Arrangements for:

National Progression Award (NPA) in Plant Maintenance and Repair

at SCQF level 5

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Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges and External Training Providers have made to the development of National Qualification Group Award.

History of changes

It is anticipated that changes will take place during the life of the qualification, and this section will record these changes. This document is the latest version and incorporates the changes summarised below.

Version number	Description	Date	Authorised by

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1 Introduction

This is the Arrangements Document for the National Progression Award (NPA) in Plant Maintenance and Repair at SCQF level 5. This document includes: background information on the development of the award, its aims, guidance on access, details of the award structure, and guidance on delivery.

This NPA at Scottish Credit and Qualifications Framework (SCQF) level 5 is designed, as a stand-alone qualification, to equip candidates with the knowledge, understanding and skills required for employment, or for progression to further academic and/or professional qualifications.

This award is aimed at candidates who are interested in pursuing a career in any occupations related to the above area, but who do not necessarily have any prior experience. The progression diagram in Section 2.1 shows how the NPA sits with other qualifications for the sector.

It is also intended that the NPA in Plant Maintenance and Repair becomes a component of the level 2 Modern Apprenticeship (MA) in Scotland. As indicated by ConstructionSkills[1], the MA will consist of three elements:

- A relevant S/NVQ (or alternative competency-based qualification)
- Core Skills
- Industry specific training

It is intended that the award will satisfy the industry-specific training requirement of the MA.

The NPA in Plant Maintenance and Repair has been designed to fit with the SCQF and, by including it in the MA framework, contribute towards embedding the SCQF into the MA programme.

As part of the MA programme the NPA also supports the goal of providing '*…security of employment for the trainee whilst developing skills that are relevant within the workplace*.'[2]

2 Rationale

Construction is a labour-intensive industry that relies heavily on the skills of its workforce to continually adapt to different projects, teams and changing site conditions, so attracting and retaining a high-quality, qualified workforce is essential.

As the majority of workers lack formal qualifications, the introduction of the Modern Apprenticeship, of which this NPA is a component part, will aim to bridge that gap by contributing to the up-skilling of the sector. Gaining an SVQ/NVQ also enables workers to obtain a card from the Constructions Skills Certification Scheme (CSCS) or other affiliated scheme.

[1] Modern Apprenticeship in Construction, Framework Qualifications and Registration Requirements Guidance Document for Training Providers/Modern Apprenticeship Centres in Scotland, January 2009 (update).
[2] Scottish Government, 'Skills for Scotland, A Lifelong Learning Strategy,' September 2007, p.35.

