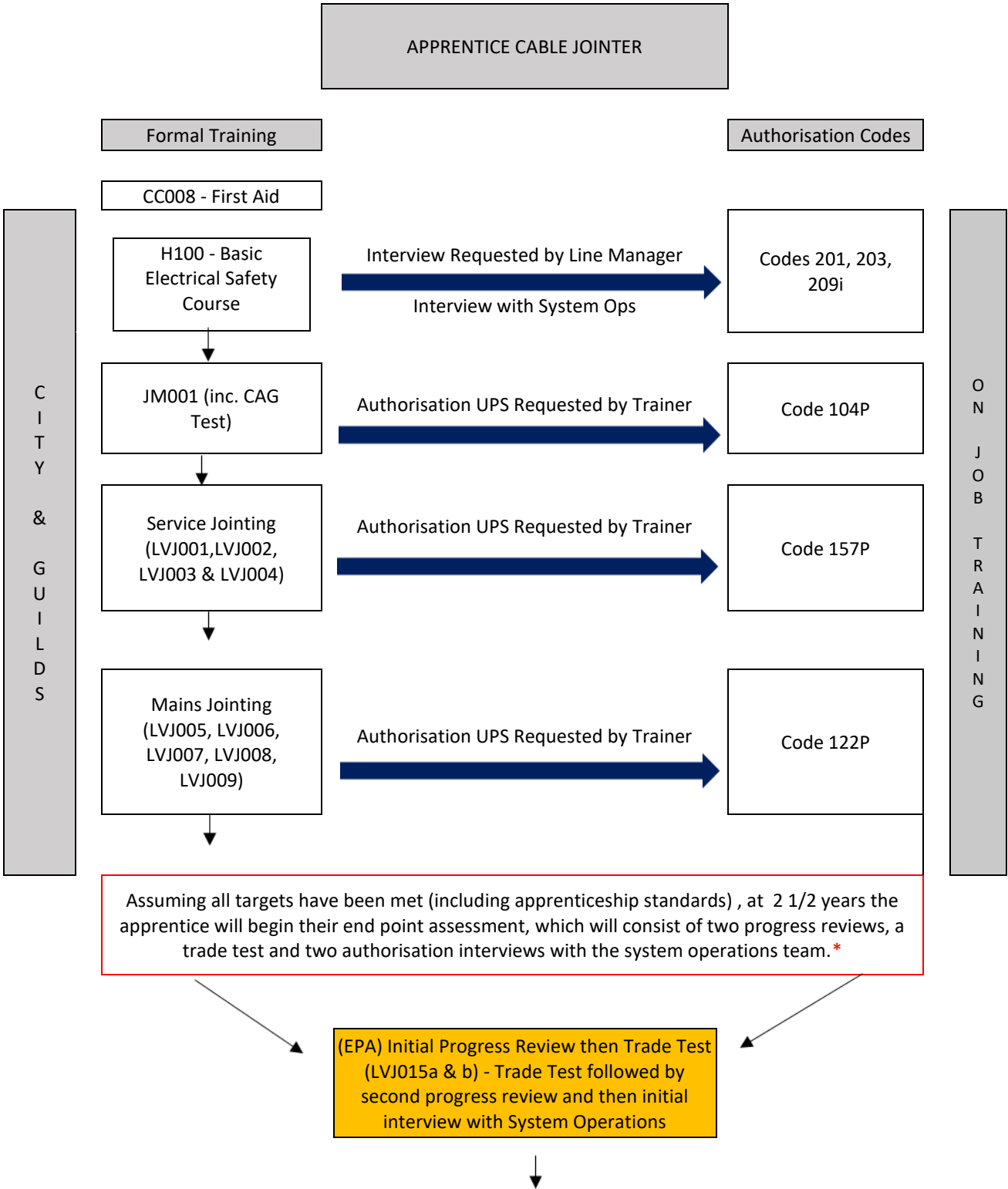
E.8.7 Issue of Authorisation

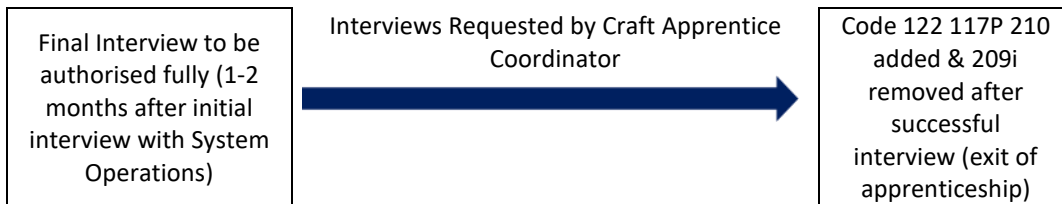
The authorisation should be issued for a period of up to 3 years or the length of contract as appropriate and will be issued subject to the contractor being an Electricity North West Approved Contractor. The authorisation will contain a photograph of the candidate being authorised.

