ASSESSMENT PLAN

Dual Fuel Smart Meter Installer (Electricity and Gas)

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Chair of Employer Development Group
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Overview

This assessment plan is to accompany the Dual Fuel Smart Meter Installer (Electricity and Gas) Level 2 standard.

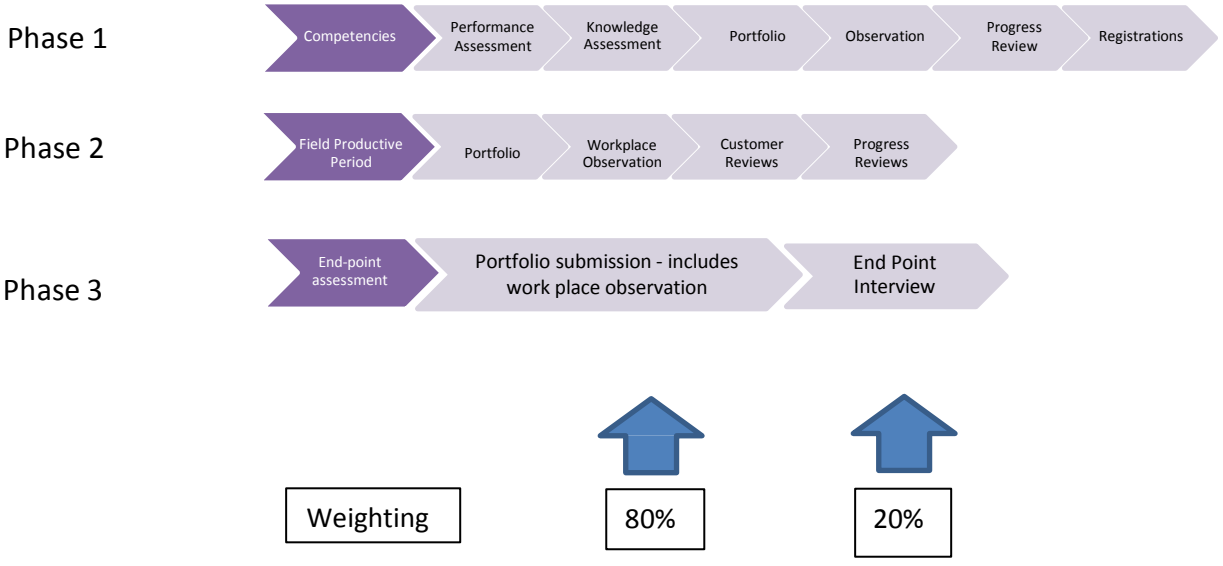
Dual Fuel Smart Meter Installers provide vital skills for the metering industry and form a key part of the Smart Government mandate to reduce carbon emissions and improve energy management. This occupation has responsibility for the safe installation, exchange, and commissioning, decommissioning and ongoing maintenance of smart metering systems. This includes the explanation of how these work as well as giving up to date energy efficiency advice to the customer.

Apprentices must demonstrate all of the skills, knowledge and behaviours in the standard.

This plan outlines the end point assessment that apprentices must successfully complete to achieve their apprenticeship. This apprenticeship will typically be 14 months, with the end point assessment being taken in the final 3 months. Apprentices will be awarded a 'fail', 'pass' or 'distinction' based on their performance in the end point assessment.

The employer development group has also developed a suggested training and on programme assessment plan which employers and training providers can use to develop skills, knowledge and behaviours. This is summarised below.

Suggested training/on programme assessment timescales and methods prior to the End Point Assessment



Suggested training and On Programme Assessment Plan

The suggested training and assessment plan of the apprenticeship can be divided into two distinct phases:

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1. Competencies (typically months 0-6)

The aim of this phase is to ensure apprentices are trained and assessed to gain the core competency measures to achieve Gas Safe registration, Meter Operators Code of Practice (MOCoPA) and meet with the Smart Metering Installation Codes of Practice (SMICoP), including customer service, energy efficiency and managing vulnerable customers. These competences are independently assessed and awarded and defined within the following three areas:

Electrical: Knowledge and Skills Assessment activities may consist of:
• Meter installation and matters of electrical safety. • Knowledge evidence generated with industry aligned questions. • On the job mentoring and experience, assessed evidence to inform the portfolio build. • Assessed evidence on practical and assessments activities from simulated and real world environment. • Assessment on meter installation and matters of electrical safety in accordance with MOCoPA. • Certification: Industry recognised registration and ability to progress to solo work in electrical installation elements.

