

The electricity safety, quality and continuity regulations

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The Department of Trade and Industry is replacing the Electricity Supply Regulations 1988 as amended with The Electricity Safety, Quality and Continuity Regulations 2002.

Since 1988 when the Electricity Supply Regulations commenced there have been radical changes in the electricity supply industry of the UK that could not have been anticipated in 1988. The Central Electricity Generating Boards and the Area Electricity Boards have been privatised. The privatised companies in their turn have been merged and taken over by other utilities, including American, and French. The old monopolies have been opened up to competition backed by regulation. These changes make essential new legislation and following consultation the DTI is publishing successor legislation.

The Electricity Safety, Quality and Continuity Regulations (ESQC Regulations) and the DTI guidance make numerous references to BS 7671 : Electrical installations in buildings, more commonly known as the Wiring Regulations.

The prime purpose of the ESQC Regulations is to provide for the safety of the public and to provide for an electricity supply of adequate quality and reliability. They will effect electrical contractors, and be of great benefit to the contracting trade.

Electrical Installation Certificate

Regulation 25.2 and the Notes of Guidance advise that before a distributor commences a supply he should be provided with evidence that the installation complies with BS 7671 and that an Installation Certificate will be required.

In the guidance to Regulation 9.3 distributors are advised that they should satisfy themselves that the consumers installations comply with BS 7671 before offering a PME earthing terminal. This is a very necessary safety precaution as BS 7671 includes a range of requirements that are necessary for PME supplies.

Private Generation

The regulations recognise the increasing role private generation is playing in the services provided to buildings. There are specific requirements for installations employing switched alternative supplies and for generating systems for parallel operation to comply with the requirements of BS 7671. Requirements for generators were included in the December 1997 amendment (Section 551 GENERATING SETS).

REVISED DRAFT DATED 8 FEBRUARY 2002

STATUTORY INSTRUMENTS

2002 No.
ELECTRICITY

The Electricity Safety, Quality and Continuity Regulations 2002

Made 2002
Laid Before Parliament 2002
Coming into force 2002

ARRANGEMENT OF REGULATIONS

Regulation

PART I
INTRODUCTORY

1. Citation, commencement and interpretation
2. Application of Regulations
3. General adequacy of electrical equipment
4. Duty of co-operation
5. Inspection of networks

PART II
PROTECTION AND EARTHING

6. Electrical protection
7. Continuity of the supply neutral conductor and earthing connections
8. General requirements for connection with earth
9. Protective multiple earthing
10. Earthing of metalwork

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TNC Systems

The regulations specifically prohibit the use of TNC systems within buildings that is distribution systems with a combined neutral and earth as used in the PME supply systems are not allowed within an electrical installation. This reflects concerns with respect to the need for multiple earthing of TNC installations and the effects on EMC and building life of load currents flowing through structural steelwork of buildings.

Small Gas Powered Generators

It is noted that there are exclusions from certain of the regulations for persons with generators of less than 5 kW. However persons installing such small generators are not excluded from the requirement to comply with BS 7671. Gas boilers that also generate electricity are expected to become available within 2 years or so and this will have enormous impact on generators and distributors. Electricians are going to be very much involved.

BS 7671

The Electricity Safety, Quality and Continuity Regulations are not specific about the bonding requirements for installations connected to PME supplies in the way the old Electricity Supply regulations are. They simply require compliance with BS 7671.

Table 1 References to BS 7671 in The Electricity Safety, Quality and Continuity Regulations

| Regulation | Reference | Requirements/Guideline |
|------------|--------------------------|---|
| 1(2) | Guidance | Where reference to BS 7671 is made other equivalent CENELEC standards are acceptable. |
| 1(3) | Regulations | British Standard Requirements, means BS 7671 : 2001. |
| 7(1) | Guidance | Reference to danger that can arise in installations not complying with the PME requirements of BS 7671 if the continuity of PEN conductors is lost. (Section 546). |
| 8(5) | Regulations | The consumer shall not connect the neutral to exposed-conductive-parts, i.e. TNC systems are not allowed in consumers installations. |
| 9(3) | Guidance | Distributors are to be satisfied that the consumers installations comply with BS 7671 at time of connection. (Section 546). |
| 21 | Regulations and Guidance | Switched alternative sources for low voltage installations to comply with BS 7671. (Section 551). |
| 22(1) | Regulations and Guidance | Parallel operation LV installations not allowed unless they comply with BS 7671. (Section 551-07). |
| 22(2) | Regulations | The exclusion of persons with generators of less than 5 kW from the requirements of Regulation 22, does not exclude them from the obligations to comply with the requirements of BS 7671. (Section 551). |
| 24(1) | Guidance | Protective devices to be close to supply terminals. See BS 7671. Regulations 473-02-02 and 473-02-04 seem appropriate. |
| 25(2) | Regulations and Guidance | Before a distributor commences a supply he should be provided with evidence that the installation complies with BS 7671 or the supply regulations as appropriate. For compliance with BS 7671 an Installation Certificate would normally be acceptable. |

References:

Revised Commentary on the IEE Wiring Regulations 16th Edition BS 7671:2001 with 2002 and ESQC Regulations updates is available from IEE publications Tel 01438 313311, books @iee.org.uk

Downloads of the Department of Trade and Industry's Guidance is available from the DTI web site at www.DTI.gov.uk/electricity-regulations

The regulations can be downloaded from the HMSO Web site at www.legislation.hmso.gov.uk/si/si2002/20022665.htm

