

Smart Metering: Approved Assessor scheme

Self-Assessment Report (SAR)

1. What is the Smart Metering: Approved Assessor scheme?

The Smart Metering: Approved Assessor scheme is an NSAP scheme designed to permit non-NSAP approved meter operators to undertake re-assessment (using the Smart National Assessment Specifications – ‘NAS’) of existing Smart meter installers within their own company.

The scheme works in the following way:

- A senior assessor(s) is identified by the meter operator as meeting the ‘Smart metering people specification’ (see Appendix B).
- The meter operator satisfies for NSAP the relevant provider and programme-related quality assurance criteria in this document designed to ensure that the re-assessments of installers takes place safely and appropriately.
- Only at this point, the ‘Approved Assessor(s)’ is free to re-assess on their own meter operator’s premises, using the Smart NAS, those installers whose EUSR registration requires renewal.

It is important to note that the Smart Approved Assessor scheme is an alternative to the standard route to Smart re-assessment and renewal, which, by default, involves the individual undertaking re-assessment (via the NAS) through an NSAP approved provider. The Smart Approved Assessor scheme does **not** replace this standard way of undertaking Smart metering scheme renewal.

The Smart Approved Assessor scheme is also exclusively for re-assessing individuals who are EUSR registered and are currently working in a Smart meter installation role. It is not for individuals new to Smart metering, who need to undertake an NSAP approved programme and assessment, or for those individuals who may have performance issues, and/or partial or related experience, and who, again, would need to undertake a Smart metering refresher programme and assessment through an NSAP approved provider.

A Smart Approved Assessor is also only permitted to re-assess individuals who are EUSR registered, are currently working in a Smart meter installation role and who are continuing to work in that role. They are not permitted to re-assess and approve other Approved Assessors. All Approved Assessors must be re-assessed via an NSAP approved provider, and be approved by NSAP.

A Smart Approved Assessor is also only permitted to re-assess individuals within the meter operator’s own organisational environment (ie training centre/workshops). Approval to be a

Smart Approved Assessor does not permit an individual to re-assess individuals 'in the field'. See below for further details on 'in the field' re-assessment.

A Smart Approved Assessor is approved in relation to the meter operating organisation in which they work. If the Approved Assessor works for another meter operating organisation, then they must undertake the above approval requirements again in relation to the new organisation. Approved Assessor status is not personally transferable between different meter operating organisations.

For participating and approved organisations, re-registration will be available in the following Smart metering categories:

- Smart Metering (Electricity) Single Phase
- Smart Metering (Electricity) Multi-rate
- Smart Metering (Electricity) Single Phase off Multi-phase
- Smart Metering (Electricity) Multi-phase
- Smart Metering (Gas) Low Pressure
- Smart Metering (Gas) Medium Pressure

In order to be approved to operate under the rules of the Smart Approved Assessor scheme, there are a number of requirements that organisations need to meet:

- 1) **You will need to satisfy certain elements of the provider Quality Framework that are relevant to the activities that you wish to perform.** Whilst not requiring elements of the Quality Framework that relate more directly to programme delivery, it is still important that meter operating organisations satisfy key basic organisational requirements necessary for the safe and appropriate performance of re-assessment.
- 2) **You will need to satisfy certain elements of the generic training programme criteria for an approved skills-based programme.** Again, whilst not requiring certain elements more specifically linked to programme approval, there are still key assessment requirements that must be addressed.
- 3) **You will need to meet certain industry and assessment-related requirements of the Smart metering scheme criteria.**

2. Smart Approved Assessor approval process

To become an organisation approved for the Smart Approved Assessor scheme, the first step is to complete and submit a Self-Assessment Report (SAR). Your evidence and SAR will be reviewed, and, if it meets all the required criteria, we will confirm Approved Assessor permission.

The relevant criteria against which you are required to evidence is on pages 7 -11, Section 5: **Approved Assessor requirements**. An administrative SAR section to be completed by you is on pages 17 - 18, Section 9: **The Self-Assessment Report**.

A signature from an individual with appropriate authority in your organisation (i.e. a director, senior manager) is required in Section 9 to confirm that a thorough and honest self-assessment has taken place and that all requirements have been fully met.

3. The flow chart below summarises the process for Approved Assessor organisational approval



4. On-going monitoring and audits of Approved Assessor organisations

All Approved Assessor organisations that are approved by NSAP are subject to our on-going quality assurance monitoring which includes regular audits.