Gas: Knowledge and Skills Assessment activities may consist of:
• Meter installation and Matters of Gas Safety (MoGS). • Knowledge evidence generated with industry aligned (fit for scope) questions. • On the job mentoring and experience, assessed evidence to inform the portfolio. • Assessed evidence on practical and assessment activities from simulation and real world environment. • Assessment on meter installation and matters of gas safety in accordance with current MoGS criteria. • Industry recognised Gas Safe registration and ability to progress to solo work in gas.

Smart Communications: Knowledge and Skills Assessment activities may consist of:
• Smart meter installation, matters of gas and electrical safety with legislative compliance. • Knowledge evidence generated with industry and legislation aligned questions. • On the job mentoring and experience assessed evidence to form portfolio build. • Evidence on practical and assessment activities from simulated and real world environment. • Assessment on full smart meter installation, communications systems, binding processes, displays and matters of customer education, interactions and best advice within legislative guidelines.

Registration on MOCoPA and the Gas Safe Register should be required as a pre-requisite to advance to the next phase and must be achieved prior to entering the end point assessment stage.

2. Field productive period (typically 6-9 months)

The aim of this phase is to ensure apprentices enter a field productive period as a solo worker. It is suggested that this period is delivered in the following three areas:

Support and Monitoring
• Safety Assurance and compliance measures of business/industry requirements. Progression based on achieving set parameters before introduction of further targets. • Line Manager or Safety Assurance signs off for solo working.

Solo Working

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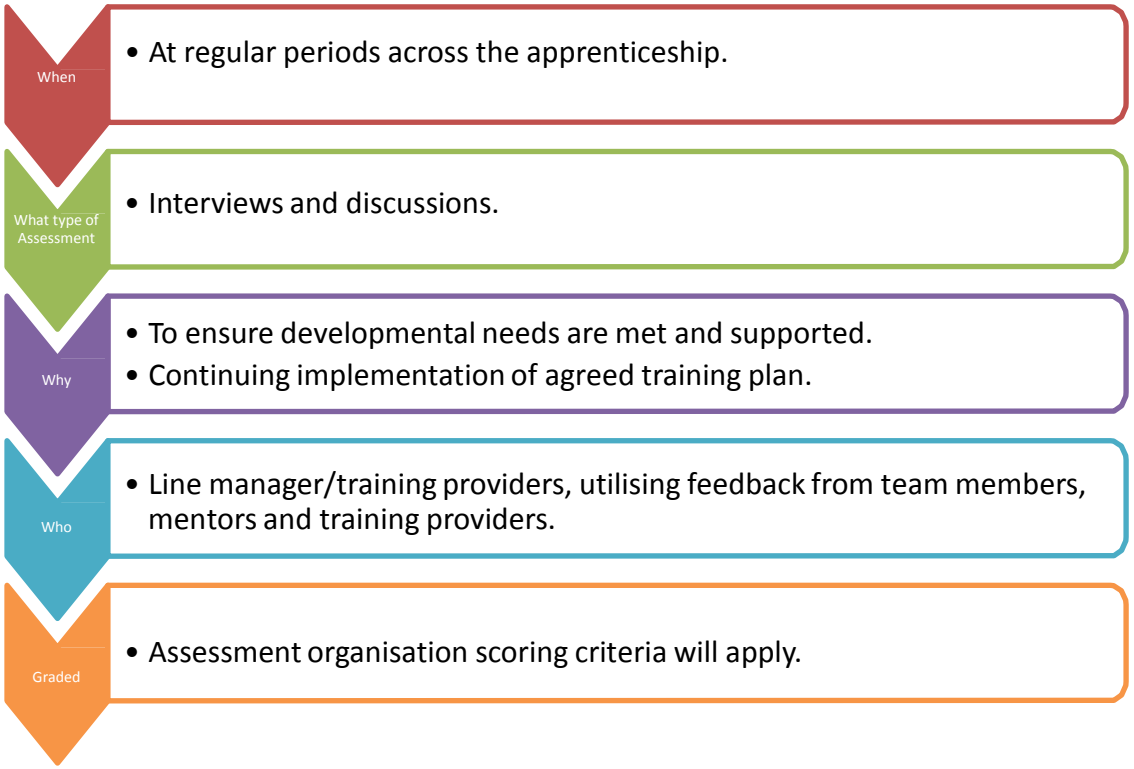
- Agreed performance indicators and suitable milestones completion dates.
- Post completion and work in progress assurance elements still considered but now on experiential learning progress.

