

Review of NCES Power Technician 13 July 2010

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(*although not present at the main meeting, a meeting was held with David on 12 July and his comments have been included here)

Although an invitation to attend this meeting was sent to all sectors of industry the only response received was from the generation sector, hence this was the only sector represented at this meeting. ESITO will therefore endeavour to meet with representatives of the other sectors in order to ensure there is no bias towards generation in this review.

- Although most testing is now highly automated it's important that technicians understand the principles behind testing (minimum of L4 yr12 maths).
- The industry is now entering a period of asset replacement having spent many years 'fixing up' old equipment (although this was not necessarily a bad strategy – the equipment and machinery kept going and money was saved which is now available for replacements).
- Over the next 10 years there will be many transformer and generator replacements, and a demand for the associated testing.
- Need an appreciation and understanding of PLC's.
- Technicians are required with 3-4 years experience.
- With commissioning senior technicians take control of plants and they must be able to understand risks and consequences.
- Turbines will be replaced.
- Introduction of AGC – Automatic Generation Control.
- Technicians will be required to undertake testing of all core components.
- Should really have basic ability in welding and lathe work.
- Hydraulics – transducers/water/flow temp (IMC)
- Not required to have IT skills
- Need to have an appreciation of renewables
- Most important skills;
 - Commissioning a new generator or transformer
 - Fault finding
- Earth mat (grid) and equipment bonding is now contracted out, therefore only need knowledge of, do not have to be able to carry out. (*may still be relevant to network sector*)

- There is not enough coverage of generators in the qualification.
- SCADA – do not need indepth knowledge, ability to DKO sufficient (now covered sufficiently by US26020 element 6 – US14291 not required (*need to ensure this is also the case with the network sector*)).
- Strong grounding required in electronics, both digital and analogue.
- US16992 – covers fault diagnosis well but between them US26019 & 26020 may sufficiently cover it.
- Excitation, governing, synchronisation, field flashing, crow bars, voltage regulators, limiters – knowledge and understanding of all of these is required at level 5.
- Series capacitors and static compensators at technician level.
- Temperature and pressure, certain amount of flow (IMC).
- Vibration (no high frequency).
- Displacement probe.
- Accelerator.
- Basic understanding of programmable logic control (PLC) (US22727)
- Thermal couples.
- An IMC standard at level 5 should be compulsory (DE5417).
- US26020 element 6 should be SCADA and DCS (Distributed Control System) which is used by some companies rather than SCADA.
- A generation specific standard is required.