We use those key, relevant elements of our Quality Framework to support our monitoring and audits. We audit all organisations at least every 12 months, sometimes more often if we deem that they offer a 'higher risk'. To keep this as easy and efficient as possible, supporting evidence for our audits can be provided in a variety of ways e.g. electronic or photographic.

As well as having an organisational audit, you will also need to have a technical audit, so there are two audits you are expected to have in relation to your continuing approval. This additional visit is required for Smart Metering provision, by a competent External Quality Assurer. This is to verify continued compliance to the Smart-specific programme criteria.

The frequency and scope of the audit may be based on approval/previous audit outcomes or based on what the Quality Assurance Lead feels is appropriate. Failure to satisfy the audit requirements may result in approval to deliver Approved Assessor being withdrawn.

Auditing Process

You will be expected to provide evidence as a mandatory part of this visit. Evidence will include samples of the following:

- Assessment Strategy/Materials
- Evaluation Strategy/Materials
- Verification Strategy/Material

5. Approved Assessor requirements

This section addresses in more detail the Approved Assessor requirements identified above. In particular, it identifies the relevant elements of the:

- 1) **Quality framework** – for organisational approval
- 2) **Generic training programme criteria** – for delivery approval
- 3) **Smart-specific programme criteria** – for technical approval

Individual organisations must use this section to construct their SAR evidence submissions for Smart Approved Assessor approval purposes.

Quality Framework

The criteria below outlines the type of information we will require to support your application to be approved as a Smart Approved Assessor organisation by Energy & Utility Skills. Please contact the Quality team (email: quality@euskills.co.uk) if you require any additional information or have any questions.

The following elements of the Quality Framework must be satisfied*:

*The criterion numbering below corresponds to its order in the overall Energy & Utility Skills Quality Framework. Where not relevant to Smart Approved Assessor approval purposes, we have simply removed the criterion, hence, the numbering is not continuous.

1. Organisational Leadership	Evidence requirements
1.1 Authoritative point of contact	<ul style="list-style-type: none"> • Named primary point of contact with full contact details • Named individual is authorised to provide evidence to support the continued provider and / or scheme / programme approval
1.3 Roles and responsibilities	<ul style="list-style-type: none"> • Current and appropriate job descriptions are in place which detail roles and responsibilities for those involved in programme development, delivery, assessment and IQA • All staff involved in programme development, delivery, assessment and IQA have the required occupational competence, experience and / or qualifications; CVs are available for each member of staff • Staff handbooks and updates • Procedures are in place to ensure effective communication systems between all levels of staff and at different locations

1.4 Policies and processes	<p>Documented policies and / or processes are in place for:</p> <ul style="list-style-type: none"> • Health and Safety (including risk assessment such as, Fire Safety, First Aid, CoSHH, RIDDOR) • Learner and staff welfare • Safeguarding and anti-radicalisation duty of care • Conflict of Interest • Equality and Diversity • Reasonable Adjustments & Special Considerations • Malpractice and maladministration • Appeals • Complaints • Data protection • Information Commissioners Office registration (if appropriate) • Whistleblowing • Invigilation • Insurances (Public liability and / or professional indemnity)
3. Legislation	
Evidence requirements	
3.1 Data Protection	<ul style="list-style-type: none"> • Policies and processes are in place to support compliance with all data protection regulations • Defined processes in place relating to collection, storage and retrieval of personal data • Registration with the Information Commissioners Office (where appropriate) • Requirements are communicated to all staff – and any agents or subcontractors • Appropriate signed declarations are in place eg individuals • Security and access arrangements
3.2 Equality and Diversity	<ul style="list-style-type: none"> • Activities relating to reasonable adjustments and / or special considerations; records of such activities are maintained • Requirements are communicated to all staff – and any agents or sub-contractors
3.3 Health and Safety	<ul style="list-style-type: none"> • Policies and processes are in in place to support compliance with H&S legislation, regulations and codes of conduct • Risk assessment is in place to safeguard individuals, staff and visitors • A health and safety and welfare process is in place to support individuals, a safe environment, facilities and equipment

Generic training programme criteria

The criteria below outlines the type of information we will require to support your application to be approved to deliver Smart Approved Assessor by Energy & Utility Skills. Please contact the Quality team (email: quality@euskills.co.uk) if you require any additional information or have any questions.