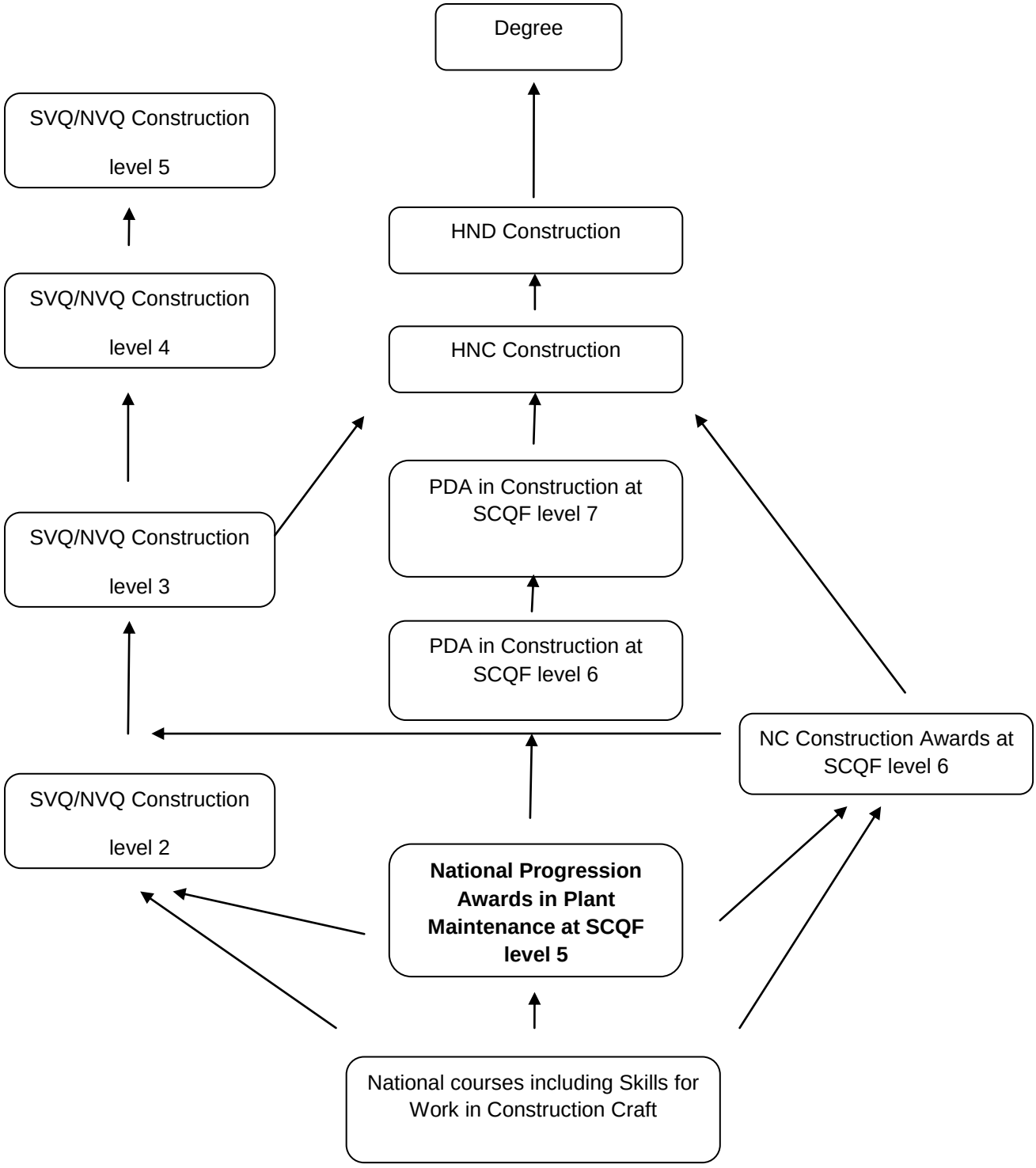
The award is not designed to train people to full industrial competence. The NPA is aimed at those who do not necessarily have any prior experience of the construction industry and are therefore classed as 'new entrants'. Candidates can then build on the skills and knowledge gained from achievement of the NPA when working towards an SVQ, should they wish to do so. This approach aligns with the goal of the sector qualification strategy to ensure that there is a clear differentiation between training for experienced workers and new entrants[3].

It is intended that the NPA will allow candidates to develop a broad appreciation of topics based on accepted and recognised industrial practices. The award will provide a sound basis for working in one of the four subject areas for a range of potential candidates (please see Section 3.3 on target candidate groups).

The diagram on page 3 illustrates how NPA fits with the existing qualifications framework for the Construction industry at a range of levels. Progression routes between qualifications are also identified.

[3] ConstructionSkills, Construction Qualification Strategy (CQS) Action Plan- Scotland, February 2007.

2.1 Progression



2.2 Objectives

The NPA at SCQF level 5 will provide structured opportunities for candidates to experience work and enterprise activities whilst still enjoying the benefits of close contact with their training/education provider.

The NPA in Plant Maintenance and Repair is designed to provide:

- National Construction Qualifications with detailed common standards and learning Outcomes which are recognisable to centres, candidates, employers and professional bodies
- Common mandatory elements of study for various vocational pathways
- Choices of optional Units appropriate to the main career disciplines of each occupation
- Flexible approaches within a national framework
- The opportunity to preserve and build upon existing good practice
- Compatibility with feeder qualifications, in particular Construction Crafts Skills for Work (SfW)
- Compatibility with progression qualifications, eg Scottish Vocational Qualifications (SVQ) in related disciplines
- A response to changing training and educational needs
- Preparation for employment
- A contribution to the skills, knowledge and understanding required to underpin relevant National Occupational Standards (NOS)
- A focus on the development of candidates' practical skills, knowledge and understanding which underpins performance in the workplace

2.3 National Progression Award

NPAs are vocational qualifications which provide practical opportunities for developing real skills that are valid and relevant to the world of work.

This NPA has been developed at SCQF level 5. This means that it is comparable with Credit level Standard Grade in terms of the demand it makes on candidates and the effort required to achieve it. It also means that activity and attainment outwith traditional qualifications can now be recorded and awarded.

The NPA is composed of National Units and vary in the number of guided learning hours of 800 hours, although the flexibility of the framework allows for the option of increasing the hours required, by commensurately increasing the Units taken.