Performance measurement evaluated for continual development in key areas:

- Compliance.
- Productivity.
- Completion against recall rate.
- Customer satisfaction indicators.
- Displayed behaviours.
- Progression to final stage.

Suggested training/development review meetings

It is suggested that training and assessment is agreed and documented in a personal training/development plan. Regular review meetings should be programmed to ensure training/development needs are met and supported. This could include additional training, or ways of accelerating learning, as required by the apprentice. This will typically be an interview with their line manager and training provider. Feedback from mentors and team members may be included to contribute towards individual personalised training/development plans. A final review by the apprentice's employer must be completed in the final three months and included in the apprentice's portfolio.



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Suggested observation of Behaviours and Skills for Smart Meter Installers

Apprentices work in an environment where their safety, the safety of those around them and the equipment they work on are of paramount importance. Therefore, observation of behaviours and approach, including feedback from customers are an integral and developing part of the apprentice's progression throughout the apprenticeship and should be assessed using existing supervisory practice and as part of the on-programme assessment. A final observation will take place during the last three months of the apprenticeship which will form part of the end point assessment – see below.

End point assessment (last 3 months)

Successful achievement of the end point assessment will lead to final certification of the apprenticeship and demonstrate that the apprentice is a fully authorised competent worker who can work safely and confidently to install, maintain and/or repair a range of systems. It uses the following assessment tools:

- Portfolio, including a work observation record and final review
- End-point interview.

The apprentice's employer will identify when the apprentice is ready to undertake the end-point assessment and make the necessary arrangements with an assessment organisation for the approval of technical experts to undertake the assessments and schedule the final observation. The end point assessment may be completed over a three month period to accommodate work scheduling and cost effective planning of resources. An apprentice should not be recommended for end point assessment until they have had extensive experience of effectively and efficiently undertaking the range of tasks the assessments require. Although the apprentice should only be recommended for the end point assessment when they are ready; a remediation process should be in place to support any candidate who fails to meet the conditions of the end point assessment. Further details on each assessment tool are provided below.

Portfolio

The apprentice will compile a portfolio during their apprenticeship. It will include evidence of experience gained in the workplace and simulated environments, collectively demonstrating competence against all aspects of the apprenticeship standard – skills, knowledge and behaviours. It may for example include work products, witness statements and reflective journals, together with a final progress review and final observation. The portfolio will include a gas safe registration certificate and MOCoPA.

The portfolio will be marked by a technical expert, using standardised assessment criteria and documentation; recording coverage against the standard, highlighting any performance above or below and awarding a preliminary mark out of 100. Further information on the work place observation is provided below. The portfolio will be assessed before the end point interview.

Work Observation

An observation completed during the end-point assessment period will be included in the portfolio. Apprentices will be observed carrying out the following activities: 'installation,' 'exchange', 'commissioning' and 'decommission' of smart metering systems, associated equipment and communication systems in accordance with industry standards. The observation will be undertaken by the apprentice's line manager/trainer, safety or quality assurance engineer to confirm the apprentice's approach and behaviours while applying their skills and knowledge in a live working situation. During or after the observation the apprentice may be asked questions to demonstrate knowledge and understanding relating to the activity. Standardised recording documentation provided by the assessment organisation will be used to record the observation.

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Smart Meter Installers will need to demonstrate that they can:

- carry out a thorough and rigorous risk assessment to ensure safety of customer, self and property on arrival, during install/exchange, commission/decommission and upon exit
- work safely and efficiently in line with current Health, Safety and Environmental legislation
- prepare and sequence equipment and tasks in the order prescribed in relevant operational standards or according to a specific regulations or set of rules
- demonstrate a knowledge of gas and electrical testing and assessment procedures needed to establish the condition of the equipment and installation and the actions needed as a result
- use a variety of appropriate communication methods to interact with customers and others to give/receive information accurately, in a timely and positive manner in order to deliver the best possible experience to customers. This will include practical advice and the benefits of using the equipment
- deliver polite, courteous professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability.