The following elements of the Generic training programme criteria must be satisfied*:

*The criterion numbering below corresponds to its order in the overall Energy & Utility Skills Generic training programme criteria. Where not relevant to Smart Approved Assessor approval purposes, we have simply removed the criterion, hence, the numbering is not continuous.

Evidence Requirement	Supporting information
5. Information, advice and guidance to support individuals	<ul style="list-style-type: none"> • Information, advice and guidance for prospective learners (marketing material, website, leaflets, helplines, joining instructions) • Pre-training programme information availability eg joining instructions containing information on the programme including learning aims, objectives and outcomes, programme overview, costs, pre-requisites such as competence or knowledge, logistics such as venue, timings, catering, dress code, PPE requirements etc. • Information for current individuals (eg. specification, handbook, manual, industry standards, working practices, print-out of slides, workbooks, suggested additional reading lists, suggested additional activities or exercises, case studies) • Advice and guidance for current individuals (eg support mechanisms in place, specialist support availability, progression information, careers advice).
6. Assessment	<ul style="list-style-type: none"> • Assessment methodologies • Assessment mark schemes/guides • Assessment plans/evidence matrices • Assessor written evidence/IQA written plans • Assessment feedback

7. Internal Quality Assurance	<ul style="list-style-type: none"> • IQA methodology (minimum requirements for assuring quality of delivery and assessment) • Sampling plan • Processes, policies, proformas, templates, and records • Standardisation processes • Invigilation process (if appropriate)
8. Feedback	<ul style="list-style-type: none"> • Evaluation mechanism • 360 feedback loop
9. Review	<ul style="list-style-type: none"> • Regular and appropriate review of the training programme including support materials

Smart-specific programme criteria

The criteria below outlines the type of information we will require to support your application to be approved to deliver Smart Approved Assessor by Energy & Utility Skills. Please contact the Quality team (email: quality@euskills.co.uk) if you require any additional information or have any questions.

The following elements of the Smart-specific programme criteria must be satisfied*:

*The criterion numbering below corresponds to its order in the overall Energy & Utility Skills Smart-specific programme criteria. Where not relevant to Smart Approved Assessor approval purposes, we have simply removed the criterion, hence, the numbering is not continuous.

SM2 (B)	<p>The delivery ensures learners satisfy the agreed industry requirements as documented within the National Installation Code of Practice (SMICoP) (available via https://www.ofgem.gov.uk/ofgem-publications/57316/smartmeteringinstallationcodeofpractice-pdf).</p> <p><i>An explanation must be provided as part of your submission, including explicit detail in relation to the energy efficiency and advice and installer interaction with the customer; including management of vulnerable customers.</i></p>
SM3 (C)	<p>The facilities and equipment meet the criteria as specified within the 'Smart Metering Facilities and Equipment Specification'. APPENDIX A</p> <p><i>This will be confirmed as part of your site visit. Failure to meet the specification will delay the approval process.</i></p>

SM4 (D)	The individuals involved in delivery, assessment or verification meet the criteria as specified within the 'Smart Metering Delivery Specification'. APPENDIX B <i>You must supply appropriate evidence to demonstrate such with your submission. This may be in the form of CVs, role specifications and/or performance reports for those in scope AND the completed assessments for all involved.</i>
SM5 (E)	The embedded assessment material (see Section 6) is integrated and used within delivery effectively.
SM8	The Energy Networks Association Gas Engineering Recommendations and the MOCOPA Guidance for Service Termination Issues documentation (see Section 7) is issued and communicated to candidates as part of the delivery design.

6. National assessment specifications (Electricity and Gas)

The following NAS specifications (embedded below) must be used by Smart Approved Assessors in the re-assessment of their existing installers. Installers must pass the relevant NAS specification in order to have their registration renewed on EUSR.

The NAS is based upon existing employer meter installer assessment documentation and has been reviewed by major industry stakeholders, including members of the Energy Networks Association, Smart Meter Operations Group (SMOG), as well as existing providers of training and assessment.

