



**National Qualifications
Internal Assessment Report 2012**

Electrical Principles

The purpose of this report is to provide feedback to centres on verification in National Qualifications in this subject.

National Qualifications (NQ) Units

The following NQ Units were externally verified in session 2011/12 in Verification Group 231, Electrical Principles:

Application of Electrical Handtools and Accessories at SCQF level 4
Electrical Principles at SCQF level 5
Electrical Principles at SCQF level 6
Electrical Testing and Measurement at SCQF level 5
Safe Working Practices at SCQF level 5
Single and Three Phase Principles at SCQF level 6
Circuit Element Devices at SCQF level 5

General comments

During session 2011/12, four External Verifiers in Verification Group 231 visited six centres to undertake external verification activity. Five of these centres were further education colleges and the other was a private training provider.

All six external verification visits were successful (ie no recommendations for a 'not accept' decision were made), indicating that centres had a clear and accurate understanding of the national standards as set out in Unit specifications and exemplified in assessment support packs.

Unit specifications, instruments of assessment and exemplification materials

It is evident from reviewing all six external verification reports that centre staff were familiar with the content of Unit specifications. Centres have made good use of assessment support packs to assess candidates where these were available, but some centres have also developed alternative assessments which were internally verified before use.

Evidence Requirements

External Verifiers reported that centres generally had a good understanding of the Evidence Requirements in Units. This understanding was reflected in the development of alternative assessments including marking schemes which met the Outcomes, Performance Criteria and Evidence Requirements in Units.

Administration of assessments

External Verifiers' reports indicate that centres are administering assessments appropriately. External Verifiers report that assessors' decisions are accurate and consistent. Centres are reminded that when developing assessments they should clearly state the conditions under which assessment is to be conducted (eg time allocated, closed versus open book, pass criteria, etc).

It is good to report that, in one centre, staff had developed an alternative assessment for the Unit *Electrical Testing and Measurement* which was in the form of a report rather than direct questions. Report writing provided candidates with opportunities to develop the communication core skills, which were embedded into the assessment process. Furthermore, during the delivery of the Unit the Internal Verifier had witnessed the verbal questioning of candidates as they undertook practical tasks.

Internal verification systems in all six centres visited were robust and effective. Centres provided External Verifiers with master folders which contain a range of documentation including Unit summary forms, pre-delivery checklists and records of assessor/Internal Verifier meetings. There was evidence that samples of candidates' work had been cross-marked by Internal Verifiers (eg candidates' work signed by the Internal Verifier with comments provided to assessors where appropriate).

Areas of good practice

External Verifiers reported several examples of good practice in their reports. These are as follows:

- (1) A centre has developed detailed schemes of work for the Units *Electrical Principles* at SCQF level 6, *Single and Three Phase Principles* at SCQF level 6 and *Application of Electrical Handtools and Accessories* at SCQF level 4.
- (2) The External Verifier commented that the centre was allowing candidates to make electrical measurements on actual electrical circuits rather than simply using simulation software alone.
- (3) In the same centre as in (2), a clear and comprehensive set of teaching notes for the *Electrical Testing and Measurement* Unit at SCQF level 5 had been developed.
- (4) In one centre, the assessment for the Unit *Application of Electrical Handtools and Accessories* at SCQF level 4 had been integrated with that of the Unit *Electrical Wiring Skills*. This allowed candidates to progress their knowledge and skills to the next level in a meaningful way. The centre had developed excellent workshop facilities for practical activities and assessment. By carrying out practical activities and assessment tasks in shared work-bays, candidates had developed team working and oral communication skills.
- (5) In the same centre as in (4), for the practical Units *Electrical Testing and Measurement* at SCQF level 5, *Safe Working Practices* at SCQF level 5 and *Application of Electrical Handtools and Accessories* at SCQF level 4, candidates had received extensive feedback on their practical and verbal formative assessment tasks.

- (6) In the same centre as in (4) and (5), each candidate had a portfolio of evidence in electronic form which recorded their achievements, assessment records, vocational skills and core skills gained in all Units. This was used as a professional development record for the candidate and as an evidence portfolio for current and prospective employers.
- (7) In a centre there was evidence of a good, robust internal verification system in operation, which included good recording of the internal verification process. This system was based on one used in the aircraft industry.

Specific areas for improvement

External Verifiers identified a few areas for further development. These are as follows:

- (1) Centres should assess both star and delta loads in the assessment for Outcomes 3 and 4 of the Unit *Single and Three Phase Principles* at SCQF level 6.
- (2) Assessors should always ensure that candidates put the correct units following any numerical values they have calculated or recorded (eg not just '12' but '12V').
- (3) While verbal and written feedback to candidates in some centres was very good, in others there was scope for greater feedback, especially in terms of providing written feedback on candidates' scripts.
- (4) When marking candidate scripts, it is recommended that assessors use one colour of ink to mark scripts (eg red) while Internal Verifiers use another colour of ink (eg green).