



Substation Standard

Standard for Substation Signage

These standards created and made available are for the construction of Ergon Energy infrastructure. These standards ensure meeting of Ergon Energy's requirements. External companies should not use these standards to construct non-Ergon Energy assets.

If this standard is a printed version, to ensure compliance, reference must be made to the Ergon Energy internet site www.ergon.com.au to obtain the latest version.

Approver	Carmelo Noel - GM Asset Standards John Lansley – Manager Substation Standards
If RPEQ sign off required insert details below.	
Ergon Energy	
Certified Person name and Position	Registration Number
Simon Hickey – Senior Substation Standards Engineer	RPEQ 13759

Abstract: This Substation Standard outlines the safety, operational and functional signage application standards for zone substation and switching station sites. It establishes the guidelines for the design, manufacture, and installation of operational and safety signs at Ergon Energy Corporation Zone Substation sites.

Keywords: Signage, Sign, Substation Signage, Substation, Substation Standard, SS-1-9.3.

Standard for Substation Signage



Revision history

Revision date	Version number	Author	Description of change/revision
10/02/14	1.0	Substation Standards	Document adapted from Substation Standard SS-1-9.3
01/04/14	1.1	Substation Standards	Site Identification sign updated to align with STNW1169.
31/03/15	1.2	Substation Standards	'Telephones Prohibited' sign added for battery rooms. Duplicate PPE signs removed from battery rooms. 10.31 - Substation Telephone – Emergency Information example sheet added. Warning signs design updated to meet AS1319 Emergency phone number updated on sheets 01, 02, & 03 Cable screen bonding additional sizes added.
04/06/2016	2.0	Substation Standards	Approved version
15/05/2020	2.1	Substation Standards	5.6 – Corporate Security doc referenced 10.2 – Preferred sign changed. 10.6 - Capacitor Bank Signs, drawing numbers and stock codes updated. 10.7 – HV at Ground Level sign added. 10.31 – Emergency info sign image updated

Document approvals

Name	Position title	Signature	Date
Carmelo Noel	GM Asset Standards		
John Lansley	Manager Substation Standards		

Stakeholders / distribution list

Name	Title	Role
Substation Design Distribution Information Forum	Substation Design DIF	Information
Ben Hayes	Power Engineering Solutions Manager	Information
Chris Woods	Substation Project Design Manager	Information

Table of Contents

1	Overview	1
1.1	Purpose	1
1.2	Scope	1
2	References	1
2.1	Ergon Energy controlled documents	1
2.3	Other documents	2
3	Legislation, regulations, rules, and codes	2
4	Definitions, acronyms, and abbreviations.....	3
4.1	Definitions.....	3
4.2	Acronyms and abbreviations.....	3
5	Classifications	3
5.1	Regulatory	3
5.2	Hazard.....	4
5.3	Emergency information signs.....	4
5.4	Fire signs	4
5.5	Operational signs.....	4
5.6	Information signs	5
6	Signs general requirements.....	5
6.1	Sign materials.....	5
6.2	Project safety barriers & signage	5
6.3	Invalid sign removal	5
6.4	Safety conditions	6
6.5	Sign modification and changes	6
7	Location & maintenance of signs	6
7.1	Siting of signs	6
7.2	Visibility of signs	6
7.3	Signs on movable objects	7
7.4	Regulatory & hazard signs.....	7
7.5	Illumination of signs	7
7.6	Number of signs.....	7
8	Substation commissioning	7
9	Sign maintenance.....	7

10	Sign placement icons, drawing details, ergon energy stock code numbers.....	8
10.1	Main entry gate or adjacent fence line.....	8
10.2	Alternative to main entry gate or adjacent fence line	12
10.3	Direct entry personnel door/gate from public area to substation site	15
10.4	External face of substation / asset site perimeter fence	17
10.5	Internal to substation/asset site perimeter fence	18
10.6	Capacitor bank enclosure	18
10.7	Reactor / other HV equipment enclosure	19
10.8	Control / Switchroom building entrance door.....	20
10.9	Control / Switchroom building – emergency exit doors.....	22
10.10	Portable earth device (PED) storage racks at substation site substation prospective fault level signage.....	24
10.11	Battery rooms, battery enclosures and mounting racks – secondary batteries – vented cells	25
10.11.1	Vented cells - site access	25
10.11.2	Vented cells - PPE and warnings	26
10.11.3	Vented cells – emergency related information	28
10.11.4	Vented cells – firefighting equipment.....	29
10.13	Battery room / battery enclosure / mounting rack – secondary batteries – sealed cells – section 8 safety.....	31
10.13.1	Sealed Cells – Restricted Access.....	31
10.13.2	Sealed cells – PPE & warnings	32
10.14.1	Sealed cells – emergency related information	34
10.14.2	Sealed cells – firefighting equipment	34
10.16	SCADA / Communications room door zone substation site.....	36
10.17	SCADA / Communications room door - Network Control Centre	37
10.18	Entry points to an area classed as – ‘Confined Space’	38
10.20	Adjacent to ‘Un-Potable Water Tap’ in substation switchyard (external).....	39
10.21	Adjacent to ‘Un-Potable Water Tap’ in substation amenities Area.....	39
10.22	Restricted site main entrance adjacent to restricted area / item within substation ..	39
10.23	Substation / Control building access doors (interior / exterior).....	40
10.24	Fire appliance signs – general	41
10.25	Regulatory – Mandatory.....	43
10.27	Hazard – Danger	45
10.28	Hazard – Warning.....	47

Standard for Substation Signage



10.29	Sustainable forestry plantations	48
10.30	General purpose - Notice	49
10.31	Substation Telephone – Emergency information.....	49

1 Overview

1.1 Purpose

This Substation Standard outlines the safety, operational and functional signage application standards for zone substation and switching station sites. It establishes the guidelines for the design, manufacture, and installation of operational and safety signs at Ergon Energy Corporation Zone Substation sites.

It is intended to assist Designers, Technical Officers, Project Managers and Construction Staff in specifying, ordering and fitting signage.