Assessment Material



Smart Metering Elec
NAS v4.docx

(Electricity) Assessment Specification



Smart Metering NAS
GAS LOW.docx

(Gas) Low Pressure Assessment Specification



Smart Metering GAS
MED.docx

(Gas) Medium Pressure Assessment Specification

7. Energy Network Association – Gas engineering recommendations

The Energy Network Association have created a package of documentation designed to describe to all industry parties the Gas Distribution Network responsibilities in respect of the Business as Usual (BAU) processes that are affected by the introduction of smart meters as well as a detailed summary of the issues (i.e. defects) that installers may come across when installing smart meters, or undertaking other work at gas service positions.

These common issues are described within the document below.



Guidance on Gas
Service Termination Is

[\[MOCOPA\] Guidance for service termination issues](#)

The MOCOPA issues sub-group reviewed business processes for reporting issues associated with Distribution Business service termination assets. There was a recognition that there will be increased activity at service positions during the smart meter roll out. The attached guidance provides unique codes that are used to report defects to a Distribution Business. This guide has been developed to assist meter operatives to identify specific defects and issues relating to Distribution Business assets that they may encounter whilst undertaking their work. It should be available to all persons undertaking metering work at all times. It shall be used by all persons undertaking metering work to ensure that there is correct diagnosis of the specific issues detailed within the guide and the correct actions are followed to ensure that identified issues and defects are reported correctly.



MOCOPA-guide-versi
on-3.5.pdf

It is a requirement of approval to ensure all defect categories and specific defect codes are fully understood by all candidates and that these potential issues, as well as approach for resolution, highlighted within the documentations listed above are included within your programme and issued to candidates.

8. Smart Renewal

Registration Renewal

Individuals who have been re-assessed under the Approved Assessor scheme and submitted scheme evidence requirements will be registered with EUSR for a further 3 years.

The following evidence requirements are required upon re-registration:

- Either a copy of the certificate awarded by NSAP Approved Provider for successfully completing the NAS at re-registration (for appropriate registration category) OR a fully completed and signed copy of the NAS document(s) (for appropriate registration category)
- Copy of Gas Safe card (front and back) – Gas and Dual Fuel (Electricity/Gas)
- Copy of employer's company MOCOPA Certificate – Electricity and Dual Fuel (Electricity/Gas)
- Copy of candidate's individual company authorisation – Electricity and Dual Fuel (Electricity/Gas)

The Approved Assessor Scheme assumes that the individual will be re-assessed within an organisation's training environment.

Re-assessment 'in the field'

Alternatively, an individual can undertake the NAS outside the training environment, 'in the field', as a part of their day to day job role. Where this route to renewal is preferred, then the organisation must demonstrate to NSAP the way in which an 'in the field' re-assessment of an individual against the NAS will work and add a new level of approval (Re-assessment 'in the field') to their existing level of approval (Approved Assessor organisation).

This additional level of approval is only available to existing Approved Assessor Scheme organisations for Smart (and NSAP approved training providers), and is not an approval category in its own right. This additional level of approval presupposes that all Approved Assessor Scheme organisation requirements (eg compliance with the Smart Metering Person Specification) continue to be met.

In order to add a new level of approval to its existing approval for Approved Assessor, each organisation must demonstrate the way in which it will cover off the requirements of the NAS at re-assessment for individuals. This must be through the development of an 'in the field' **Re-assessment Plan** which will demonstrate the following requirements.

Within an Approved Assessor organisation's Re-assessment Plan, there must be:

Number	Requirement
1	A demonstration of how the individual's re-assessment will be primarily observation-based, with approximately two-thirds of the NAS having been observed for re-assessment purposes in the last 12 months
2	Measures identified for addressing gaps in the NAS that won't always be observed, ie strategies for addressing less common installs, the role of simulation, uses of training centres, the uses of recent audit evidence (within the last 12 months)
3	Measures identified for addressing underpinning knowledge requirements, ie testing, professional discussion, the uses of recent audit evidence (within the last 12 months)
4	Identification of how the individual's re-assessment will be planned, collated, reviewed and quality assured
5	Planning that addresses assessment contingency and makes provision for individuals failing to meet the requirements of the NAS at re-assessment
6	Planning that addresses and makes provision for issues (ie Health & Safety) occurring 'in the field' which may compromise re-assessment

The Approved Assessor organisation should record their responses to each of these requirements in the template spreadsheet below. Where there is supporting information that appropriately demonstrates/supports the responses in the template spreadsheet, then these should also be included in the overall submission. Completed Re-assessment Plans should be sent for review to the Quality Team at quality@euskills.co.uk



Smart Metering
Re-Assessment in the

Upon receipt of this Re-assessment Plan, NSAP will desktop review the contents and request any further information where necessary. NSAP reserves the right to visit Approved Assessor organisations to review in person the Re-assessment Plan prior to approval.

