



**Higher National and Vocational Qualifications  
Internal Assessment Report 2013  
Electrical Installation**

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

# Higher National Units

## General comments

During session 2012–13, seven external verification visits were undertaken by two External Verifiers in Verification Group 160 Electrical Installation – Higher National. Five of the external verification visits were conducted using the traditional external verification approach involving the EV8a form, while the other two visits took place using the New Approaches to Quality Assurance. During these visits the following HN Units were externally verified (the figures in brackets indicate in how many centres each Unit was externally verified):

- DN4F 35 Electrical Installation Design (1 centre)
- DN3T 34 Electrical Systems in Potentially Explosive and Gas Hazardous Environments (1 centre)
- DN4H 34 Electrical Installation Skills (4 centres)
- DN41 34 Inspection and Testing of Low Voltage Electrical Installations (2 centres)

It is pleasing to report that all visits were successful. In terms of the traditional approach to external verification, this meant that no Holds were placed on any of the HN Units. With regard to the two visits conducted using the New Approaches to Quality Assurance, this meant that significant strengths were identified in all four categories subject to external verification. This success confirms that all seven centres were meeting national standards.

## Unit specifications, instruments of assessment and exemplification materials

External Verifiers report that centres maintain the most up-to-date copies of Unit specifications in master folders. Both External Verifiers confirmed that all the assessment instruments used by the centres that were externally verified conformed to the assessment specifications set out in Unit specifications and were fair, valid and reliable. Centres continue to make use of assessment exemplar materials where appropriate, but also adapt these materials to meet their own requirements.

In one centre, an alternative assessment approach had been used to assess Outcomes 1 to 3 of the HN Unit Inspection and Testing of Low Voltage Electrical Installations. This alternative approach involved candidates compiling a report rather than sitting a closed-book examination. The assessor had made an initial assessment of candidate work and found that all candidates had covered all the points outlined in the assessment specification, but had also found that all candidates had used an excessive number of words in their reports. The assessor had asked the candidates to redraft their reports to include all salient points but with fewer words (around 750 words). This is a very good way of teaching candidates to present information in a concise manner in which they cannot simply cut and paste from other sources.

## **Evidence Requirements**

The External Verifiers found that there was a clear understanding of the Evidence Requirements in individual HN Units. During a visit to one centre, the External Verifier advised centre staff to amend the Inspection and Testing of Low Voltage Electrical Installations Unit delivery and assessment materials to take in to account recent changes in documentation and nomenclature in the 17th Edition of the *IEE Wiring Regulations* (eg the Periodic Inspection Report is now called the Condition Report and it contains some important amendments).

## **Administration of assessments**

During visits it was found that centres maintain master folders for each HN Unit they deliver. Such folders usually contain the up-to-date Unit specification, assessment materials and marking schemes, internal verification forms and learning and teaching materials. Both External Verifiers reported that centre internal verification procedures were being applied appropriately by assessors and Internal Verifiers and samples of candidate work were being cross-marked. Typical sample rates for cross-marking were between 30–40%.

## **General feedback**

It is pleasing to report that feedback to candidates in most centres that were externally verified was very good. Assessors were happy to compliment candidates where their work was good, but were also willing to identify errors/omissions where these occurred in candidates' work. An External Verifier reported that in one centre the assessor commented in the next practical assessments whether improvements had been achieved. For example, if clip spacing and keeping bends symmetrical were not as good as they could have been the first time the candidate was assessed, but had improved in a subsequent assessment(s), the assessor identified this and gave praise for it. This was the closest to a kind of distance-travelled improvement measure that the External Verifier had seen for a long time.

## **Areas of good practice**

Some excellent examples of good practice were observed during external verification visits. Some of these are noted below.

In one centre the External Verifier observed some good internal verification documentation which showed clearly who was responsible for what in the delivery and assessment of the two Units concerned.

In another centre staff had produced separate test boards for the various tests specified in the HN Unit Inspection and Testing of Low Voltage Electrical Installations (eg a board for testing the continuity of protective conductors and main bonding conductors, a board for testing ring circuit continuity, a board for testing insulation resistance and polarity etc). The use of separate tests boards meant that candidates did not have to conduct separate tests, at the same time reducing the possibilities of hold-ups with some candidates hanging around while others performed tests.

In yet another centre the use of photographs of candidates along with their work provided good historical evidence of practical work that candidates had completed, but which subsequently had to be dismantled.

During an external verification visit, the External Verifier observed an example of a very good risk assessment form in a centre. The Verifier also praised the centre for having a comprehensive delivery schedule for the HN Unit Electrical Installation Skills which would be of great benefit to a lecturer delivering the Unit for the first time.

### **Specific areas for improvement**

Centres should ensure that all learning and teaching and assessment materials comply with the latest edition of the 17<sup>th</sup> Edition of the *IEE Wiring Regulations* (BS 7671).

# SVQ awards

## General comments

During session 2012–13, one centre delivering a Customised Award entitled Design and Verification of Electrical Installations was visited. The visit was successful with no Hold being placed on the award.

## Unit specifications, instruments of assessment and exemplification materials

The centre continues to use the following three assessment instruments: multi-choice test, Case Study and practical exercise. Candidates are made aware of these three assessments at the start of the course. Candidate responses are all marked correctly and consistently and feedback is given to candidates at appropriate points in the course. Candidates failing the Case Study on minor issues are given an opportunity to correct errors by correctly answering questions from the assessor. Candidates who fail the Case Study due to significant mistakes are provided with additional technical input and then allowed to re-sit the Case Study.

## Evidence Requirements

During the external verification visit the External Verifier satisfied himself that assessors and the Internal Verifier had a good understanding of the evidence candidates have to produce.

## Administration of assessments

In the early stages of running the Design and Verification of Electrical Installations course, centre staff modified their internal verification system on the basis of advice provided by an SQA External Verifier. The system now works very effectively, although staff are still willing to make minor adjustments to the system to effect further improvements.

## General feedback

There is no general feedback.

## Areas of good practice

The following good practice points were identified as a result of the external verification visit:

- ◆ The centre has developed a fourth Case Study involving waste compactors. This fourth Case Study adds even more variety to the Case Study assessments the centre has developed (there were already two involving heating and one involving lighting).

- ◆ The centre has arranged for the diagrams in the notes for the course to be produced to professional standards by an outside company.
- ◆ Test equipment has been re-calibrated.
- ◆ The PowerPoint presentation for the course has been updated to include information on Amendment 1.
- ◆ The centre continues to maintain an excellent master folder.

### **Specific areas for improvement**

No areas for improvement were identified during the external verification visit.