1.2 Scope

Substation signs shall be designed and installed at Ergon Energy's Zone Substations to meet public safety and workplace safety standards in accordance with the relevant Industry Laws, Regulations and Applicable Standards. Care should be taken that signage placed conveys the message intended in a concise form.

Ergon Energy Corporation is committed to working in a way which ensures the health and safety of its employees, contractors, customers and members of the public

The document covers:

- An overview of definitions and sign classification.
- An overview of sign materials, location, sighting & maintenance

Should there be a difference between the general wording of this document and the precise interpretation of any relevant legislation, then that legislation shall apply.

2 References

2.1 Ergon Energy controlled documents

Document number or location (if applicable)	Document name	Document type
(HS000405W104: Manage equipment labelling and colour coding)	Manage equipment labelling and colour coding	Work Instruction (manual)
(HS000403W107: Manage workplace safety signage)	Manage workplace safety signage	Work Instruction (manual)
(STNW3035)	Substation Fire Protection	Standard

2.3 Other documents

Document number or location (if applicable)	Document name	Document type
(AS 1216-2006: Class labels for dangerous goods, 2006) (Standards Australia)	Class labels for dangerous goods.	Standard
(AS/NZS 3000, 2007) (Standards Australia)	Electrical Installations (known as the Australian/New Zealand Wiring Rules)	Standard
(AS 1742.1:2014: Manual of uniform traffic control devices - General introduction and index of signs, 2014) (Standards Australia)	Manual of uniform traffic control devices - General introduction and index of signs	Standard
(ISO 3864.3; 2012; Graphical symbols - Safety colours and safety signs - Part 3: Design principles for graphical symbols for use in safety signs, 2012) (ISO)	Graphical symbols - Safety colours and safety signs - Part 3 : design principles for graphical symbols use in safety signs (reference purposes only)	Standard
(AS 2676.1, 1992) (Standards Australia)	Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings – Vented Cells.	Standard
(AS2676.2 - 1992, 1992) (Standards Australia)	Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings – Sealed Cells	Standard
(AS/NZS 2865:2009: Safe working in a confined space, 2009) (Standards Australia)	Safe working in a confined space.	Standard
(AS1319, 1994) (Standards Australia)	Safety Signs for the occupational environment.	Standard

3 Legislation, regulations, rules, and codes

Legislation, regulations, rules, and codes
(Queensland Electrical Safety Act, 2002) (Qld Govt)
(Queensland Electrical Safety Regulation, 2013) (Qld Govt)
(Workplace Health and Safety Act, 2011) (Qld Govt)
(Workplace Health and Safety Regulation, 2011) (Qld Govt)

4 Definitions, acronyms, and abbreviations

4.1 Definitions

For the purposes of this standard, the following definitions apply:

Term	Definition
Background	That part of a sign that is behind the legend definition of term.
Combination Sign	A sign which combines both words and a symbol
Composite Sign	A sign on which the words qualify or augment the symbol
Hybrid Sign	A combination sign on which the words simply repeat the message given by the symbol
Danger	Applied in the context of safety signs to a situation which is likely to be life threatening if the message is ignored
Legend	The message content of a sign in words (text) or symbols, or a combination of these.
Shall	The word shall is to be understood as mandatory
Should	The word should is to be understood as non-mandatory, ie advisory or recommended
Symbol	A graphic or pictorial device used to represent objects or concepts, but for purposes of this document excluding letters, numerals and punctuation symbols.
Warning	Applied in the context of safety signs to a situation which is likely to be hazardous but not likely to be life threatening if the message is ignored.

4.2 Acronyms and abbreviations

Abbreviation	Definition
PPE	Personal Protective Equipment

5 Classifications

5.1 Regulatory

Signs containing instructions with which failure to comply constitutes either an offence at law, breach of standing orders, Ergon Energy safety procedures or other directions and subdivided as follows:

- Prohibition signs – Signs that indicate that an action or activity is not permitted.
- Mandatory Signs – Signs that indicate that an instruction must be carried out.
- Limitation or Restriction Signs – Signs that place a numerical or other defined limit on an activity or use of a facility.

5.2 Hazard

Signs advising of hazards - subdivided as below:

- DANGER signs – Signs warning of a particular hazard or hazardous condition that is likely to be life-threatening.
- WARNING signs – Signs warning of a hazard or hazardous condition that is not likely to be life threatening.

NOTE: The term CAUTION used in earlier editions of AS1319 has now been replaced by the term WARNING. The two terms are regarded as being interchangeable.

5.3 Emergency information signs

Signs indicating the location of or directions to, emergency related facilities such as exits, safety equipment or first aid facilities.

This may include but is not limited to the following:

- Emergency telephone numbers
- First aid facilities
- Safety equipment
- Emergency assembly points
- Exits from enclosures/buildings within a substation site

NOTE: EXIT signs indicating exit points from substation buildings are part of the Substation Building requirements.

Such signs are covered, ref – AS/NZS 2293.1:-Emergency evacuation lighting for buildings, and actioned by Ergon Energy Civil and Building Group

5.4 Fire signs

Signs advising the locations of fire alarms and fire-fighting facilities.

Separate signs should be used for any associated messages.

5.5 Operational signs

Signs, other than MANDATORY signs, that are required to convey information, for safety of personnel and Electricity Network, security, data/characteristics relating to the operation of Ergon Energy Corporation Substation Plant.

The signage may contain but is not limited to the following:

- Site asset naming
- Device naming
- Substation fault level
- Telephone (internal and external) usage data
- Site entry requirements
- Radio operation and procedures
- Other non-specific data of operational nature

5.6 Information signs

These signs convey a message or instruction that does not fit into categories listed in AS1319 but do communicate information of a general nature such as Ergon Energy Corporation practices and site policies.

NOTE:

This Ergon Energy Substation standard excludes EXIT signs of the type specified in AS2293.1: 1998 for use inside buildings.

These items are covered by Ergon Energy Substation Civil Construction Standards Group as part of Building Contract.

For security signage refer to Corporate Security Manual R137 and Corporate Security Signage Guideline – Draft.