The authorisation may be restricted to a specific contract and/or geographical area to suit. It should initially exclude field control, which if needed should only be added to the authorisation following operating experience on Electricity North West system.

An audit should be carried out within 3 months, or other suitable timescale, from the issue of the authorisation.

E.9 Authorisation Route for Apprentice Cable Jointer





Additional Mandatory Courses for Jointers, to be completed alongside their initial training:

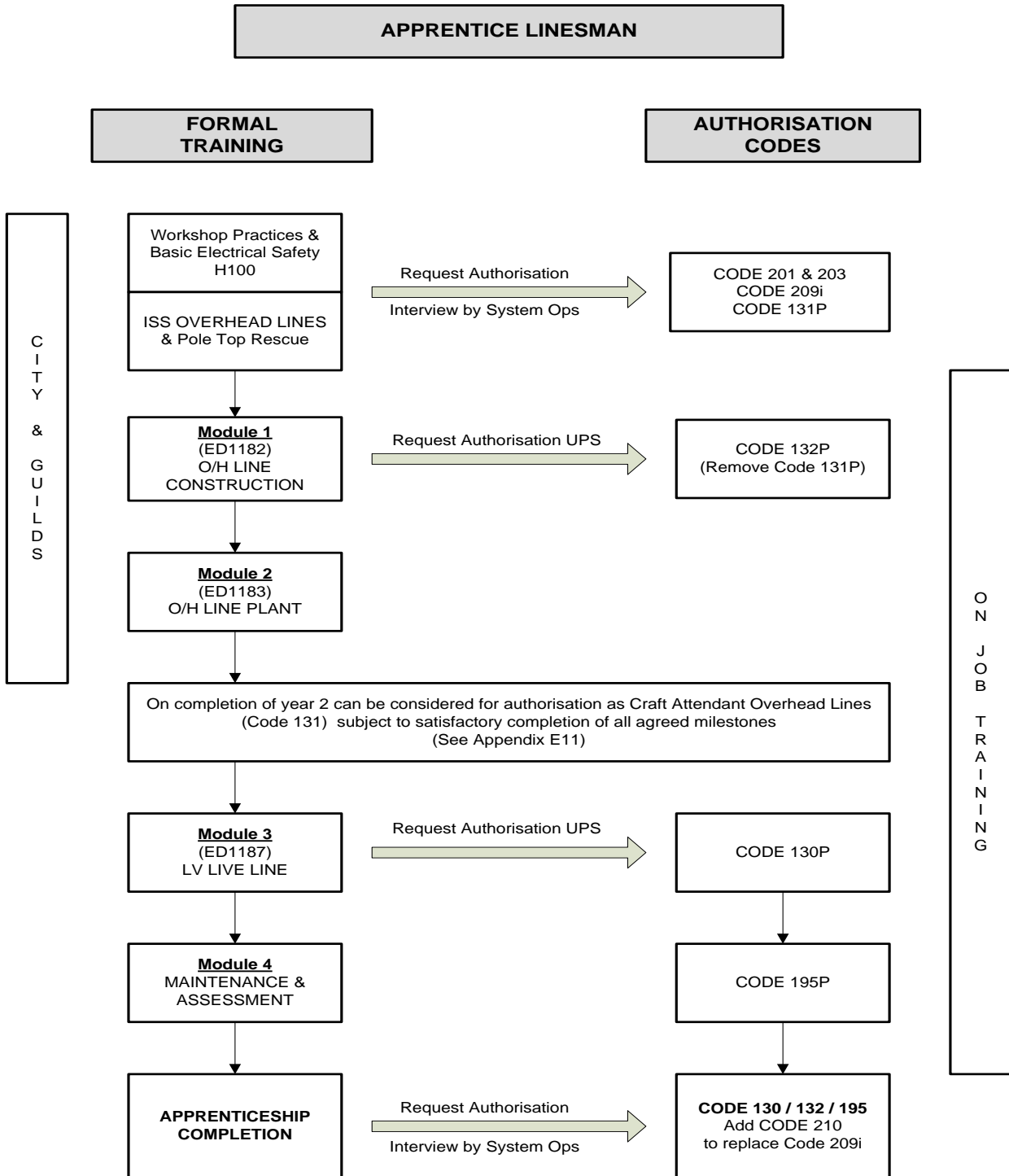
CC011a - ASBESTOS AWARENESS
CC013 - CSCS - ENERGY & UTILITY SKILLS CARD - SHEA POWER
NRSWA 003 - NRSWA FOR OPERATIVES
PL005a - EXCAVATOR 360 (UNDER 10t)
PL026 - ABRASIVE CUTTING EQUIPMENT: DISC CUTTER