The NPA consists of a core of generic, mandatory Units which introduce the candidate to Construction Safety Practices and Efficient Construction Practices.

The award has been designed for candidates to gain or develop their skills within the relevant occupational area by demonstrating their knowledge of the respective principles, legislation and specifications, as well as developing their ability to carry out given practical tasks in specialised construction areas.

2.4 National Occupational Standards

The National Occupational Standards (NOS) for all construction trades are developed and owned by the Sector Skills Council, ConstructionSkills. They detail the standards of knowledge and performance that practitioners are expected to meet in order to be considered competent in their job role. They form the basis of SVQs, which have in turn been used as a foundation for the development of this award.

The NOS therefore act as a useful benchmark against which to measure occupational competence and for the assembly of a range of development tools, including qualifications.

The NPA Units have been set at a slightly lower level than the SVQ Units — and by association the NOS — to allow for progression to the full SVQ, and are designed to develop and assess defined sets of skills and knowledge in each subject area.

2.5 Development

The procedures involved in this development have included the writing, vetting and editing of Unit Specifications followed by the validation of the Units and Group Award.

A number of organisations were contacted as part of the development process, some providing training materials, and/or reviewing the NPA Units and qualification structures in their respective specialist subject areas. The organisations included private training providers and further education colleges who deliver and assess construction related programmes; employers, trade bodies and the Sector Skills Council.

Following the drafting of the Units and structures the proposed documentation was circulated to the above organisations for review and comment. A brief questionnaire was developed to capture feedback on the drafts. The centres contacted offer a mixture of taught and assessed provision, with respondents drawing on their industry experience and knowledge of delivery.

The findings were overall positive, revealing that the Outcomes, Performance Criteria and Evidence Requirements were clear, achievable and appropriate.

2.6 Sector Skills Council — ConstructionSkills

ConstructionSkills is the Sector Skills Council with strategic responsibilities for education and training in the construction industry. They have been strong supporters of the development of recognised vocational and pre-vocational qualifications and have endorsed the development of the NPA at SCQF level 5.

ConstructionSkills is an employer-led organisation, which means that it identifies and responds to the needs of the industry, acting as an employer voice. ConstructionSkills is leading the way in the development of the level 2 MAs for the Construction industry in Scotland, having identified a clear requirement and demand from the sector for their introduction.

Industry experts at the Sector Skills Council have contributed to the development of the NPA, ensuring that it meets the needs of the industry and that it is aligned with the corresponding SVQs.

3 Aims of the Group Award

The NPA in Plant Maintenance and Repair at SCQF level 5 is a vocationally-related qualification which will provide practical opportunities for developing real skills that are valid and relevant to the world of work.

This award has been developed at SCQF level 5 in order to fill identified gaps in the qualifications framework for the sector, to link to the appropriate SVQs and form a component part of the respective Modern Apprenticeships.

This means it is comparable with other provision on the SCQF at the same level in terms of the demands made on candidates and the effort required to achieve the award.

3.1 Principal aims of the Group Award

The new NPA in Plant Maintenance and Repair at SCQF level 5 will develop candidates':

- Employability
- Practical skills
- Problem-solving ability
- Transferable skills, eg punctuality, appropriate workplace behaviour
- Ability to work with others and be flexible
- Responsibility for own learning
- Planning, organising and evaluating skills
- Health and safety awareness
- Basic technical skills
- Oral, written and communication skills
- Numerical and graphical skills
- Resource management ability
- Flexibility, knowledge, skills and motivation, as a basis for progression

3.2 General aims of the Group Award

The NPA in Plant Maintenance and Repair at SCQF level 5 will:

- prepare candidates for careers in the construction civil engineering sector
- provide introductory knowledge and skills which are directly relevant to roadbuilding jobs, eg removing components, fabricating and welding, diagnosing faults and repairing plant
- enable candidates to make an immediate contribution in employment in the construction environment they are training at the same time as being employed
- provide opportunities for progression within the SCQF
- form a component part of the level 2 Modern Apprenticeship in Plant Maintenance and Repair

3.3 Target candidate groups

The NPA in Road building at SCQF Level 5 is suitable for:

- S5 and S6 candidates
- school-leavers
- candidates wishing to progress (eg through the Skills for Work programme)
- adults returning to education
- candidates in employment who wish to enhance their career prospects
- candidates not in employment who wish to enhance their job prospects

3.4 Employment opportunities

The NPA at SCQF level 5 can lead to employment within the construction industry, particularly through Modern Apprenticeships. There are a large number of Modern Apprentices in the construction sector and each year brings a significant increase in the number of apprentice registrations. All available research and projections indicate that this trend will continue in the foreseeable future.