6 Signs general requirements

- All signage details relate to Ergon Energy Corporation Substation or Switchyard sites unless otherwise noted.
- Signs shall conform to the usage, details, references and all relevant documents as listed in this document.
- Signs may be listed under multiple categories for use in substations. The usage that alerts personnel to the greatest site danger to safety shall be the preferred use.

6.1 Sign materials

- Signage shall not be painted directly on to any existing surface.
- Sign materials shall be as shown on associated/referenced drawings

6.2 Project safety barriers & signage

- The form of any temporary safety barrier e.g. vinyl tapes, netting, solid barriers or steel fence panels, shall be considered when placing any sign.
- The safety barrier must be capable of supporting a sign in such a manner as to be legible at all times, under adverse conditions, from all points of approach for the duration of project.
- Should a signed area be accessible to the general public, signs shall be placed to ensure site is signposted according to Ergon Energy Substation Standards for the full duration of the project.
- A risk assessment of such project should allow for the visibility and placement of signage for the full duration of a project.

6.3 Invalid sign removal

- All signs should be removed immediately if the information or condition listed thereon is no longer relevant.
- Such signs should be replaced with a sign outlining updated information where conditions on project have changed.
- Particular importance should be placed upon the prompt removal of temporary hazard or safety exclusion zone signs when that hazard or danger ceases to exist.
- All sites should be restored to pre-signed status after removal of signs.

6.4 Safety conditions

All signage must be placed in such a manner that at a point face to face with a sign, the sign placement shall cause no breach of any safe working approach limits.

6.5 Sign modification and changes

Any request for addition to, deletion from or changes to this suite of Substation signs shall be made through the Substation Design Standards Team to the Engineering Manager Substation Standards for processing, approval and ratification before enactment of changes.

7 Location & maintenance of signs

7.1 Siting of signs

- Signs shall be prominently placed as close as practicable to an observer's line of sight in a vertical plane.
- For a standing adult this will be approximately 1500 mm above ground or floor level in front of the observer to the horizontal centre line of sign.
- A sign should be located so that an observer has time to read it (or at least extract the information essential to them) before reaching a point of hazard or decision.
- Signs which are free standing or mounted overhead shall be placed so that they are not a hazard to persons approaching to or working on site.
- Placement of signs should not compromise any safe approach limits.
- Signs should not be placed where the possibility of becoming obscured exists.
- Materials should not be placed or stacked in a position that may obscure any signs.
- All signs should be mounted so that no visibility, safety or operational hazards are created by their placement.
- Signs should not be erected in contravention of any relevant laws or regulations or operational procedures.

7.2 Visibility of signs

Incorrect positioning of a sign can reduce its visibility and impact and may render it illegible. In selecting the most effective position for a sign the following needs to be considered.

- Visual obstructions between the sign and all locations from which it is intended to be read should be avoided. This includes temporary obstructions such as an open door, grass or tree growth.
- Signs should not be located against visually cluttered or confusing background, Shift position of sign or rearrange area to ensure sign is conspicuous.
- Signs should be located where the messages are visible, and attract the attention of any person approaching or working at substation site.
- A contrasting colour surround may be used to enhance visibility of a sign where the predominant sign colour may blend in with that of immediate background colour.
- Where signs 'weathered beyond readability' are reported during substation inspections or audits, urgent replacement should be arranged.

7.3 Signs on movable objects

Signs should not be mounted on moveable items, such as doors or windows, where a change in position of an object would void the intended purpose of sign or cause it to be out of sight. This does not apply to signs intended to have a portable or moveable application.

When a portable sign is moved, the new position should comply with all visibility and safety requirements for a fixed position sign.

7.4 Regulatory & hazard signs

- Regulatory and Hazard signs should be sited in relation to the particular hazard to allow a person ample time after first viewing the sign to heed the posted warning. The positioning of signs will vary according to the application of sign.
- Signs warning against the touching of switches or other electrical equipment in operational areas should be placed close to the equipment.

7.5 Illumination of signs

- Where natural lighting does not provide adequate illumination of signs, additional sources of illumination must be considered.
- Attention should be addressed to signs subject to some forms of artificial light which cause a change in the perception of colours and reduced sign visibility.

7.6 Number of signs

Care should be taken in the placement of signs close together at the one position. The result of a congested placement may be that little information is absorbed or the visual impact may be confusing.

The total sign information should be easily read and understood.

8 Substation commissioning

- A pre-commissioning inspection shall be made to ensure that all signs required by this standard are made available in time for commissioning.
- Ensure all signs are legible, unambiguous, provide correct information, be placed in appropriate positions and securely fixed in place for commissioning.

9 Sign maintenance




For maximum effectiveness, signs should be maintained for good readability, they should be kept clean, and replacement of faded/unreadable/damaged signs should be actioned where necessary.

Ensure when inspecting/installing signs that they are legible, and in the correct location for the sign message to be understood.

10 Sign placement icons, drawing details, ergon energy stock code numbers






For standard sign design production details refer to listed Ergon Energy drawings as detailed in the following sub sections. Where multiple versions (sizes) of the sign type are available the preferred option should be selected provided that it meets the requirements of the preceding sections.

10.1 Main entry gate or adjacent fence line

Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
Ergon Energy Corporation – Site Identification 	EESS-10181-01 (450 x 300)	Order as required
	EESS-10181-02 (600 x 450) - Preferred	Order as required
	EESS-10181-03 (1200 x1200)	Order as required
Personal Protective Equipment (PPE) -required for substation site entry. 4 Unit combination sign (head, protective clothing, footwear & eye protection) 	EESS-10181-04 (900 x 600) - Preferred	002423028
	EESS-10181-48 (450 x 300)	Order as required
	EESS-10181-49 (300 x 225)	Order as required
Ergon Energy – Site entry conditions Check requirements for Sub Station Site before ordering. Note :For joint sites each party may place unique:- company sign company conditions for entry company contact details 	EESS-10181-12 (300 x 450)	002423044