End Point Interview

An interview will take place at the end of the apprenticeship. This interview will allow a technical expert to question the apprentice in relation to their skills, knowledge and behaviours, based on their portfolio evidence, including workplace observation. Questions will be standardised, so that essential knowledge such as current health and safety legislations and regulations can be demonstrated consistently by all apprentices. The interview will typically last one hour. The end point interview will be marked by a technical expert, using standardised assessment criteria and documentation; recording coverage against the standard, highlighting any performance above or below and awarding a preliminary mark out of 100.

Based on the portfolio and the end point interview scores, the technical expert will then award a preliminary fail, pass or distinction grade as per the grading matrix described below and provide a short written justification for the grading decision.

Technical experts will be nominated by the apprentice's employer; they may come from within their own organisation or brought in if required from other employers or an assessment organisation. They will not have directly worked with the apprentice or participated in their learning and training. Technical experts must be able to demonstrate an appropriate level of competence i.e. training and experience to undertake the role and/or hold or be working towards an assessor qualification. They must be 'approved' by the assessment organisation for the purposes of conducting the end-point assessment. This sector is sensitive from a safety and regulatory perspective. This means decisions on competence have implications not only for individual safety, but also reputation and litigation. As a result judgements of competence and moderation are required to be by necessity reliable, rigorous and robust.

Employer Quality Assurance

A further technical expert will be nominated by the apprentice's employer; they may come from within their own organisation or brought in if required; they must meet the same criteria as the first technical expert in terms of knowledge, experience, qualifications and independence. They will review the grading decisions awarded, examining evidence where required on a 'risk based' sampling basis. The risk and thus sampling will be dependent on the level of experience of the technical expert and results of previous employer quality assurance checks. Thus it can be expected that the decisions of 'new' technical experts will receive 100% checks, reducing to a minimum of 20% for experienced technical experts where there have been no disputed grading decisions. If there is a difference of opinion in the grading decisions, a discussion will be held during the employer's internal standardisation meeting and an agreement reached. A written justification for the grading will then be submitted for assessment organisation quality assurance.

Assessment Organisation Quality Assurance

An independent assessment organisation will moderate end-point assessments on a 'risk based' sampling basis. The final grade will not be confirmed until after moderation. There will be close scrutiny and audit to ensure the assessment organisation maintains confidence in the rigour and robustness of the employer's assessment decisions.

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Moderation will be based upon level of risk. Sampling will be dependent upon the level of experience of the employer's quality assurance technical expert together with the consistency of the results from previous moderation outcomes. Thus it can be expected that decisions by 'new' employer quality assurance technical experts will receive 100% checks, reducing to a minimum 20% for experienced employer quality assurance technical experts where there have been no disputed grading decisions.

Grading

Grading will be standardised to ensure consistency across the sector. The apprenticeship will be graded fail, pass and distinction. The final grade will be determined by collective performance in the end-point assessment's two assessment tools. The weighting of the apprenticeship grading is 80% on the portfolio and 20% to the final competency interview. A points system will determine if the apprentice has achieved a fail, pass or distinction and is described below:

Pass – Minimum 2 Points (1 Point Portfolio + 1 Point Competency Interview) and maximum 7 points

Distinction – Minimum 8 Points and maximum 10 Points

Distinction minimum combinations:

- Portfolio 6 Points + 2 Points End Point Interview = 8 Points
- Portfolio 7 points + 1 Points End Point Interview = 8 Points

Portfolio %	Points	Grade	End Point Interview %	Points	Grade
<64	0	Fail	<80	0	Fail
65	1	Pass	81-89	1	Pass
66-69	2	Pass	90-100	2	Distinction
70-74	3	Pass			
75-79	4	Pass			
80-84	5	Pass			
84-89	6	Distinction			
90-94	7	Distinction			
95-100	8	Distinction			

To achieve a 'pass' the apprentice will be demonstrating competence across the standard. To achieve 'distinction' the apprentice will be demonstrating performance over and above the standard. The following table outlines the scoring criteria that must be applied; detailed guidance will be developed by the assessment organisations.