As well as the traditional crafts, the NPA at SCQF level 5 will provide invaluable practical experience and knowledge to candidates who aspire to the more technical professions which exist in construction, such as Civil Engineering and Management.

The NPA in Plant Maintenance and Repair is also suitable for those returning to work or transferring from other sectors and could be delivered on a full-time, part-time or block-release basis.

This award is based on existing standards and has been developed in order to ensure that UK-wide companies can access suitable and appropriate provision in Scotland. Validation of this award would complete the SQA's qualification framework for the UK.

3.5 Recommended access

Access to the NPA is at the discretion of the centre. There are no specific requirements for prior qualifications, knowledge and skills and/or previous experience. It is assumed that the level of experience of those undertaking the NPA is that of a 'new entrant'.

However, when the NPA is taken as a component of the Modern Apprenticeship the candidate must be in active employment.

The assessments for the NPA in Plant Maintenance and Repair will be challenging and meaningful, but nonetheless still achievable for all candidates. They are designed to familiarise candidates with a culture of attainment where assessments will challenge them, but do not put unreasonable obstacles between them and successful completion.

For all Units, assessment is based primarily on practical activities and, where possible, holistic assessment is encouraged — particularly the integration of assessment for the mandatory Units covering Health & Safety and Efficient Working Practices with those covering craft activities.

Core Skills

Numeracy	SCQF level 3
Communication	SCQF level 3
Working with Others	SCQF level 3
Problem Solving	SCQF level 3
ICT	SCQF level 3

SCQF level 3 is the minimum exit level as stated by ConstructionSkills; however, upon commencement of the NPA, the entry level of candidates may be lower than this.

4 Group Award Structure

4.1 Proposed framework

To achieve the full award, learners must gain 20 credits (800 hours) consisting of the 12 mandatory (M) Units.

Unit	Codes	SCQF level	Credit value	SCQF points
MANDATORY UNITS — 20 CREDITS REQUIRED				
Construction Safety Practices: An Introduction	F1JP10	4	0.5	3
Plant Maintenance Workshop Practice: An Introduction	F8T0 11	5	1.5	9
Servicing and Maintaining the Condition of Plant and Equipment: An Introduction	F8T1 11	5	1.5	9
Removing and Replacing Components: An Introduction	F8T5 11	5	2	12
Dismantling and Assembling Components: An Introduction	F8T6 11	5	2	12
Joining Materials to Repair Components: An Introduction	F8T7 11	5	2	12
Fabricating Components for Plant and Equipment: An Introduction	F8T2 11	5	1.5	9
Inspecting and Diagnosing Faults: An Introduction	F8T3 11	5	1.5	9
Moving Standard Loads: An Introduction	F8T4 11	5	1.5	9
Returning Plant and Equipment to Service by Repair and Overhaul: An Introduction	F8T8 12	6	2	12
Diagnosing and Rectifying Faults in Plant and Equipment: An Introduction	F8T9 12	6	2	12
Controlling the Use of Resources for Plant Maintenance: An Introduction	F8TA 12	6	2	12
ADDITIONAL UNITS				
Configuring Plant for Operational Activity: An Introduction	F8TW 11	5	1	6
Handing Over Plant and Equipment: An Introduction	F8TX 11	5	1	6
Inspecting Plant and Equipment: An Introduction	F8TY 12	6	1	6
Providing Technical Information to Plant Users: An Introduction	F8V0 12	6	1	6
Co-ordinating Plant Maintenance: An Introduction	F8V1 12	6	1	6

All Units have been subject to the validation process using standard SQA procedures, including review by a representative external to the Steering Group.