Standard for Substation Signage



Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
Danger – High Voltage 	EESS-10181-10 (450 x 300) - Preferred	002423036
	EESS-10181-11 (600 x 450)	Order as required
	EESS-10181-67 (250 x 180)	Order as required
Non-ionising Radiation-Warning 	EESS-10181-13 (300 x 450)	002423051
Hazchem 	EESS-10181-15 (600 x 125)	002423069
Combustible Liquid 	EESS-10181-14 (1500 x 150)	002423077
Authorised Persons Only 	EESS-10181-16 (300 x 450) - Preferred	002423085



Standard for Substation Signage



Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Authorised Persons Only</p> 	<p>EESS-10181-17 (450 x 300)</p>	<p>Order as required</p>
<p>Substation Road Traffic Advisory – Speed Advice – Symbolic 10km/h:</p> 	<p>EESS-10181-18 (300 x 450)</p>	<p>Order as required</p>
	<p>EESS-10181-19 (450 x 600) - Preferred</p>	<p>002423093</p>
<p>Network Access Restriction Applies at this Site</p> <p>Used only when an access restriction for safety reasons applies to some item of plant. Must be removed when safety exclusion no longer applies.</p> <p>NOTE: Item - drawing EESS-10181-58 may also be required in conjunction with the use of item below</p> 	<p>EESS-10181-20 (450 x 300)</p>	<p>002438042</p>

Standard for Substation Signage

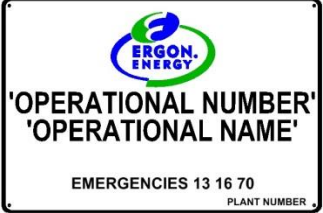





Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger - Network Access Restriction Exists Tag</p> <p>Applies to Plant Item</p> <p>NOTE: This item may also be required in conjunction with the use of item above EESS-10181-20</p> 	<p>EESS-10181-58</p> <p>(80 x 80)</p>	<p>002438059</p>
<p>Electric security fence warning</p> <p>Where electric security protection fence is fitted at this site this sign should be placed in conjunction with a 'DANGER HIGH VOLTAGE' sign.</p> 	<p>EESS-10181-21</p> <p>(300 x 225)</p>	<p>N/A</p>

Standard for Substation Signage









10.2 Alternative to main entry gate or adjacent fence line

Alternative to Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
Ergon Energy Corporation – Site Identification 	EESS-10181-01 (450 x 300)	Order as required
	EESS-10181-02 (600 x 450) - Preferred	Order as required
	EESS-10181-03 (1200 x 1200)	Order as required
Ergon Energy – Site entry conditions <i>Note :For joint sites each party may place unique:- company logo sign company conditions for entry company contact details</i> 	EESS-10181-12 (300 x 450)	002423044
Personal Protective Equipment (PPE) - required for substation site entry. 4 Unit combination sign (head, protective clothing, footwear & eye protection). 	EESS-10181-04 (900 x 600) - Preferred	002423028
	EESS-10181-48 (450 x 300)	Order as required
	EESS-10181-49 (300 x 225)	Order as required
Danger –High Voltage 	EESS-10181-10 (450 x 300) - Preferred	002423036
	EESS-10181-11 (600 x 450)	Order as required
	EESS-10181-67 (250 x 180)	Order as required




Standard for Substation Signage



Alternative to Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
Non-ionising Radiation-Warning 	EESS-10181-13 (300 x 450)	002423051
Hazchem 	EESS-10181-15 (600 x 125)	002423069
Combustible Liquid 	EESS-10181-14 (1500 x 150)	002423077
Authorised Persons Only 	EESS-901978-16 (300 x 450) - Preferred	002423085
Authorised Persons Only 	EESS-10181-17 (450 x 300)	Order as required
Substation Road Traffic Advisory – Speed Advice – Symbolic 10km/h 	EESS-10181-18 (300 x 450)	Order as required
	EESS-10181-19 (450 x 600) - Preferred	002423093

Standard for Substation Signage







Alternative to Main Entry Gate or Adjacent Fence Line	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Network Access Restriction Applies at this Site</p> <p>Used only when an access restriction for safety reasons applies to some item of plant. Must be removed according to safety exclusion status.</p> <p>NOTE: Tag item EESS-10181-58 may also be required in conjunction with the use of item below.</p> 	<p>EESS-10181-20 (450 x 300)</p>	<p>002438042</p>
<p>Danger - Network Access Restriction Exists Tag</p> <p>Applies to Plant Item</p> <p>NOTE: This item may also be required in conjunction with the use of item above EESS-10181-20.</p> 	<p>EESS-10181-58 (80 x 80)</p>	<p>002438059</p>
<p>Electric security fence warning</p> <p>Where electric security protection fence is fitted at this site this sign should be placed in conjunction with a 'DANGER HIGH VOLTAGE' sign.</p> 	<p>EESS-10181-21 (300 x 225)</p>	<p>N/A</p>

Standard for Substation Signage







10.3 Direct entry personnel door/gate from public area to substation site

Direct Entry Personnel Door/Gate from Public Area to Substation Site	Drawing No (Dimensions mm)	Stock Code (if applicable)
Ergon Energy Corporation – Site Identification 	EESS-10181-01 (450 x 300)	Order as required
	EESS-10181-02 (600 x 450) - Preferred	Order as required
Personal Protective Equipment (PPE)-required for substation site entry- 4 Unit combination sign(head, protective clothing, footwear & eye protection) 	EESS-10181-04 (900 x 600) - Preferred	002423028
	EESS-10181-48 (450 x 300)	Order as required
	EESS-10181-49 (300 x 225)	Order as required
Danger High Voltage 	EESS-10181-10 (450 x 300) - Preferred	002423036
	EESS-10181-11 (600 x 450)	Order as required
	EESS-10181-67 (250 x 180)	Order as required
Ergon Energy – Site entry conditions Note :For joint sites each party may place unique:- company logo sign companies agreed conditions for entry companies contact details 	EESS-10181-12 (300x450)	002423044