Once satisfied that each of the above requirements have been met, the Approved Assessor organisation will be approved to deliver re-assessment 'in the field'. For those Approved Assessor organisations with this extra level of approval, NSAP will quality assure the ongoing satisfaction of the above requirements as a part of its annual Approved Assessor organisation audit.

Once approved to deliver re-assessment 'in the field', then the following evidence requirements must be submitted upon re-registration:

- Copy of certificate/letter from meter operating company demonstrating that the relevant NAS requirements have been successfully completed
- Copy of gas safe card (front and back) - Gas and Dual Fuel (Electricity/Gas)
- Copy of employer's company MOCOPA Certificate – Electricity and Dual Fuel (Electricity/Gas)
- Copy of candidate's individual MOCOPA Certificate – Electricity and Dual Fuel (Electricity/Gas)

9. The Self-Assessment Report

In this section, you must begin to tell us about your approach to Smart Approved Assessor.

Organisation information

Please complete the fields below so that we have full details of your approach.

Company Name:	Click here to enter text.			
Address including postcode:	Click here to enter text.			
Lead Contact Name*	Click here to enter text.			
Application for	Electricity	<input type="checkbox"/>	Gas	<input type="checkbox"/>
Indicate categories	Single Phase Smart Meter Installer	<input type="checkbox"/>	Low Pressure	<input type="checkbox"/>
	Single Phase off Multi-Phase Cut-Out	<input type="checkbox"/>	Medium Pressure	<input type="checkbox"/>
	Multi-Phase Installer Off Multi-Phase Cut-Out	<input type="checkbox"/>		
	Multi-Rate	<input type="checkbox"/>		

Named person declaration

This section confirms that a senior member of your organisation has reviewed the submission and agrees that the submission represents a thorough and honest self-assessment. It also confirms that the submission meets the full requirements of the scheme.

I confirm that **[Insert company name]** has conducted a thorough and honest self-assessment of the [Smart Metering Approved Assessor scheme] and that it meets the criteria specified within the NSAP Smart Metering Approved Assessor scheme SAR.

I understand that Energy and Utility Skills reserves the right to seek further verification of the product described as part of the application and ongoing monitoring process in order to preserve the integrity of the product approval process, and understand that any inconsistencies and suspected deception may put the approval status at risk.

I understand and confirm that all individuals who undertake Smart Metering Approved Assessor scheme will be registered with EUSR, as stated within the overarching conditions, and that each registration will be charged at the rate published on the EUSR website, unless otherwise agreed and confirmed in writing.

Name	Click here to enter text.		
Job Title	Click here to enter text.		
Company Address	Click here to enter text.		
Telephone no	Click here to enter text.		
Email address	Click here to enter text.		
Signature		Date	Click here to enter text.

Appendix A: Smart metering facilities and equipment specification

Electrical Facilities, Materials and Equipment Specification

1. If centres are applying for multiple categories, the same workstations can be used for single and multi-phase installs if an effective changeover procedure is identified and sufficient space is made available.
2. The number of workstations should match maximum learner numbers.

Single Phase

Workstations must include:

3. Sufficient space to simulate meter positions to include meter board, electricity meter, gas meter, communications equipment and simulated customer installation.
4. Single phase supply to cut-out electrically protected to ensure learner/tutor/assessor safety at all times.
5. All installed equipment must meet actual install specifications.
6. At least one 3 phase supply for testing purposes.
7. At least one test facility to enable electrical testing practice and assessment with the ability to apply typical fault situations to include:
 - a) Cross polarity – cut-out
 - b) Cross polarity - Meter
 - c) Cross polarity - customer installation
 - d) No supply
 - e) Lost neutral
 - f) Live extraneous metalwork (Live Extraneous metal work test should be done on an isolated test bay. This is felt to be a dangerous scenario to have on a normal work Rig of 230v.)
8. Visual examples to include:
 - a) Exposed conductors
 - b) Incorrect conductor sizes
 - c) Damaged/obsolete insulation types
 - d) Incorrect phase/neutral identification
 - e) Damaged equipment
9. Samples of old type cut-outs including metal clad, fused neutral etc. and examples of illegal extraction.