Notes:

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised

*The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

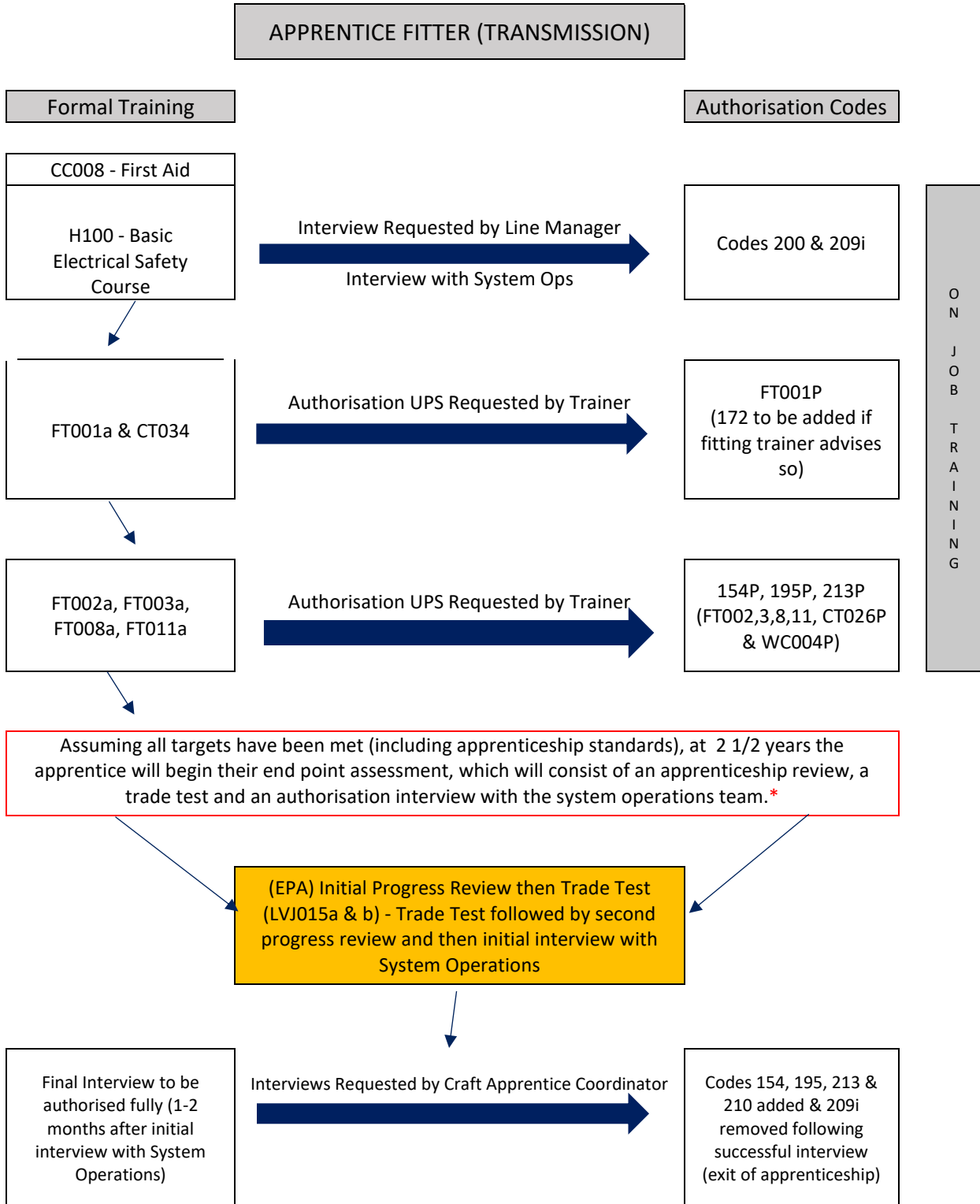
E.10 Authorisation Route for Apprentice Linesperson



NOTES:

1. New updated authorisations required at the end of each formal training modules to enable on-job training to commence immediately after each module.
2. Authorisation Request Forms to be submitted by the Training Manager for each apprentice before the end of each module.
3. On receipt of above, System Operations to attend Electricity North West Training Centre on last day of module to issue authorisations and brief apprentices on relevance of new clauses.