4.2 Mapping Information

NPA Unit	Status in NPA	SVQ Unit title	ConstructionSkills NOS reference	SVQ Reference	Status in SVQ
Construction Safety Practices: An Introduction	M	Conform to General Workplace Safety	VR01	DX9J 04	M
Plant Maintenance Workshop Practice: An Introduction	M	Maintain the work area	PM08	DE7G 04	M
Servicing and Maintaining the Condition of Plant and Equipment: An Introduction	M	Carry out Servicing and Maintenance of Plant and Equipment Service and Maintain the Condition of Plant and Equipment	PM05 PM17	DE6J 04 DE7W 04	M
Removing and Replacing Components: An Introduction	M	Remove and replace plant equipment components	PM06	DE7N 04	M
Dismantling and Assembling Components: An Introduction	M	Dismantle and assemble plant and equipment components	PM07	DE75 04	M
Joining Materials to Repair Components: An Introduction	M	Repair plant and equipment by soldering and welding	PM11	DE7P 04	O
Fabricating Components for Plant and Equipment: An Introduction	M	Produce one-off components to assist plant and equipment activities	PM12	DE7K 04	O
Inspecting and Diagnosing Faults: An Introduction	M	Inspect plant and equipment for operational serviceability Diagnose faults in plant equipment systems and components	PM09 PM10	DE7D 04 DE72 04	O O

NPA Unit	Status in NPA	SVQ Unit title	ConstructionSkills NOS reference	SVQ Reference	Status in SVQ
Moving Standard Loads: An Introduction	M	Move standard loads	PM13	DE7H 04	O
Return Plant and Equipment to Service by Repair and Overhaul: An Introduction	M	Return Plant and Equipment to Service by Repair and Overhaul	PM18	DE7T 04	M
Diagnosing and Rectifying Faults in Plant and Equipment: An Introduction	M	Conduct testing of plant and equipment following repair Diagnose and Determine the Cause of Faults and Problems in Plant and equipment	PM19 PM20	DE6M 04 DE6V 04	M M
Controlling the Use of Resources for Plant Maintenance: An Introduction	M	Control the use of Allocated Resources for Plant Maintenance and Repair Activities	PM21	DE6R 04	M
Configuring Plant for Operational Activity: An Introduction	A	Configure plant and equipment for operational activities	PM16	DE6N 04	O
Handing Over Plant and Equipment: An Introduction	A	Hand over plant and equipment to the control of others Install Plant and Equipment for Operational Activities	PM23 PM14	DE78 04 DE7F 04	O
Inspecting Plant and Equipment: An Introduction	A	Inspect Plant and Equipment for Serviceability	PM22	DE7F 04	O
Providing Technical Information to Plant Users: An Introduction	A	Provide technical information and advice to users of plant and equipment	PM24	DE7M 04	O

NPA Unit	Status in NPA	SVQ Unit title	ConstructionSkills NOS reference	SVQ Reference	Status in SVQ
Co-ordinating Plant Maintenance: An Introduction	A	Coordinate Plant Maintenance Work Activities	PM25	DE6T 04	O

4.3 Articulation and credit transfer

Articulation

The NPA in Plant Maintenance and Repair at SCQF level 5 has been designed as a progression route to the full range of Construction SVQs, particularly SVQ level 3 in Plant Maintenance. It was also designed as a potential articulation route from the Skills for Work Construction awards. This is the first time there has been a clearly defined pre-vocational/vocational route for candidates to follow, and for centres to deliver within this construction area.

Credit transfer

There are no current National Units against which credit transfer might be considered.

5 Approaches to delivery and assessment

5.1 Content and context

The NPA in Plant Maintenance and Repair at SCQF level 5 is designed to equip candidates with the knowledge, understanding and skills required for success in employment within the construction industry. It is mainly aimed at candidates who are interested in pursuing a career in Plant Maintenance and Repair.

This award is not designed to train people to full industrial competence. There is an emphasis on developing the basic skills normally taught to an apprentice at the very early stages of time-serving and these basic skills will be very attractive to employers. Candidates can then build on these skills when working towards achieving an SVQ/NVQ.

The programme should be delivered in the context of familiarisation with terminology, basic concepts and working practices and disciplines, including Health & Safety and Sustainability. It is intended that the NPA in Plant Maintenance and Repair at SCQF level 5 will develop a broad appreciation of topics based on accepted construction practices.

Candidates may go on to work as construction supervisors and construction managers. They will require skills and knowledge in general workplace safety, efficient working methods and selecting appropriate resources, organising work operations, and monitoring equipment and staff progress and performance.

5.2 Delivery

The structure of this qualification allows for a high degree of flexibility in its delivery. Owing to the very practical nature of the award, it is recommended that each teaching/training session should be of a reasonable duration.

This award could be offered on a full-time, part-time, block-release, day-release or evening basis. Combination of delivery is also a possibility. Such combined study may enable candidates to complete the award within a shorter time period.
There are many opportunities for integrated delivery of Units within the award. Teaching and learning for Construction Safety Practices and Efficient Construction Practices should always be integrated with technical/practical Units as much as

possible, and assessment should be encouraged to be within the application of these technical/practical Units.