Meters and ancillary equipment

10. At least 2 single phase single rate meters from different manufacturers. A range of meters both credit and Pre-Payment, and where possible Specific meters to a partnering company should be sourced to enable familiarisation.
11. Samples of various historic meters for demonstration
12. Single phase prepayment
13. At least 2 single phase dual rate
14. Ancillary equipment to include time-switches, contactors, connector blocks, isolators of a type that will typically be encountered during installs in the partner company(s)
15. Simulated customer installation to enable polarity testing and safe isolation procedures to be demonstrated.

Tools & Equipment

16. Full tool Kit of a type approved by the partner company(s). Personal issue to delegates preferred.
17. Full PPE of a type approved by the partner company(s). Personal issue to delegates preferred.
18. Electrical test equipment of a type approved by the partner company(s). Personal issue to delegates preferred.
19. Sufficient Meter tails and Earth conductors, blanking plugs, polarity identifiers, seals and sealing wire for exercises to be undertaken.
20. Effort should be made to simulate on site conditions typically encountered including outside viewing boxes, meters with restricted access and high level (above 1.8m) installations.

Single Phase off Multi-Phase

Workstations must include:

21. Sufficient space to simulate meter positions to include meter board, electricity meter, gas meter, communications equipment and simulated customer installation.
22. Three phase supply to three phase cut-out electrically protected to ensure learner/ tutor/ assessor safety at all times.
23. All installed equipment must meet actual install specifications.
24. At least one test facility to enable electrical testing practice and assessment with the ability to apply typical fault situations to include;
 - a) Cross polarity – cut-out
 - b) Cross polarity - Meter
 - c) Cross polarity - customer installation.
 - d) Abnormal phase/neutral sequence
 - e) Phase-phase fault - two phases
 - f) No supply
 - g) Looped neutral
 - h) Lost neutral
 - i) Live extraneous metalwork (Live Extraneous metal work test should be done on an isolated test bay. This is felt to be a dangerous scenario to have on a normal work Rig of 230v.)
25. Visual examples to include:
 - a) Exposed conductors
 - b) Incorrect conductor sizes
 - c) Damaged/ obsolete insulation types
 - d) Incorrect phase/neutral identification
 - e) Damaged equipment
26. It would be advantageous to have samples of old type 3 phase cut-outs including metal clad, fused neutral etc. and examples of illegal extraction.

Meters and ancillary equipment

27. Smart meters at least 2 single phase single rate meters from different manufacturers. Samples of various historic meters for demonstration.
28. Smart meters single phase prepayment
29. Smart meters at least 2 single phase dual rate
30. Ancillary equipment to include time-switches, contactors, connector blocks, isolators of a type that will typically be encountered during installs in the partner company(s)
31. Simulated customer installation to enable polarity testing and safe isolation procedures to be demonstrated.
32. Ability to show physical examples of looped neutrals and exercise to include looped neutrals.

33. BEMCO type distribution boards, or similar, where these will be encountered.

Tools & Equipment

34. Full tool Kit of a type approved by the partner company(s). Personal issue to delegates preferred.
35. Full PPE of a type approved by the partner company(s). Personal issue to delegates preferred.
36. Electrical test equipment of a type approved by the partner company(s). Personal issue to delegates preferred.
37. Sufficient Meter tails and Earth conductors, blanking plugs, polarity identifiers, seals and sealing wire for exercised to be undertaken.
38. Effort should be made to simulate on site conditions typically encountered including outside viewing boxes, meters with restricted access and high level installations.

Multi-Phase

Workstations must include:

39. Sufficient space to simulate meter positions to include meter board, electricity meter, gas meter, communications equipment and simulated customer installation.
40. Three phase supply to three phase cut-out electrically protected to ensure learner/ tutor/ assessor safety at all times.
41. All installed equipment must meet actual install specifications.
42. At least one test facility to enable electrical testing practice and assessment with the ability to apply typical fault situations to include;
 - a) Cross polarity – cut-out
 - b) Cross polarity - Meter
 - c) Cross polarity - customer installation.
 - d) Abnormal phase/neutral sequence
 - e) Reverse phase rotation
 - f) Phase-phase fault - two phases
 - g) No supply
 - h) Looped neutral
 - i) Lost neutral
 - j) Live extraneous metalwork
43. Visual examples to include:
 - a) Exposed conductors
 - b) Incorrect conductor sizes
 - c) Damaged/obsolete insulation types
 - d) Incorrect phase/neutral identification

e) Damaged equipment

44. It would be advantageous to have samples of old type 3 phase cut-outs including metal clad, fused neutral etc. and examples of illegal extraction.