E.11 Authorisation Route for Apprentice Transmission Electrical Fitter



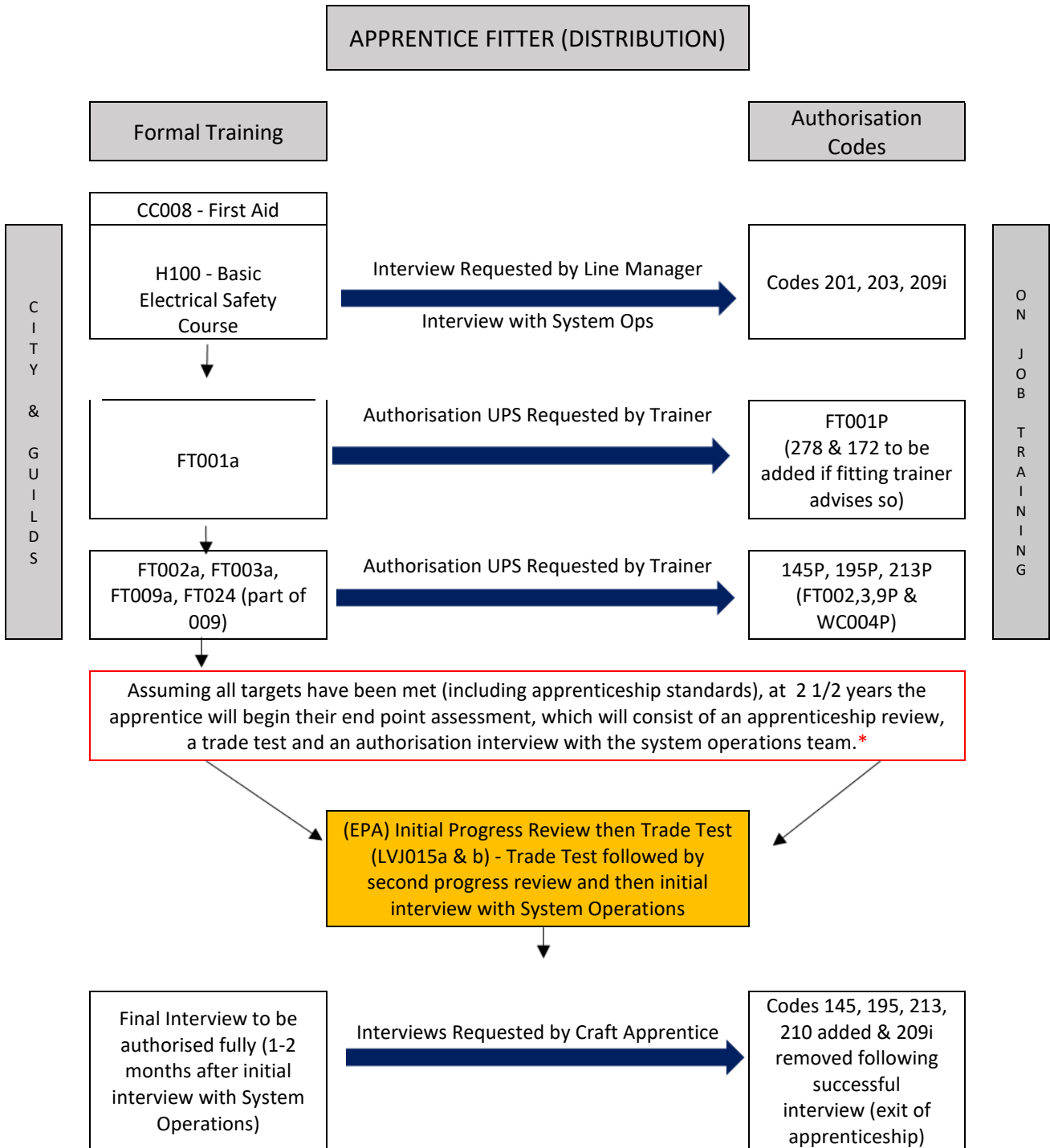
Additional Mandatory Courses for Fitters, to be completed alongside their initial training:

CC011a - ASBESTOS AWARENESS
CT018a - CONFINED SPACE TRAINING
CT022 - SAFE WORKING WITH LADDERS (USING HARNESS & RESCUE)
CT034 - OPEN BUSBAR COMPUND TRAINING
NRSWA 003 - NRSWA FOR OPERATIVES
PL027a - LIFTING WITH SLINGS
PL030 - ABRASIVE CUTTING EQUIPMENT: PEDESTAL MOUNTED
PL001 - MOBILE TOWER SCAFFOLD (PASMA)
CT004a - SF6 HANDLING TRAINING COURSE

Notes:

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
 2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised
- *The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

E.12 Authorisation Route for Apprentice Distribution Electrical Fitter



Additional Mandatory Courses for Fitters, to be completed alongside their training:

CC011a - ASBESTOS AWARENESS

CT018a - CONFINED SPACE TRAINING

CT022 - SAFE WORKING WITH LADDERS (USING HARNESS & RESCUE)

NRSWA 003 - NRSWA FOR OPERATIVES

PL027a - LIFTING WITH SLINGS

PL030 - ABRASIVE CUTTING EQUIPMENT: PEDESTAL MOUNTED

PL001 - MOBILE TOWER SCAFFOLD (PASMA)

CT004a - SF6 HANDLING TRAINING COURSE

Notes:

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
 2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised
- *The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

E.13 Progression of Apprentice to Craft Attendant (Mate)

Apprentices can be considered for authorisation as Craft Attendant (Mate) prior to completion of their apprenticeship, subject to satisfactory completion of the following milestones:

1. Milestones

- 1.1 The Apprentice will be in their 3rd year of training
- 1.2 The Apprentice will have successfully completed the C&G 2322 qualification
- 1.3 The Apprentice will be up to date with all on-job training
- 1.4 The Apprentice will be up to date with compiling their NVQ port-folio

2. Authorisation as Craft Attendant Mate

- 2.1 The Apprentice will successfully complete CA Assessment
- 2.2 The Apprentice will satisfactorily complete a Trade Test / On-job Assessment
- 2.3 Authorisation will be subject to satisfactory interview with a System Ops Engineer

3. Commitment from Line Management

- 3.1 Apprentices will not undertake stand-by duties.
- 3.2 All apprentices will be given time to complete their on-job training records and NVQ port-folio building (desk days).
- 3.3 Authorisation as a Mate will enable the apprentice to work with a Craftsman as a two person team. All craft activities undertaken by the apprentice shall be carried out under the Personal Supervision of a suitably authorised Craftsman. If at any stage Personal Supervision cannot be provided then all craft work must cease.
- 3.4 The criteria for allocating apprentices to Craftsman are to be based on the best interest of the apprentice in enabling them to gain the relevant on-job experience.
- 3.5 It is likely that by permanently teaming an apprentice with a specific Craftsman may not enable the apprentice to achieve the full range of on-job training requirements. There needs to be a flexible approach in allocating apprentices to enable them to gain the relevant on-job experience.
- 3.6 On-job training in the third year will include receipt of Safety Documents under Personal Supervision. Time should also be given to enable apprentices to complete all outstanding on-job training.
- 3.7 The individual progress of all Apprentices will be reviewed on a regular basis (3 monthly). In cases where there is insufficient progress then the Craft Attendant authorisation will be withdrawn.

E.14 Authorisation Route for Emergency Imported Staff

The authorisation of emergency imported staff will be undertaken by System Operations staff, or where more expedient to do so, by local engineering staff personally appointed to do so.

The emergency imported staff will normally be from the NEWSAC (Northern Eastern Western Southern) consortium but other staff including contractors can be utilised.

The briefing notes and process for these staff is in CP604.

The Temporary Authorisation/Competency Certificate overleaf is to be used and is that specified in the NEWSAC agreement.

NEWSAC AGREEMENT

Temporary Authorisation / Competency Certificate

Issued to: (Name)

I hereby extend your authorisation / competency certificate issued by:

.....

To cover the Electricity North West Ltd area

It is agreed that you can work under your company's Safety Rules and procedures.

This certificate is cancelled immediately on your leaving the Company's area.

