

## Moderation Feedback — Visiting 2004

**Engineering**

### Qualification area

**Subject(s) and Level(s)  
Included in this report**

**HN and NQ Units – Electrical  
Installation (Group 160), Electrical  
Principles (Group 231) and Electrical  
Plant (Group 274)**

## Visiting Moderation

### General comments on visiting moderation activity

#### **Electrical Installation (160)**

External moderation activity in this moderation group was low reflecting mainly the small uptake of HN Electrical Installation Units. Two visits were undertaken to two separate centres: one to moderate an NQ Unit, another to look at an HN Unit. On the basis of the small sample of visits it is not possible to generalise as to whether national standards are being maintained. However, the reports do indicate that for the centres visited appropriate assessment instruments were being used, candidate responses were being marked accurately and consistently and internal moderation was being conducted effectively.

#### **Electrical Principles (231)**

HN external moderation activity in this cognate group was extensive with 11 visits to 11 different centres. A postal moderation of an NQ Unit was also undertaken (see comments under Specific Issues section).

In total 29 different Units were externally moderated. No holds were placed on any of these Units. It is pleasing to report that assessment instruments are satisfying national standards. There was only one report of a centre over assessing and the centre was rewriting the assessment instrument at the time of the external Moderator's visit to conform to national standards. There were no reports of under assessment. Candidate responses were being marked consistently and accurately. There was evidence from some centres that candidates were receiving very good feedback, but there is still scope for improvement in this area in some centres. Alternative assessment instruments are available in some centres and there was some evidence that centres were trying to integrate assessments to reduce loading on candidates and assessors. The evidence from external Moderators' reports was that internal moderation was working effectively in centres. Given the number of centres visited it is reasonable to infer that national standards are being maintained consistently across the country. While this is reassuring it should not be entirely surprising given that Electrical Principles is a well established area, few subject changes have taken place and centres have been delivering HN Electrical Principles Units for many years.

#### **Electrical Plant (274)**

Six HN external moderation visits to six different centres were undertaken in this moderation group. In total nine HN Units were moderated with no holds placed on any of the Units. One NQ Unit was also moderated by post (see comments under Specific Issues section).

As with the other two moderation groups, assessment instruments were found to be of a national standard and internal moderation was working effectively.

## Specific issues identified

### **Electrical Installation (160)**

None.

### **Electrical Principles (231)**

The issue of the large jump in level of Electrical Principles between the SVQ Electrical Installation and HNC Electrical was raised by one centre. There may be a case for some form of Intermediate award to bridge the gap between the two awards although it would first be necessary to undertake market research to assess the level of demand for such an award. The Advanced Certificate in Electrical/Mechanical (currently subject to review) may provide a suitable award route.

One Moderator commented that the Unit A10J 04 Unit was still in use even though it is an old Unit, not coherent with outcomes borrowed from other Units. However, this issue should be overtaken by developments involving the new HNC/D Electronics and HNC/D Electrical awards.

An external Moderator recommended that further visits should be made to one centre to monitor their use of alternative assessment methods. The Qualifications Manager, Engineering and the Electrical Principles Cognate Group are likely to be interested in this innovative work.

The Unit D134 11, Combinational Logic is an electronics Unit and if it was not part of the NQ Course in Electronic and Electrical Fundamentals should be re-assigned to the Electronics Moderation Group.

There were two examples of good practice highlighted by external Moderators. The first relates to the use of a website to support candidates taking the Engineering Project Unit. Such a website allows candidates to work on aspects of their project in their own time. It also allows the lecturer to communicate with candidates and monitor their progress.

The second example relates to the way in which IT and IT skills can be integrated into Engineering subjects. The lecturer concerned has provided candidates with opportunities to analyse a.c. series R-L-C circuits using a spreadsheet. The data generated was used to produce circuit responses in graphical form and to identify both resonant frequency and the half power point conditions.

### **Electrical Plant (274)**

The Electrical Machine Principles and Electrical Machine Applications half credit NQ Units are now nearly 20 years old and should be reviewed following the completion of the HNC/D Electrical review in August 2005.

## Feedback to centres

The first piece of feedback that should be provided to centres is that based on this year's external moderation activities (although admittedly the evidence is limited in the case of the Electrical Installation Moderation Group) national standards continue to be maintained in the three cognate areas. External Moderators report a significant number of good practices in assessment, internal moderation, and use of a website to support the Engineering Project and the integration of IT into the teaching and assessment of an Electrical Principles topic.

Centres need to be aware, if they are not already so, that new Electrical Principles Unit specifications have been developed for the new HNC/D Electronics. These new Electrical Principles Unit specifications are also likely to be used in the new HNC/D Electrical awards. The new Unit specifications will be supported by a full set of assessment exemplar materials. SQA should consider providing update seminars to centre staff to support the introduction of the new HN Electrical Principles Unit specifications and assessment exemplar materials.