AS 2067:2016

Substations and high voltage installations exceeding 1 kV a.c.

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- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Bureau of Steel Manufacturers of Australia
- CIGRE
- Communications, Electrical and Plumbing Union—Electrical Division
- Consult Australia
- Department of Industry, Skills and Regional Development, NSW
- Department of Mines and Petroleum, WA
- Electrical Regulatory Authorities Council
- Energy Networks Association
- Engineers Australia
- Institute of Electrical Inspectors

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Australian Standard®

Substations and high voltage installations exceeding 1 kV a.c.

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-043, High Voltage Installations, to supersede AS 2067—2008, *Substations and high voltage installations exceeding 1 kV a.c.*

The objective of this Standard is to provide common rules for the design and the erection of electrical power installations in systems with nominal voltages above 1 kV a.c. and nominal frequency up to and including 60 Hz.

The objective of this revision is to incorporate changes derived from experience and feedback following the issue of the 2008 edition of this Standard, amendments that have been made to IEC 61936, and to incorporate review of consideration of fire issues, requirements related to the mining area for fixed installations, as considered by EL-023, Electrical Equipment in Mines and Quarries, and substantially expand the sections and clauses on earthing, following reference to ENA's Handbook ENA Doc 025, EG-0 on earthing.

This Standard is based on but not equivalent to IEC 61936-1:2010, *Power installations exceeding 1 kV a.c.*, Part 1: *Common rules*, and its Amendment 1 (2014).

Where a reference is made to 'national regulations', it is intended to encompass national, state or territory and local regulations.

The terms 'normative' and 'informative' are used to define the application of the appendix to which they apply. A normative appendix is an integral part of a standard, whereas an informative appendix is only for information and guidance.

Statements expressed in mandatory terms in notes to figures and tables are deemed to be requirements of this Standard.

CONTENTS

Page

Page

STANDARDS AUSTRALIA

Australian Standard
Substations and high voltage installations exceeding 1 kV a.c.

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard provides minimum requirements for the design and erection of high voltage installations in systems with nominal voltages above 1 kV a.c. and nominal frequency up to and including 60 Hz, so as to provide safety and proper functioning for the use intended.

For the purposes of this Standard, a high voltage installation is considered to be:

(a) An electricity network substation, under the control of an electricity network operator or entity authorized by a licence or other legal instrument to convey electricity.

(b) The high voltage parts of an electrical installation of a power station including all auxiliary systems and interconnecting lines and cables between power stations if on the same site.

(c) Electrical installations built at offshore platforms, e.g. offshore wind power farms.

(d) The high voltage parts of an electrical installation that are not covered in (a) or (b) above. This may include but not be limited to consumer and customer electrical installations serving premises such as factories, commercial facilities, industrial plants, institutional facilities and mine sites.

A high voltage installation includes, but is not limited to, the following equipment:

(i) High voltage electrical installations on masts, poles and towers.

(ii) Switchgear and/or transformers and/or electrical equipment located outside a closed electrical operating area.

(iii) Rotating electrical machines.

(iv) Switchgear, control gear and assemblies.

(v) Transformers and reactors.

(vi) Converters.

(vii) Cables.

(viii) Lines.

(ix) Wiring systems.

(x) Batteries, battery chargers and associated d.c. supply systems.

(xi) Capacitors.

(xii) Earthing systems.

(xiii) Buildings and fences that are part of a closed electrical operating area.

(xiv) Associated protection, control, auxiliary and ancillary systems.

(xv) Structures, foundations, earthworks and drainage.

NOTE: In general, a product Standard for an item of equipment takes precedence over this Standard.