AS/NZS 3003:2011
(Incorporating Amendment No. 1)

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Australian/New Zealand Standard™

Electrical installations—Patient areas

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee HT-021, Electrical Energy Networks, Construction and Operation. It was approved on behalf of the Council of Standards Australia on 2 March 2011 and on behalf of the Council of Standards New Zealand on 9 February 2011.
This Standard was published on 1 April 2011.

The following are represented on Committee HT-021:

Auckland District Health Board
Australian Dental Association
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Australian Society of Anaesthetists
Biomedical Engineering Advisory Group SA
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 10009.

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Originated in Australia as part of AS 3003—1976.
Originated in New Zealand as AS/NZS 3003:1999.
Previous edition 2003.
Fifth edition 2011.
Reissued incorporating Amendment No. 1 (February 2015).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 0 7337 9804 7

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee HT-021, Wiring of Medical Treatment Areas in Hospitals to supersede AS/NZS 3003:2003, *Electrical installations—Patient treatment areas of hospital, medical dental and practices and dialyzing locations*.

This Standard incorporates Amendment No. 1 (February 2015). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The purpose of this Standard is to specify special requirements for electrical installations in patient areas. These requirements are additional to those specified in AS/NZS 3000 and the New Zealand Electricity Regulations.

Advice on whether particular patient areas should be wired as body-protected or cardiac-protected electrical areas is set out in AS/NZS 2500, *Guide to the safe use of electricity in patient care*. The governing body or proprietor of the health care facility should refer to the safe practice code in AS/NZS 2500 for advice on how these decisions should be based on the type of procedures undertaken in each area and the level of protection afforded in the medical electrical equipment available for these procedures.

This Standard is intended to apply only to installations (or alterations or additions) made or carried out after the date this Standard is published. However, it is strongly recommended that hospital management carefully evaluate the procedures undertaken within existing installations and take steps to implement the appropriate electrical safety requirements specified herein for areas that are used for cardiac-type procedures or for procedures involving the regular use of medical electrical equipment.

While this Standard is intended to apply to new installations or extensions, some guidance is given concerning conversion of older installations.

Any requirements that may be applicable only in Australia or New Zealand are indicated by the symbol **A** or **NZ** in the margin.

The terms ‘normative’ and ‘informative’ are used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of the standard whereas an ‘informative’ appendix is only for information and guidance.

Major changes in the 2011 edition include the following:

- After each clause there is now a section (in italics) that specifies how compliance to the clause is validated.
- In order to minimize the over specification of wiring for cardiac-protected areas, Clauses 2.2.2.1 and 2.2.3 now mandate the level of electrical protection required in specific patient areas. Failing to meet these requirements will result in non-compliance.
- Final sub-circuits are now permitted to supply only one room and its adjoining ensuite in body-protected electrical areas.
- Socket-outlets that must be protected by LPDs now include the common IEC type connectors.
- Final sub-circuits are permitted to supply only one patient location in cardiac-protected electrical areas.
- Socket-outlets marked for cleaning purposes may not be supplied from any sub-circuits supplying socket-outlets in body-protected or cardiac-protected electrical areas.

- Socket-outlets (Clause 2.4.3.2 and 4.4.2.4.1) within 5000 mm of the entrance to body-protected or cardiac-protected electrical area are to be protected by LPDs and connected to the equipotential earthing system.
- A UPS status indicator (Clause 2.4.5.2) is required where socket-outlets are connected to a UPS supply.
- RCDs are required to be readily accessible.
- Socket-outlets that are not readily accessible require a separate readily accessible isolating switch.
- Socket-outlets marked for cleaning purposes are required to be located within 15 000 mm of any point within a patient area. The need for a socket-outlets marked for cleaning purposes to be located within a patient area has been removed.
- The marking of socket-outlets has been specified.
- The testing requirements for RCDs have been specified.
- The testing requirements for isolated supplies has been specified.
- Commissioning and certification of body-protected or cardiac-protected electrical areas has been specified. The documentation required to certify areas has been detailed.
- The need for EP terminals has been removed.
- The methodology of earthing in cardiac-protected electrical areas has altered to allow the use of nodes.
- Detailed drawings have been added to show the correct methodology of earthing of socket-outlets.
- A new section on special patient areas has been added covering home care installations and, in particular, self harm areas.
- A new Section 6 covering alterations, additions and repairs to electrical installation in patient area has been added. It requires that the patient area must have a current routine inspection before alterations, additions and repairs can start.
- Magnetic fields are recognized as having an important effect on some diagnostic procedures and therefore requirements have been added to test the level of magnetic fields in certain areas.
- The marking of patient area is more detailed.
- Section 9 detailing routine inspection has been added.