Standard for Substation Signage




Direct Entry Personnel Door/Gate from Public Area to Substation Site	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Non-ionising Radiation-Warning</p> 	<p>EESS-10181-13 (300 x 450)</p>	<p>002423051</p>
<p>Authorized Persons only</p> 	<p>EESS-10181-16 (300 x 450) - Preferred</p>	<p>002423085</p>
<p>Authorized Persons only</p> 	<p>EESS-10181-17 (450 x 300)</p>	<p>Order as required</p>
<p>Network Access Restriction</p> <p>Applies at this Site</p> <p>Used only when an access restriction for safety reasons applies to some item of plant. Must be removed according to safety exclusion status.</p> <p>NOTE: Tag item EESS-10181-58 may also be required in conjunction with the use of item below</p> 	<p>EESS-10181-20 (450 x 300)</p>	<p>002438042</p>

Standard for Substation Signage



Direct Entry Personnel Door/Gate from Public Area to Substation Site	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger - Network Access Restriction Exists Tag</p> <p>Applies to Plant Item –</p> <p>NOTE: This item may also be required in conjunction with the use of item above EESS-10181-20</p> 	EESS-10181-58 (80 x 80)	002438059
<p>Hazchem</p> 	EESS-10181-15 (600 x 125)	002423069
<p>Combustible Liquid</p> 	EESS-10181-14 (1500 x 150)	002423077



10.4 External face of substation / asset site perimeter fence

External Face of Substation / Asset Site Perimeter Fence	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger – High Voltage:</p> <p>For long sided perimeter fences a sign should be placed at a distance no greater than 30 metres from a sign at main entrance or alternative entrance gate and then at 30 metre intervals along fence line. Additional signs shall be placed on fence at each change of direction of fence line.</p> 	EESS-10181-10 (450 x 300) - Preferred	002423036
	EESS-10181-11 (600 x 450)	Order as required
	EESS-10181-67 (250 x 180)	Order as required



Standard for Substation Signage



10.5 Internal to substation/asset site perimeter fence

Internal to Substation / Asset Site Perimeter Fence	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Vehicles are restricted to formed roadways.</p> 	EESS-10181-22 (300 x 450)	002423101
<p>Vehicles not to drive across cable ducts.</p> 	EESS-10181-23 (300 x 450)	002423119

10.6 Capacitor bank enclosure

Capacitor Bank Enclosure	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger – High Voltage.</p> 	EESS-10181-10 (450 x 300) - Preferred	002423036
	EESS-10181-11 (600 x 450)	Order as required
	EESS-10181-67 (250 x 180)	Order as required
<p>Danger - High Voltage at Ground Level For HV equipment mounted at ground level.</p> 	EESS-10181-88 (600 x 450)	002472348

Standard for Substation Signage





Capacitor Bank Enclosure	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Capacitor can preparation for safe working: Note: Capacitor discharge time may vary with supplier/manufacturer. Check operating manual for required discharge time of capacitor cans prior to ordering sign.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">WORKING ON CAPACITOR BANK</p> <hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> • ISOLATE CAPACITOR BANK • WAIT 10 MINUTES • PROVE DE-ENERGISED AND EARTH LINE SIDE OF CAPACITOR BANK • RECEIVE ACCESS OR TEST PERMIT • PLACE A CAPACITOR SHORTING/EARTH TO THE STAR POINT OF BANK, OR SHORT EACH CAPACITOR CAN • IF A CAPACITOR CAN IS TO BE REMOVED, THE CAN MUST BE SHORTED AT ALL TIMES. </div>	<p>EESS-10181-89 (300 x 350)</p>	<p>002472355</p>

10.7 Reactor / other HV equipment enclosure


Reactor/Other HV Equipment Enclosure	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger – High Voltage.</p> <div style="border: 2px solid black; padding: 10px; margin: 10px 0;"> </div>	<p>EESS-10181-10 (450 x 300) - Preferred</p>	<p>002423036</p>
	<p>EESS-10181-11 (600 x 450)</p>	<p>Order as required</p>
	<p>EESS-10181-67 (250 x 180)</p>	<p>Order as required</p>

Standard for Substation Signage






Reactor/Other HV Equipment Enclosure	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger - High Voltage at Ground Level For HV equipment mounted at ground level.</p> 	<p>EESS-10181-88 (600 x 450)</p>	<p>002472348</p>
<p>Conditions for entry to Reactor/Other Equipment Enclosure.</p> 	<p>EESS-10181-25 (600 x 450)</p>	<p>Order as required</p>

10.8 Control / Switchroom building entrance door

Control / Switchroom Building Entrance Door	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Danger – High Voltage.</p> 	<p>EESS-10181-10 (450 x 300) - Preferred</p>	<p>002423036</p>
	<p>EESS-10181-11 (600 x 450)</p>	<p>Order as required</p>
	<p>EESS-10181-67 (250 x 180)</p>	<p>Order as required</p>



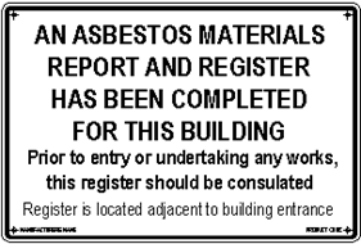
Standard for Substation Signage



Control / Switchroom Building Entrance Door	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Mobile phones and radio transceivers. Use for operational and/or other authorised purposes in substation excepted.</p> 	<p>EESS-10181-26 (300 x 450)</p>	<p>002423135</p>
<p>Authorized Persons only.</p> 	<p>EESS-10181-16 (300 x 450) - Preferred</p>	<p>002423085</p>
<p>Authorized Persons only.</p> 	<p>EESS-10181-17 450 x 300</p>	<p>Order as required</p>
<p>No smoking in this area.</p> 	<p>EESS-10181-27 (300 x 450)</p>	<p>002423143</p>

Standard for Substation Signage





Control / Switchroom Building Entrance Door	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Asbestos materials advice – Asbestos Warning Sign / Warning Sticker.</p>  <p>Register and site details / execution administered by Energy Network Services</p>	<p>EESS-10181-65 (175 x 200)</p>	<p>Order as required</p>
<p>Asbestos materials advice – Asbestos Warning Sign / Warning Sticker Asbestos Sticker Sign.</p>  <p>Register and site details / execution administered by Energy Network Services</p>	<p>EESS-10181-66 (120 x 50)</p>	<p>Order as required</p>
<p>Asbestos materials advice This is an existing sign at some Ergon Energy sites.</p>  <p>Register and site details / execution administered by Energy Network Services</p>	<p>901978-41- Archived (450 x 300)</p> <p><u>Information Only</u> Not to be adopted as a replacement sign.</p>	<p>N/A</p>