Meters and ancillary equipment

45. Smart meters at least 2 three phase single rate meters from different manufacturers. Samples of various historic meters for demonstration. (When available)
46. Smart meters at least 2 three phase dual rate (When available)
47. Ancillary equipment to include time-switches, contactors, connector blocks, isolators of a type that will typically be encountered during installs in the partner company(s)
48. Simulated customer installation to enable polarity testing and safe isolation procedures to be demonstrated.
49. Ability to show physical examples of looped neutrals and exercise to include looped neutrals.
50. BEMCO type distribution boards, or similar, where these will be encountered.

Tools & Equipment

51. Full tool Kit of a type approved by the partner company(s). Personal issue to delegates preferred.
52. Full PPE of a type approved by the partner company(s). Personal issue to delegates preferred.
53. Electrical test equipment of a type approved by the partner company(s). Personal issue to delegates preferred.
54. Sufficient Meter tails and Earth conductors, blanking plugs, polarity identifiers, seals and sealing wire for exercised to be undertaken.
55. Effort should be made to simulate on site conditions typically encountered including outside viewing boxes, meters with restricted access and high level installations.

Smart Communications equipment

56. Sufficient smart electricity and gas meters, IHD's and communication hubs to enable binding and pairing exercises to be undertaken and assessed. Equipment should match partner company(s) specification. Simulated binding and pairing should be available through on site head end simulation.
57. Company hand held devices for commissioning should be made available to simulate a live communications install.

Gas Facilities, Materials and Equipment Specification

Low Pressure Gas

Workstations must include:

58. Sufficient space to simulate meter positions to include meter board, electricity meter, gas meter, communications equipment and simulated customer installation.
59. All installed equipment must meet actual install specifications.
60. At least one test facility to enable live gas testing practice and assessment with typical faults.
61. Enable demonstration of:
 - a) Meter installation and removal
 - b) Use of suitable temporary continuity bond
 - c) Labelling and notices
 - d) Checking meter regulator Operating Pressure
 - e) Setting meter regulator Operating Pressure
 - f) Sealing meter regulator
 - g) Disconnecting meter and sealing meter, service and outlet connections.
62. Products and characteristics of combustion:
 - a) Selection of satisfactory and defective burners.
 - b) Selection of open flue appliances with defects
 - c) Selection of suitable and unsuitable CO detectors and indicators
 - d) MIs and appropriate reference documents.
 - e) Selection of flues and chimneys including flue liners, double walled & pre-cast concrete blocks
63. Ventilation (for domestic appliances) to include a selection of:
 - a) Air bricks.
 - b) Air vents.
 - c) Correct and incorrect domestic air vents.
 - d) Scenarios enabling domestic appliance/installation ventilation to be calculated.
64. Installation of pipework and fittings (pipework within meter installation)
 - a) Pipe and fittings for joining and assembling components comprised in a typical meter inlet connection.
 - b) Pipe and fittings for joining pipework.
 - c) Meter installation, to enable demonstration of use of temporary earth continuity bonding, tightness testing and purging.
 - d) Pre-installed domestic gas meter installation to enable identification of safe and unsafe primary meter installations by inspecting and testing.
 - e) Live outlet gas supply, connected to a meter and ECV utilising suitable pipe and fittings, enabling demonstration of installing a copper capillary fitting and testing and purging, while observing all safety precautions.
 - f) Meter installation, to enable identification of pipework defects.