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End Point Element	Fail Criteria	Pass Criteria	Distinction Criteria
Portfolio	**Fail <65%** • Portfolio lacks sufficient evidence and structure to demonstrate knowledge, skills and behaviours through the work observation, progress reviews across the programme, compliance, productivity, completion against recall rate, customer satisfaction indicators • Portfolio records a fail in gas safe registration • Portfolio records a fail in MOCoPA • Poor application of knowledge in the work place • Poor critical reasoning skills displayed on practical tasks • Negative team working and interpersonal skills • Subject to a company disciplinary procedure	**Pass (65-84)** • Portfolio well-structured and contains sufficient and robust evidence to demonstrate knowledge, skills and behaviours across the standard through work observation, progress reviews across the programme, compliance, productivity, completion against recall rate, customer satisfaction indicators • Portfolio records a pass in gas safe registration • Portfolio records a pass in MOCoPA • Good application of knowledge in the work place • Good critical reasoning skills displayed on practical tasks • Good team working and interpersonal skills and ability to respect the opinion of others	**Distinction (85-100)** • The portfolio demonstrates evidence which is over and above the requirements of the standard through work observation, progress reviews across the programme, compliance, productivity, completion against recall rate, customer satisfaction indicators • Portfolio records a pass in gas safe registration • Portfolio records a pass in MOCoPA • Outstanding application of knowledge in the work place • High level of critical reasoning skills displayed on practical tasks • Outstanding team and interpersonal skills and the ability to respect the opinion of others

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End point Interview	• Poor reasoning in dealing with exceptions to smart installation • Poor application of knowledge to different smart installation scenarios	• Good critical reasoning in dealing with exceptions to smart installation • Good application of knowledge to different smart installation scenarios	• High level of critical reasoning in dealing with exceptions to smart installation • Outstanding application of knowledge to different smart installation scenarios

Assessment organisations

The model involves greater employer leadership in the apprenticeship development, implementation and operation, whilst maintaining a high level of scrutiny and assurance with in a quality framework.

An assessment organisation's primary role will be to ensure that all decisions are consistent, credible and undertaken with integrity, it will:

- provide documentation and guidance in relation to the requirements of the apprenticeship, portfolio, workplace observation, marking of the portfolio, internal and external quality assurance
- monitor technical experts and provide remedial support to ensure consistency and reliability of judgements on a risk based basis, for example, those newly qualified
- approve technical experts for the purposes of assessing the portfolio and the competency interview, employer and assessment organisation quality assurance based on checking knowledge, experience, assessment qualifications and independence
- provide training for technical experts in terms of the requirements of the apprenticeship and operation and marking of the assessment tools and grading
- hold regular standardisation events for technical experts and panel members to ensure consistent application of the guidance to ensure consistency of judgements across a wide geographic spread and different levels of experience
- ensure assessment organisation staff are trained in assessment and quality assurance processes and undertake regular continuing professional development
- develop and manage a complaints and appeals procedure.

All assessment organisations must be on the Skills Funding Agency's Register of Apprentice Assessment Organisations (RoAAO). Assessment organisations must work collaboratively to ensure standardisation in delivery of assessment services for the standard, for example by holding cross organisational standardisation events.

External Quality Assurance

External quality assurance for this apprenticeship standard will be managed by the Institute for Apprenticeships.

Implementation

Affordability

The initial, indicative end point assessment costs are expected to be in the region of £1870, approximately 11 percent of the total external apprenticeship costs. The development work required will allow the best market solutions to emerge which satisfy employer requirements within the developing co-investment apprenticeship model. The standardised approach will ensure affordability.

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Manageability/ Feasibility

While we envisage a three year 'accreditation' cycle (extending to five if no change looks to be required), we also acknowledge that we need to be prepared to monitor and evaluate early adopters reactions and performance to ensure manageability/feasibility. It is expected that there would be in the region of 956 new starts initially, rising to approximately 1519 starts annually.

To help with manageability, and afforded by the existence of knowledge specifications, a number of existing qualifications and training programmes can be mapped to the Smart Installer requirements and approved as able to deliver the knowledge requirements for this Apprenticeship. This also allows knowledge to be delivered via knowledge 'solutions' (including training programmes) rather than just qualifications.

Employers have internal technical expert capability and links to external partners capable of delivering the required number of apprentices. Employers are expecting to increase the numbers of apprentices and are looking at ways to stagger intakes and make effective use of their internal resources. Employers are planning to build their internal capacity and capability for assessment. Employers across the sector work collaboratively to share best practice and training and assessment resources.

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