10.9 Control / Switchroom building - emergency exit doors

Control/Switchroom Building – Emergency Exit Doors	Drawing No (Dimensions mm)	Stock Code (if applicable)
--	-------------------------------	-------------------------------

Standard for Substation Signage




Control/Switchroom Building – Emergency Exit Doors	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>EMERGENCY EXIT – ALARM WILL SOUND</p> <p>NOTE: Applicable only where a Substation Security System is in place. Sign to be mounted on inside face of Alarmed Door.</p> <p>Procurement/Application by Operations Service Delivery Group</p> 	<p>No drawing available. (450 x 180)</p>	<p>Order as required</p>
<p>EMERGENCY EXIT</p> <p>Not part of this suite of Signs. Part of Substation Building Construction</p> <p>Procurement/Application by Operations Service Delivery Group</p> 	<p>No drawing available.</p>	<p>Order as required</p>

Standard for Substation Signage



10.10 Portable earth device (PED) storage racks at substation site substation prospective fault level signage

Portable Earth Device (PED) Storage Racks at Substation Site Sub Station Prospective Fault Level Signage	Drawing No (Dimensions mm)	Stock Code (if applicable)																																																																																
<p>Zone Substation Prospective Fault Current Auto - generate System for Required Sign Shown for MACK –Mackay T038 Substation</p> <p>SAMPLE ONLY:</p> <p>The auto-generate spreadsheet (xls) for this application is maintained by Substation Standards Group</p> <p>PED Rating Details: kA/time-single app kA/time-dual app kA/time-triple app</p> <div style="text-align: center;">  <p>MAXIMUM PROSPECTIVE FAULT CURRENT TO JUNE 2013</p> <table border="1" data-bbox="236 1115 774 1303"> <thead> <tr> <th>SUBSTATION</th> <th>REGION</th> <th>VOLTAGE (kV)</th> <th>Maximum Fault Current (kA)</th> </tr> </thead> <tbody> <tr> <td>Mackay T038</td> <td>MK</td> <td>33.0</td> <td>36.68</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>PED Selection Locate the voltage level to be earthed in the table above The maximum fault current rating will be used to select the PED. PEDs must be able to withstand the maximum fault current for 1 second PEDs may be required to be paralleled to obtain the required rating. Consult PED kA Ratings tables below Check the kA rating on the rating plate on the PED before applying. The table below has conversion factors if a PED has a 0.5sec rating plate The table below assumes copper conductor</p> <table border="1" data-bbox="236 1422 383 1545"> <caption>PED kA Ratings</caption> <thead> <tr> <th rowspan="2">Conductor Size (mm²)</th> <th colspan="2">Fault Time (s)</th> </tr> <tr> <th>0.5</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>8.8kA</td> <td>5.9kA</td> </tr> <tr> <td>35</td> <td>12.9kA</td> <td>8.8kA</td> </tr> <tr> <td>50</td> <td>18.0kA</td> <td>12.7kA</td> </tr> <tr> <td>70</td> <td>25.0kA</td> <td>17.3kA</td> </tr> <tr> <td>95</td> <td>33.0kA</td> <td>23.3kA</td> </tr> </tbody> </table> <table border="1" data-bbox="427 1422 574 1545"> <caption>PED kA Ratings (2 in parallel)</caption> <thead> <tr> <th rowspan="2">Conductor Size (mm²)</th> <th colspan="2">Fault Time (s)</th> </tr> <tr> <th>0.5</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>15.6kA</td> <td>10.0kA</td> </tr> <tr> <td>35</td> <td>22.8kA</td> <td>15.0kA</td> </tr> <tr> <td>50</td> <td>32.4kA</td> <td>22.0kA</td> </tr> <tr> <td>70</td> <td>46.0kA</td> <td>31.0kA</td> </tr> <tr> <td>95</td> <td>59.4kA</td> <td>42.0kA</td> </tr> </tbody> </table> <table border="1" data-bbox="619 1422 766 1545"> <caption>PED kA Ratings (3 in parallel)</caption> <thead> <tr> <th rowspan="2">Conductor Size (mm²)</th> <th colspan="2">Fault Time (s)</th> </tr> <tr> <th>0.5</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>22.8kA</td> <td>15.0kA</td> </tr> <tr> <td>35</td> <td>32.4kA</td> <td>23.0kA</td> </tr> <tr> <td>50</td> <td>46.0kA</td> <td>33.0kA</td> </tr> <tr> <td>70</td> <td>65.0kA</td> <td>46.0kA</td> </tr> <tr> <td>95</td> <td>85.0kA</td> <td>60.0kA</td> </tr> </tbody> </table> </div>	SUBSTATION	REGION	VOLTAGE (kV)	Maximum Fault Current (kA)	Mackay T038	MK	33.0	36.68													Conductor Size (mm ²)	Fault Time (s)		0.5	1	25	8.8kA	5.9kA	35	12.9kA	8.8kA	50	18.0kA	12.7kA	70	25.0kA	17.3kA	95	33.0kA	23.3kA	Conductor Size (mm ²)	Fault Time (s)		0.5	1	25	15.6kA	10.0kA	35	22.8kA	15.0kA	50	32.4kA	22.0kA	70	46.0kA	31.0kA	95	59.4kA	42.0kA	Conductor Size (mm ²)	Fault Time (s)		0.5	1	25	22.8kA	15.0kA	35	32.4kA	23.0kA	50	46.0kA	33.0kA	70	65.0kA	46.0kA	95	85.0kA	60.0kA	<p>No drawing available</p>	<p>Create as required via dedicated spreadsheet template</p> <p>Spreadsheet is managed by Power System Management</p>
SUBSTATION	REGION	VOLTAGE (kV)	Maximum Fault Current (kA)																																																																															
Mackay T038	MK	33.0	36.68																																																																															
Conductor Size (mm ²)	Fault Time (s)																																																																																	
	0.5	1																																																																																
25	8.8kA	5.9kA																																																																																
35	12.9kA	8.8kA																																																																																
50	18.0kA	12.7kA																																																																																
70	25.0kA	17.3kA																																																																																
95	33.0kA	23.3kA																																																																																
Conductor Size (mm ²)	Fault Time (s)																																																																																	
	0.5	1																																																																																
25	15.6kA	10.0kA																																																																																
35	22.8kA	15.0kA																																																																																
50	32.4kA	22.0kA																																																																																
70	46.0kA	31.0kA																																																																																
95	59.4kA	42.0kA																																																																																
Conductor Size (mm ²)	Fault Time (s)																																																																																	
	0.5	1																																																																																
25	22.8kA	15.0kA																																																																																
35	32.4kA	23.0kA																																																																																
50	46.0kA	33.0kA																																																																																
70	65.0kA	46.0kA																																																																																
95	85.0kA	60.0kA																																																																																