65. Tightness testing and purging (to IGE/UP/1B)
- a) Meter installation including: a Low Pressure domestic gas meter, installed and connected to BS 6891 installation pipework, with a selection of appliances, connected to a Natural Gas supply.
 - b) Create a small gas escape for straightforward tracing and repair, measurable as a pressure drop on a gauge.
 - c) An installation or test rig including a medium pressure fed gas meter ($\leq 6\text{m}^3/\text{h}$) installation with appropriate regulator:
 - Where no meter inlet valve has been installed
 - Where a meter inlet valve is installed
 (The medium pressure fed supply can be simulated by utilising compressed air or inert gas).
66. Checking and/or setting meter regulators
- a) Meter installation, including: a Low Pressure domestic meter installed and connected to installation pipework with a selection of appliances, connected to a Natural Gas supply.
67. Unsafe situations, use of emergency notices and warning labels
- a) Unsafe situations to identify at least one each of ID, AR and RIDDOR reportable (R) installations/appliances
 - b) Full range of do not use and advisory notices.
68. Operation and positioning of emergency isolation controls and valves
- a) Correctly and incorrectly positioned ECV.
 - b) Correct and incorrect operation of ECV.
 - c) Selection of correct and incorrect ECVs and advisory labels.
69. Re-establish existing gas supply and re-light appliances/plant
- a) Selection of domestic gas appliances connected to a Natural Gas supply to enable demonstration of re-lighting; one to include simulated signs of spillage of products of combustion.
 - b) Appropriate sets of MIs.

Medium Pressure Gas

70. The following **additional** (to Low Pressure Gas) equipment needs to be available to deliver Medium Pressure Gas installations (BS 6400-2 Figure 8) for example one PRS 28 installation and one PRS 29 installation:
- a) Selection of different models of domestic Medium Pressure meter regulators:
 - Pressure relief valve
 - Meter installation incorporating an excess flow valve
 - Regulator incorporating a Safety Shutoff Valve (SSV)
 - b) MIs on selected Medium Pressure regulators in use (PRS 28/29)
 - c) Suitable means of pressurising regulator to be tested.

- d) Test and purge apparatus including: purge hose and flame trap.
- e) Small receptacle to contain water (relief valve test).
- f) Selection of labels and certificates appropriate to a domestic Medium Pressure meter installation.

Appendix B: Smart metering people specification

Approved Assessor

Minimum requirement for assessors:

- Understanding the principles or practice of assessment (Unit certificate from any Ofqual regulated Awarding Body, mostly known as TAQA from City and Guilds)
- Level 3 Certificate in Assessing Vocational Achievement
- Level 3 Award in Assessing Competence in the Work Environment
- Working towards one of the above
- or hold one of the predecessor qualifications, which includes:
- A1 Assess candidates using a range of methods
- A2: 'Award in Assessing Candidates' Performance through observation
- D32/33 Assess candidate performance, using differing sources of evidence

AND

For those involved in the verification of the programme, they must meet at least one of the following requirements:

- Level 4 Award In the External Quality Assurance of Assessment Processes and Practice
- Level 4 Award In Understanding the External Quality Assurance of Assessment Processes and Practice
- Level 4 Certificate In Leading the External Quality Assurance of Assessment Processes and Practice
- Level 4 Award in Understanding the Internal Quality Assurance of Assessment Processes and Practice
- Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice
- V1 for Internal Verifiers
- V2 for External Verifiers
- Recognised alternative to A1 / A2 (e.g. D34/D35 or per the minimum unit requirement listed above in the assessor awards or equivalent section)
- (A mandatory action to be applied to any individuals falling within this category; confirming successful completion)

AND

All individuals involved in delivery, assessment or verification activity must be able to demonstrate vocational knowledge, experience and understanding of current field operations for the specific discipline for which they will be involved and have experience of carrying out assessments within the gas and/or power industry

Note: The sufficiency of occupational experience must be determined and approved by the submitting organisation and will not be formally assessed as part of the application criteria.

The individuals must provide evidence that they have completed, and successfully passed, the National Assessment Specification (and, ideally, be EUSR registered).

There is no additional criteria beyond such within the code of practice.

The programme has a delivery design that ensures those involved in training delivery, assessment and verification shall have clearly defined and recorded accountabilities, responsibilities and authorities.

Re-assessment 'in the field'

The above people specification requirements apply for Re-assessment 'in the field'. It is permissible, however, to use company auditors to re-assess individuals within the renewal process.

Where company auditors are used in the re-assessment process, then each auditor must:

- meet the occupational experience requirements identified above
- have completed and successfully passed the National Assessment Specifications (NAS) (and, ideally, be EUSR registered)
- be supervised and quality assured by a Smart Metering assessor throughout the renewal process (all renewal submissions must be made by a qualified assessor).