



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

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-

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Australian Standard[®]

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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-025, Electrical Equipment in Mines and Quarries, and substantially expand the sections and clauses on earthing, following reference to ENA's Handbook ENA Doc 025, PG-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

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	5
1.2 APPLICATION	6
1.3 NORMATIVE REFERENCES	6
1.4 DEFINITIONS.....	8
SECTION 2 FUNDAMENTAL REQUIREMENTS	
2.1 GENERAL.....	8
2.2 ELECTRICAL REQUIREMENTS	19
2.3 CIVIL AND STRUCTURAL REQUIREMENTS.....	21
2.4 CLIMATIC AND ENVIRONMENTAL CONDITIONS	27
2.5 SPECIAL REQUIREMENTS	30
2.6 SITE SELECTION	31
2.7 RISK MANAGEMENT	31
SECTION 3 INSULATION	
3.1 GENERAL.....	33
3.2 SELECTION OF INSULATION LEVEL.....	33
3.3 VERIFICATION OF WITHSTAND VALUES.....	33
3.4 MINIMUM CLEARANCES OF LIVE PARTS.....	34
3.5 MINIMUM CLEARANCES BETWEEN PARTS UNDER SPECIAL CONDITIONS	39
3.6 TYPE TESTED EQUIPMENT	40
SECTION 4 EQUIPMENT	
4.1 GENERAL REQUIREMENTS.....	41
4.2 SPECIFIC REQUIREMENTS.....	42
SECTION 5 INSTALLATIONS	
5.1 MINIMUM REQUIREMENTS	52
5.2 OUTDOOR INSTALLATIONS OF OPEN DESIGN	57
5.3 INDOOR INSTALLATIONS OF OPEN DESIGN	64
5.4 INSTALLATION OF PREFABRICATED TYPE-TESTED SWITCHGEAR	65
5.5 REQUIREMENTS FOR BUILDINGS	66
5.6 HIGH VOLTAGE/LOW VOLTAGE PREFABRICATED SUBSTATIONS	71
5.7 ELECTRICAL INSTALLATIONS ON A MAST, POLE OR TOWER.....	71
SECTION 6 SAFETY MEASURES	
6.1 GENERAL.....	72
6.2 PROTECTION AGAINST DIRECT CONTACT	72
6.3 MEANS TO PROTECT PERSONS FROM INDIRECT CONTACT	74
6.4 MEANS TO PROTECT PERSONS WORKING ON OR NEAR ELECTRICAL INSTALLATIONS	74
6.5 PROTECTION FROM DANGER RESULTING FROM ARC FAULT.....	77
6.6 PROTECTION AGAINST DIRECT LIGHTNING STRIKES.....	77
6.7 PROTECTION AGAINST FIRE AND EXPLOSION	78
6.8 PROTECTION AGAINST LEAKAGE OF INSULATING LIQUIDS AND SF ₆	91
6.9 IDENTIFICATION AND MARKING.....	96
6.10 PROTECTION AGAINST UNAUTHORIZED ACCESS	97

SECTION 7 PROTECTION, CONTROL AND AUXILIARY SYSTEMS	
7.1	PROTECTION SYSTEMS 98
7.2	MONITORING AND CONTROL SYSTEMS..... 99
7.3	A.C. AND D.C. SUPPLY CIRCUITS..... 100
7.4	COMPRESSED AIR SYSTEMS 101
7.5	SF ₆ GAS HANDLING PLANT 102
7.6	BASIC RULES FOR ELECTROMAGNETIC COMPATIBILITY OF CONTROL SYSTEMS 102
SECTION 8 EARTHING SYSTEMS	
8.1	GENERAL..... 103
8.2	FUNDAMENTAL REQUIREMENTS 105
8.3	RISK MANAGEMENT AND DUE DILIGENCE 106
8.4	DESIGN 107
8.5	CONSTRUCTION..... 121
8.6	COMMISSIONING AND ONGOING MONITORING..... 122
8.7	MAINTENANCE, MODIFICATION AND REFURBISHMENT 123
8.8	TESTING..... 124
8.9	DOCUMENTATION..... 124
SECTION 9 INSPECTION AND TESTING	
9.1	INSPECTIONS AND TESTS 126
9.2	DOCUMENTATION AND RECORDS 127
9.3	VERIFICATION OF SPECIFIED PERFORMANCE 127
9.4	TESTS DURING INSTALLATION AND COMMISSIONING 127
9.5	TRIAL RUN 127
SECTION 10 OPERATION AND MAINTENANCE MANUAL 128	
APPENDICES	
A	VOLTAGE LIMITS AND RISK LEVEL 129
B	SUBSTATION EARTHING SYSTEM..... 134
C	FIRE RISK ZONES FOR DISTRIBUTION SUBSTATIONS 145
D	EMF AND SAFETY ISSUES—OBLIGATIONS RELATED TO THE DESIGN OF THE INSTALLATION 154
E	TYPICAL SYSTEM FOR FUNCTIONAL IDENTIFICATION OF SMALL WIRING 155
F	POWER SYSTEM PROTECTION..... 158
G	EARTHING VOLTAGE LIMIT CASE STUDIES 175
H	EARTH SYSTEM TESTING 204
BIBLIOGRAPHY 220	

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.