10.11 Battery rooms, battery enclosures and mounting racks - secondary batteries - vented cells

These signs shall be in accordance with the requirement under the Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Vented Cells (AS 2676.1, 1992). To meet the requirements Safety Signs shall be designed and constructed to (AS1319, 1994) and should be permanently displayed in prominent positions.

The signs are of the following three types:



- Restricted Access & Regulatory
- WARNING signs
- Emergency related information signs

Restricted Access, Regulatory & Warning signs should be placed on every door giving access to a battery room or enclosure and in a prominent position on a wall within a Battery Room.

Emergency related information signs should be placed in a prominent position within a battery room and on the inside of the door on a battery enclosure.



The following sub sections detail the signs for use in applications containing vented battery cells in the context of Battery Rooms, Batter Enclosures and Mounting Racks – Secondary Cells.

10.11.1 Vented cells - site access



Vented Cells - Site Access	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Authorized Persons only.</p> 	<p>EESS-10181-16 (300 x 450) - Preferred</p>	<p>002423085</p>
<p>Authorized Persons only.</p> 	<p>EESS-10181-17 (450 x 300)</p>	<p>Order as required</p>

Standard for Substation Signage




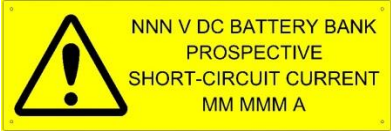

Vented Cells - Site Access	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Fire, naked flame and smoking prohibited.</p> 	EESS-10181-28 (300 x 450)	002423150
<p>Mobile telephone and radio transceivers prohibited</p> 	EESS-10181-74 (300 x 450)	Order as required

10.11.2 Vented cells - PPE and warnings

Vented Cells – PPE and Warnings	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Hand protection must be worn.</p> 	EESS-10181-29 (180 x 250)	Order as required
	EESS-10181-30 (300 x 450)	Order as required
<p>Safety goggles must be worn in this area.</p> 	EESS-10181-06 (300 x 450)	Order as required

Standard for Substation Signage



Vented Cells – PPE and Warnings	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Protective Clothing must be worn in this area.</p> 	<p>EESS-10181-08 (300 x 450)</p>	<p>Order as required</p>
<p>Battery Bank Voltage and Fault Current Warning Fit sign as close as practicable to battery set/cubicle. Confirm battery bank voltage and short circuit current details before ordering sign.</p> 	<p>EESS-10181-44 (450 x 150)</p>	<p>Order as required</p>
<p>Battery Bank (cubicle based bank) Specific PPE/Access conditions in addition to standard field requirements may be required.</p> 	<p>EESS-10181-45 (380 x 180)</p>	<p>Order as required</p>

10.11.3 Vented cells - emergency related information

To meet the relevant Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Vented Cells (Standards Australia, 1992) the following should be used.


The specific direction from 'AS 2676.1 SAFETY' is as follows:

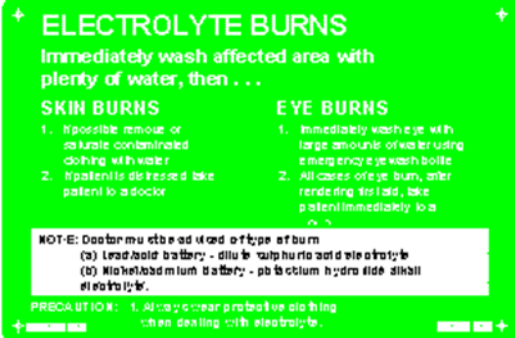
'Emergency Related Information Signs (ERIS) should give instructions for dealing with Electrolyte burns.

A permanently installed fresh water supply should be provided for all battery rooms.

Where water supply for flushing is not provided disposable sterile eye irrigators or saline solution should be provided at each battery room/set. Care should be taken to ensure the sterile solutions are changed on a regular basis in accordance with manufacturer's instructions as the sterility security has a marked time limit

NOTE: Where a water supply system is installed in the vicinity of any part of an electrical installation, care shall be taken to ensure that the requirements of (AS/NZS 3000, 2007) are met.

Vented Cells – Emergency Related Information	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Emergency shower and eyewash – Attention: Signs should be mounted in a prominent position within a battery room and on the inside of the door of a battery enclosure.</p>  <p>The image shows a white sign with a red border. The top half is divided into two panels: the left panel shows a person under a shower head, and the right panel shows a person's face being washed in a basin. Below these panels, the text reads 'EMERGENCY SHOWER AND EYE WASH' in large, bold, black letters. Underneath that, in smaller text, it says 'IN CASE OF CHEMICAL SPLASH WASH FOR 15 MINUTES PRIOR TO MEDICAL TREATMENT'. At the bottom left and right corners, there are small logos for 'MANUFACTURER NAME' and 'PRINTED DATE' respectively.</p>	<p>ESS-10181-31 (450 x 300)</p>	<p>Order as required</p>

Vented Cells – Emergency Related Information	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Electrolyte burns—Treatment procedures –</p> <p>Attention: Signs should be mounted in a prominent position within a battery room and on the inside of the door of a battery enclosure.</p> 	<p>EESS-10181-32 (450 x 300)</p>	<p>Order as required</p>

10.11.4 Vented cells - firefighting equipment

To meet the relevant Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Vented Cells (AS 2676.1, 1992) the following should be used.