Signed

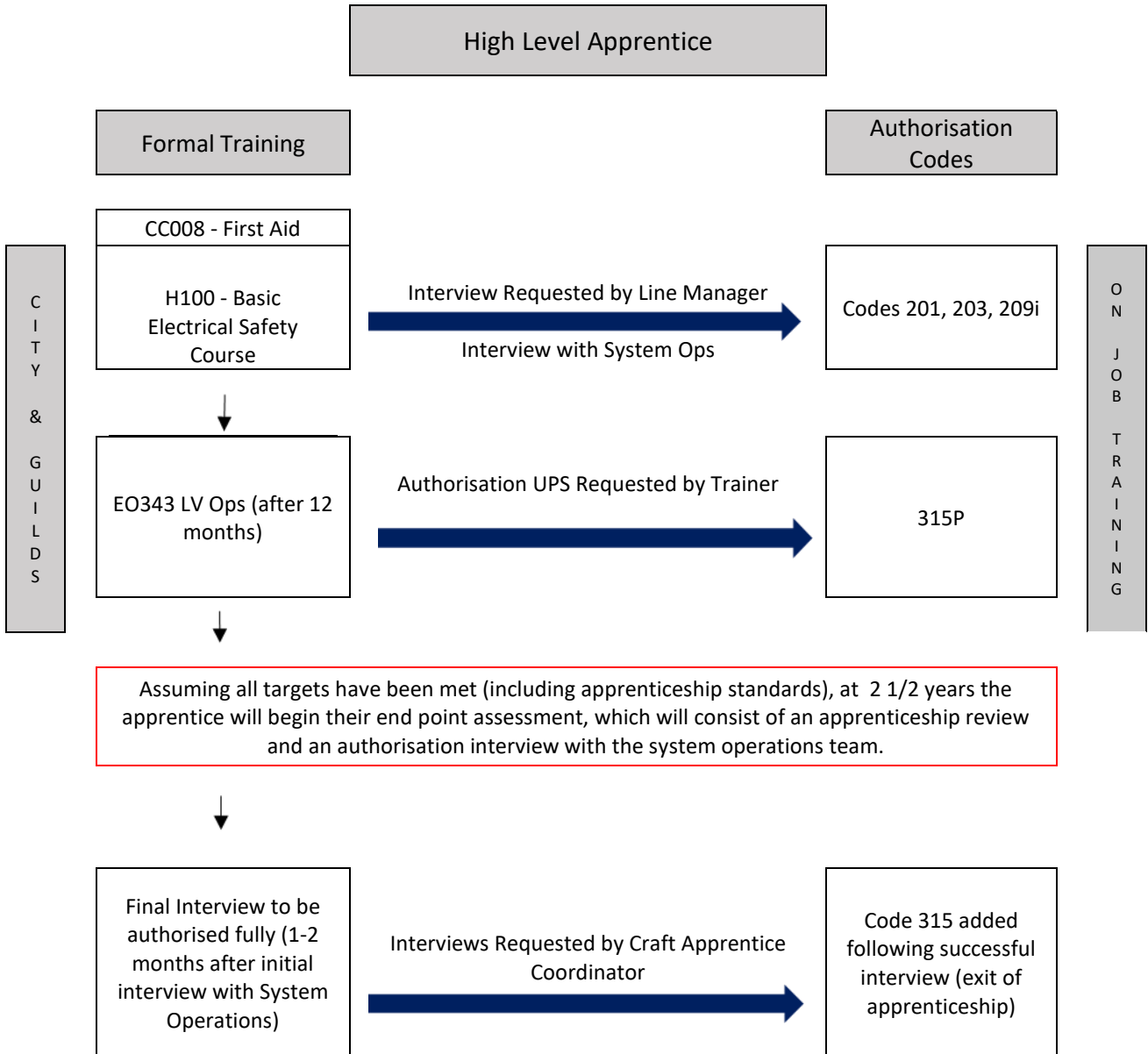
Title

Date

Exceptions

.....
.....
.....

E.15 Authorisation Route for Higher Level Apprentices



Appendix F – Route Back to Re-Authorisation Form

Name of Applicant	
Address	
Contact Number(s)	
E-mail address	

Authorisation(s) held	
Reason for removal	
Date of removal	

Reason for applying for re-authorisation

Evidence to support application

Attach certificates of qualifications and other Network Operator authorisation (if applicable)

Please return completed application form to;

By post;

Electricity North West Limited, Training Academy, 6 Dyneley Road, Whitebirk, Blackburn, BB1 3AB

By e-mail:

TheAcademy@enwl.co.uk