



# NEW 17<sup>TH</sup> EDITION TO BE LAUNCHED IN 2008

## A BRIEF OVERVIEW

by Geoff Cronshaw

### Introduction

BS 7671: 2008 Requirements for Electrical Installations, IEE Wiring Regulations 17th Edition is scheduled to be issued on January 1st 2008 and is intended to come into effect 6 months later. The 17th Edition will be completely restructured compared to the present 16th Edition and includes changes necessary to maintain technical alignment with CENELEC harmonisation documents. The new edition will adopt the IEC numbering system. In addition, the layout and parts will be completely revised; for example, many of the chapters will be completely rewritten. The current Part 6 (special locations) will become Part 7 to align with IEC. The next edition of BS 7671 will include additional sections on special locations not currently included in BS 7671 and the existing special

locations will be revised to align with changes in CENELEC harmonisation documents. This article is based on the draft for public comment and therefore the actual requirements of the 17th Edition may change.

### What's new?

Part 1 adds requirements to protect against voltage disturbances and implement measures against electromagnetic influences.

Part 3 adds requirements for safety services, e.g. emergency escape lighting, and fire protection applications. Also, Chapter 36 requires that an assessment shall be made for each circuit of any need for continuity of service considered necessary during the intended life of the installation.

In the new Chapter 41, the terms *protection against direct contact* becomes *basic protection* and *protection*

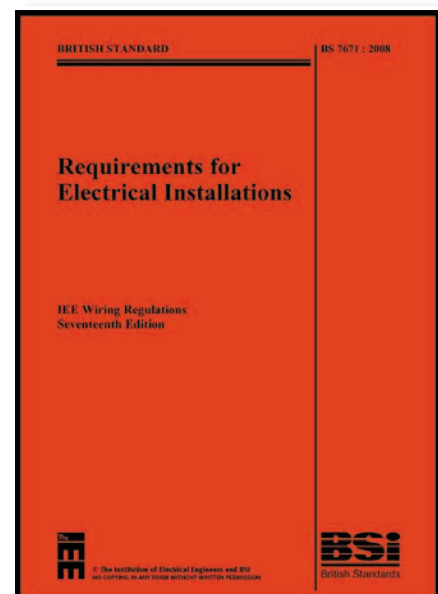
*against indirect contact* becomes *fault protection*. Socket-outlets up to 20A for use by ordinary persons require 30mA RCD protection and socket-outlets up to 32A for mobile equipment for use outdoors require 30mA RCD protection. Note that certain exceptions are permitted – refer to Regulation 411.3.3.

There are new additional requirements for the connection of low voltage generating sets including SSEGs in Chapter 55.

*Section 559 Luminaires and Lighting Installations* is a new series of Regulations concerning lighting installations and also includes highway power supplies and street furniture previously in Part 6.

Chapter 56 has been expanded and includes requirements for emergency escape lighting and fire protection applications.

There are also changes to inspection and testing. Changes have been made to the requirements for insulation resistance; when testing SELV and PELV circuits at 250 V, the minimum insulation resistance is raised to 0.5 M $\Omega$ ; for systems up to and including 500 V, (including FELV), the minimum insulation resistance is raised to 1.0 M $\Omega$ .



### Special installations or locations

The next edition of BS 7671 will include additional sections on special locations not currently included as follows:

- Marinas (Section 709)
- Exhibitions, shows and stands (Section 711)
- Floor and ceiling heating systems (Section 753)
- Mobile or transportable units (Section 717)
- Fairgrounds, amusement parks and circuses (Section 740)
- Photovoltaic power systems (Section 712).

Special locations are areas of increased shock risk, for example:

**Marinas.** There are particular risks associated with electrical installations in marinas. The environment of a marina or yachting harbour is harsh for electrical equipment. The water, salt and movement of structures accelerate deterioration of the installation. The presence of salt water, dissimilar metals and a potential for leakage currents increases the rate of corrosion. There are also increased electric shock risks associated with a wet environment by reduction in body resistance and contact with earth potential.

**Exhibitions.** There are particular risks associated with exhibitions, shows and stands. These arise from:

1. The temporary nature of the installation
2. Lack of permanent structures
3. Severe mechanical stresses
4. Access to the general public.

### Changes to the Existing Requirements for Special Locations

The current special locations contained in the IEE Wiring Regulations will be revised to align with the latest IEC and CENELEC standards.

For example, the requirements for locations containing a bath or a shower unit will require 30mA RCD protection on all circuits in a bathroom/shower room. Zone 3 is no longer defined. Socket outlets other than SELV and shaver units are allowed 3 metres horizontally beyond the boundary of zone 1. Supplementary equipotential bonding is no longer required providing main equipotential bonding is installed in accordance with Chapter 41.

The requirements for swimming pools now include fountains and the zones have changed from A, B, and C to 0, 1, and 2.

In agricultural and horticultural premises and construction sites the reduced disconnection times and 25 volt equation no longer appear. The UK has retained the use of reduced low voltage supplies for construction sites which will continue to be a requirement in the 17th Edition.

In caravan/camping parks each

socket outlet must now be individually protected with overcurrent and RCD protection.

### Changes to Appendices

Appropriate changes have been made to the existing Appendices 1 to 7. In addition the following new Appendices are now included:

**Appendix 8** Current-carrying capacity and voltage drop for busbar trunking and powertrack systems

**Appendix 9** Definitions – multiple source, d.c. and other systems

**Appendix 10** Protection of conductors in parallel against overcurrent

**Appendix 11** Effect of harmonic currents on balanced three-phase systems

**Appendix 12** Voltage drop in consumers' installations

**Appendix 13** Methods for measuring the insulation resistance/impedance of floors and walls to Earth or to the protective conductor system

**Appendix 14** Measurement of fault loop impedance, consideration of the increase of the resistance of conductors with increase of temperature.

### Further information

Important: This article is only intended as a brief overview and only gives a small number of the changes. For further information on the 17th Edition please refer to the IET website: [www.theiet.org/DPC](http://www.theiet.org/DPC) ■



Published by **IET Publishing & Information Services** Michael Faraday House, Six Hills Way, Stevenage, Herts, SG1 2AY, United Kingdom  
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IEE Wiring Matters is a quarterly publication from the Institution of Engineering and Technology (IET). The IET is not a body responsible for the opinions expressed.

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**Co-operating Organisations** The Institution of Engineering & Technology acknowledges the contribution made by the following organisations in the preparation of this publication: British Electrotechnical & Allied Manufacturers Association Ltd – R Lewington, P D Galbraith, M H Mullins | Department for Communities and Local Government – I Drummond | Electrical Contractors Association – D Locke, S Burchell | City & Guilds of London Institute – H R Lovegrove | Energy Networks Association – D J Start | Electrical Contractors Association of Scotland SELECT – D Millar, N McGuinness | Health & Safety Executive – K Morton | Electrical Safety Council | ERA Technology Limited – M Coates | British Cables Association – C Reed | Scottish Building Standards Agency | DTI – D Tee | CORGI – P Collins | GAMBICA – K Morris.

**ISSN 1749-978-X**