The Unit Specifications will identify specific opportunities for integration with other Units.

It is recognised that the NPA in Plant Maintenance and Repair at SCQF level 5 focuses on the development of candidates' practical skills. Nevertheless, there may be opportunities for the introduction of e-learning during the teaching and delivery of the award. The learning and assessments of the knowledge-based Outcomes can be conducted either by using e-learning methods (this could also be used for teaching) or else by traditional teaching techniques. For example, formal assessments may make use of IT systems and facilities when available, or alternatively can also use the standard mode of supervising candidates during classroom paper-based assignments.

It is also recognised that health and safety considerations and the lack of experience of candidates may present a challenge to centres. However, in order that the quality and integrity of assessments are maintained, centres are reminded that all practical assessments should take place in a realistic working or training environment with appropriate use of simulation where health and safety considerations are key.

5.3 Core Skills

There are opportunities to integrate Core Skills into the delivery and assessment processes. These opportunities are identified in each of the Unit Specifications.

5.4 Assessment

The assessment strategy for the NPA in Plant Maintenance and Repair is designed to ensure an appropriate level of rigour whilst not imposing excessive demands on centres or candidates. The design principles for the award encourage an holistic approach to assessment, and this has been adopted in each Unit Specification for the award.

Each Unit Specification includes guidance on delivery and assessment and, where appropriate, any potential opportunities for integrated delivery and assessment with other Units.

Centres can decide the order in which Units are delivered, based on candidate recruitment patterns, mode of delivery, resource issues and logical progression dictated by topics and Unit content and level.

Throughout all Units, emphasis should be placed where appropriate on the application of Health & Safety. Safe working practices should be followed in accordance with current safety codes of practice and regulations.

6 General information for centres

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**.

Internal and external verification

All instruments of assessment used within this/these Group Award(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* **(www.sqa.org.uk)**.

7 General information for candidates

The new NPA in Plant Maintenance and Repair at SCQF level 5 is a practical-based qualification that requires you to spend the majority of your time in a training environment.

The new NPA in Plant Maintenance and Repair at SCQF level 5 is designed to give you the knowledge, understanding and skills to gain employment in the construction industry, or to move onto further qualifications such as to the SVQ in Plant Maintenance and Repair at level 3.

It will provide you with the introductory knowledge and skills to be able to work effectively in occupations related to the subject area.

Occupations are available with a wide variety of construction companies within the building industry. If you wish to investigate career opportunities in the building industry you can contact ConstructionSkills at **www.constructionskills.net**

In order to complete the new NPA in Plant Maintenance and Repair at SCQF level 5 you must achieve a minimum of 20 credits. The award framework details the Units that you must take to complete the NPA.

You will be assessed on your knowledge and skills developed in each Unit. The assessment may take a number of forms, including multiple choice questions, practical tasks with checklists, and other practical activities when working in teams.

The practical Units will provide you with the basic skills and knowledge you need to carry out practical work competently. You will then need to carry out these practical tasks in order to demonstrate your range of abilities.

8 Glossary of terms

SCQF: This stands for the Scottish Credit and Qualification Framework, which is a new way of speaking about qualifications and how they inter-relate. We use SCQF terminology throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at **www.scqf.org.uk**

SCQF credit points: One SCQF credit point equates to 10 hours of learning. NQ Units at SCQF levels 2–6 are worth 6 SCQF credit points, NQ Units at level 7 are worth 8 SCQF points.

SCQF levels: The SCQF covers 12 levels of learning. National Qualification Group Awards are available at SCQF levels 2-6 and will normally be made up of National Units which are available from SCQF levels 2–7.

Dedicated Unit to cover Core Skills: This is a non-subject Unit that is written to cover one or more particular Core Skills.

Embedded Core Skills: This is where the development of a Core Skill is incorporated into the Unit and where the Unit assessment also covers the requirements of Core Skill assessment at a particular level.

Signposted Core Skills: This refers to the opportunities to develop a particular Core Skill at a specified level that lie outwith automatic certification.

Qualification Design Team: The QDT works in conjunction with a Qualification Manager/Development Manager to steer the development of the National Certificate/National Progression Award from its inception/revision through to validation. The group is made up of key stakeholders representing the interests of centres, employers, universities and other relevant organisations.

Consortium-devised National Certificates/National Progression Awards are those developments or revisions undertaken by a group of centres in partnership with SQA.