

## Is competence important?

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**W**ith the advent of the 18th Edition stimulating a media frenzy, perhaps now is as good a time as any to review the true meaning of competence, and what part training has to play. For many, the provision of training certificates is the focus and if an ECS card is available then all-the better.

The Level 3 Award in the Requirements for Electrical Installations (currently 2382-15) is a valuable qualification to

hold, it's importance cannot be overstated; however, employers still insist on viewing this qualification as being the primary requirement for being an 'electrician' or 'electrically competent person'. What the 2382-15 award (and the subsequent update for the 18th Edition) does prove is that the person to whom it is awarded has been able to demonstrate that they are able to locate information contained within a technical standard (BS 7671) and interpret it in some way to answer questions. What it ►



fails to do is verify the competence of the person to undertake electrical work, although, if the training was correctly delivered, the attendee should have gained a general understanding of the requirements of BS 7671, rather than being skilled on the art of passing exams.

Those who undertake electrical installation works should have an understanding of the requirements of BS 7671, and rightly so must hold a relevant qualification in order to apply for an Electrotechnical Certification Scheme Card as an Electrician. Those who need to know the particulars of BS 7671, including the intricate changes that the 18th Edition will introduce are those who undertake the design of electrical installations and those who perform compliance verification, and it is those who should be on the starting-blocks for July 2018 when the 18th Edition is released. There remains a culture within the UK that Electrical Engineers and Technicians are far too superior to be bothered with the 17/18th Edition; often it is those persons who most need to undertake the training and gain a better understanding of this vitally important technical document.

Another misconception is that BS 7671 covers all eventualities, however, Section 110.2 lists 13 instances of installations where the regulations do not apply. Those who have read the introductory note within HSE document HSR25- Electricity at Work Regulations 1989, Guidance on the Regulations will have observed the warning that BS 7671 only applies to installations operating up to 1,000 V ac and specifically does not apply to certain installations in mines and quarries, equipment in vehicles, systems for public electricity supply or explosion protection, although in most cases the requirements of the Electricity at Work Regulations 1989 must be met. The requirements of BS 7671 will have little relevance to those who's core work is in relation to electrical equipment of machines covered by BS EN 60204, lift installers covered by BS 5655 and BS EN 81, equipment on board ships covered by BS 8450, equipment of aircraft or equipment of mobile and fixed offshore installations, to name a few. Finally, many companies assume that BS 7671 is an installation manual, or a safe system of work, these being something the Wiring Regulations have never alluded to be.

Looking at the legal requirements for competence, Regulation 16 of the Electricity at Work Regulations 1989 could not be any clearer:

No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger, or where appropriate, injury, unless he possesses such knowledge or experience, or is under such degree of supervision as may be appropriate having regard to the nature of the work.

In reference to danger, Regulation 2 includes the risk of electric shock, burns and fires of an electrical origin, electrical arcing, electrical explosions and explosions initiated by electrical energy. If there is a need for a person to have knowledge to undertake work on or near to electrical systems, then they should possess that knowledge or be adequately supervised. If there is need for a person to have experience to undertake work on or near to electrical systems, they should possess that experience or be adequately supervised. If both knowledge and experience is required, then that person should possess both. ►

The statement under such degree of supervision as may be appropriate having regard to the nature of the work allows for persons to be trained or undertake work experience.

Those allied to the electrical industry are often forgotten about when determining competence is discussed, including those who service vending machines, compressors, lift installations, and machine repairs or maintain alarm and door access systems. In many cases those persons have valuable industry experience but demonstrating electrical competency is often very difficult. Often the basic principles of electrical isolation (including the need to prove dead using an Approved Voltage Indicator) is not fully understood. Those working near to electrical systems could include persons undertaking re-lamping, construction or demolition work, groundworks or farming.

The Management of Health and Safety at Work Regulations 1999 requires, through Regulation 13, that every employer shall, in entrusting tasks to his employees, take into account

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their capabilities as regards health and safety. Here the legal requirement that employers determine the competence of employees is set in stone, and the allocation of a task to an employee implies that the employer has determined that the employee is competent to undertake that task, unless they have put a level of supervision and instruction in place to take account of any lack of knowledge and experience that the employee may have. In this case it may not be the Managing Director who has made the decision, it may be a manager, supervisor, chargehand or team leader who has assumed the role of employer by directing other persons to work (Health and Safety at Work Etc. Act 1974, Section 37).

Qualifications and training certificates have a valued place within the competence world, but they are not the only requirement: having a drawer full of certificates are not, on their own going to satisfy the Enforcing Authority that persons are competent, and additional evidence will be required. Persons may have a general level of competence; however, this may not extend to the specialist knowledge and experience associated with certain technical tasks, electrical equipment or safe systems of work to be implemented. Familiarity with certain types of switchgear can only be gained through exposure and training on that switchgear, and understanding site electrical networks such that they can be operated safely cannot be gained from a five-minute overview.

When considering competence there is a moral obligation to think beyond knowledge and experience, to determine that a person is competent there should be auditable evidence that they

have Skill- to undertake the work without putting themselves and other at risk, Knowledge of the work that they are to undertake and the systems that they will be working on, the right Attitude to undertake the work correctly, in the correct sequence and using tools and equipment as per their Training, the relevant Experience to undertake that particular task, and most importantly, the ability to recognise their Limitations and act on them before they become a danger to themselves or to others.

Looking back to the poor team leader, who although not involved in the recruitment and appointment process, has to determine that any employee that he is going to set to work is competent to do so; often a 'spur of the moment' decision that can have lasting implications. Here the benefit of a formal competency assessment process, carried out by an appropriate person, and the issue to competent persons of a Certificate of Appointment would make life easy for everyone involved in the work environment. This may be an online facility, whereby only persons who are competent may be allocated to a particular task, or a card or piece of paper carried by the Competent Person, detailing what work they may or may not undertake.

Regulation 13 of the Management of Health and Safety at Work Regulations 1999 also requires that training, where appropriate be undertaken on appointment or when employees are exposed to new or increased risks and that refresher training will most likely be required.

The level of importance that an employer places on competence is often inadequate, unfortunately this is something that is not recognised until there has been an accident and the Inspector from the Enforcing Authority is asking for records of training, along with evidence of instruction, supervision and safe systems of work for the activity in which the incident occurred. Such evidence will need to be relevant, suitable and sufficient. Convincing Magistrates, or in the worst case a jury that everything that was done was suitable, sufficient and reasonably practicable will be difficult in the best of circumstances; relying on a drawer full of certificates alone is unlikely to meet the criteria.

Whilst this might be a daunting task, with a little forethought it need not be a laborious or complex process. Identifying the tasks that will ordinarily need to be undertaken and any specialist skill required to complete those tasks is the starting point, then identify how competency might be determined. Remember, there will be different ways of determining competence, people will have taken different routes to reach the same point and the process will need to be flexible enough to accommodate this. There may be need for persons whom are being assessed as being competent to undertake activities under observation to verify that they have the knowledge and experience to be authorised to undertake that task without further direct supervision.

Persons may be authorised to undertake tasks as outlined, which may be collective, or area / job defined. The authorisation may be restricted for individuals or may be subject to certain conditions being met. A training and experience plan may need to be put into place, which if implemented must be monitored. Finally, any approvals should be reviewed periodically. **ER**