The specific direction from ‘AS 2676.1 FIREFIGHTING EQUIPMENT’ is as follows:

‘All battery installations should be provided with portable fire extinguishers suitable for use on acid and alkaline solutions and electrical fires, eg CO₂ and BCF.

Fire appliances/Signs should be sited adjacent to entrances of rooms or convenient to battery enclosures.




The number of appliances and installation should be in accordance with the requirements of the Building Code and appropriate regulatory authority/codes.’

Type, placement, administration and maintenance of these signs is administered by Civil Group

For further details on substation fire and explosion protection refer to Ergon Energy Standards (STNW3035).

Standard for Substation Signage



Vented Cells – Fire Fighting Equipment	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Fire appliance –Generic symbol.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire appliance – Carbon dioxide CO₂: Listed in AS 2676.1 – 1992 as being suitable for acid and alkaline solutions and electrical fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire appliance – Powder (BCF): Listed in (AS 2676.1, 1992) as being suitable for acid and alkaline solutions and electrical fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>

10.13 Battery room / battery enclosure / mounting rack - secondary batteries - sealed cells - section 8 safety

These signs shall be in accordance with the requirement under the Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Sealed Cells (AS 2676.1, 1992). To meet the requirements Safety Signs shall be designed and constructed to (AS1319, 1994) and should be permanently displayed in prominent positions.

The signs are of the following two types:

- Restricted Access & Regulatory
- WARNING signs

Signs should be displayed in the following locations;



Restricted Access, Regulatory & Warning signs should be placed on every door giving access to a battery room or enclosure and in a prominent position on a wall within a Battery Room.

A caution (Warning) Signage is applicable where battery capacity exceeds 100 Ah at the 3h rate or nominal voltage is in excess of extra low voltage. Caution signage should be placed on every door giving access to a battery room or enclosure and in a prominent position on a wall within a Battery Room.

Emergency related information signs should be placed in a prominent position within a battery room and on the inside of the door on a battery enclosure.



The following sub sections detail the signs for use in applications containing sealed battery cells in the context of Battery Rooms, Batter Enclosures and Mounting Racks – Secondary Cells.

10.13.1 Sealed Cells – Restricted Access



Sealed Cells – Restricted Access	Drawing No (Dimensions mm)	Stock Code (if applicable)
Authorized Persons only. 	EESS-10181-16 (300 x 450) - Preferred	Order as required
Authorized Persons only. 	EESS-10181-17 (450 x 300)	Order as required

Standard for Substation Signage




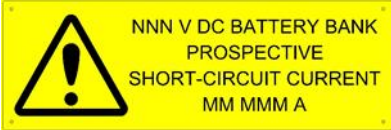

Sealed Cells – Restricted Access	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Fire, naked flame and smoking prohibited.</p> 	<p>EESS-10181-28 (300 x 450)</p>	<p>002423150</p>
<p>Mobile telephone and radio transceivers prohibited</p> 	<p>EESS-10181-74 (300 x 450)</p>	

10.13.2 Sealed cells – PPE & warnings

Sealed Cells – PPE & Warnings	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Hand protection must be worn.</p> 	<p>A4 901978-29 (180 x 250)</p>	<p>Order as required</p>
	<p>A4-901978-30 (300 x 450)</p>	<p>Order as required</p>
<p>Safety goggles must be worn in this area.</p> 	<p>EESS-10181-06 (300 x 450)</p>	<p>Order as required</p>

Standard for Substation Signage



Sealed Cells – PPE & Warnings	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Protective Clothing must be worn in this area.</p> 	<p>EESS-10181-08 (300 x 450)</p>	<p>Order as required</p>
<p>Battery Bank Voltage and Fault Current Warning. Fit sign as close as practicable to battery set/cubicle. Confirm battery bank voltage and short circuit current details before ordering sign.</p> 	<p>EESS-10181-44 (450 x 150)</p>	<p>Order as required</p>
<p>Battery Bank (cubicle based bank). Specific PPE/Access conditions in addition to standard field requirements.</p> 	<p>EESS-10181-45</p>	<p>Order as required</p>

10.14.1 Sealed cells - emergency related information

To meet the relevant Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Sealed Cells (Standards Australia, 1992) the following should be used.

The specific direction from 'AS 2676.2 SAFETY' is as follows:

'Emergency Related Information Signs (ERIS), if any, should give instructions for dealing with issues related to the type of batteries installed in battery room/enclosure/mounting rack and may be specific to the installed batteries.

Any such signs should be displayed in a prominent position within a battery room and on the inside of the door on a battery enclosure.'

(AS2676.2 - 1992) Secondary Batteries in Buildings – Sealed Cells - does not state any signage requirement for Sealed Cells.

It may be possible during charging with incorrect control or faulty charger may result in the discharge of a combustible mixture of hydrogen and oxygen. Ignition sources should not be allowed / located in close proximity to the tops of cells.

10.14.2 Sealed cells - firefighting equipment

To meet the relevant Australian Standards for Guidance for the installation, maintenance, testing and replacement of secondary batteries in buildings – Sealed Cells (Standards Australia, 1992) the following should be used.

The specific direction from 'AS 2676.2 FIREFIGHTING EQUIPMENT is as follows:

All battery installations should be provided with portable fire extinguishers suitable for use on acid and alkaline solutions and electrical fires, eg CO₂ and BCF

Fire appliances/Signs should be sited adjacent to entrances of rooms or convenient to battery enclosures.




The number of appliances and installation should be in accordance with the requirements of the Building Code and appropriate regulatory authority/codes.

Type, placement, administration and maintenance of these signs is administered by Civil Group

For further details on substation fire and explosion protection refer to Ergon Energy Standards (STNW3035).

Standard for Substation Signage







Sealed Cells – Fire Fighting Equipment	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Fire appliance –Generic symbol.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire appliance – Carbon dioxide CO₂. Listed in (AS 2676.1, 1992) as being suitable.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire appliance –Powder (BCF): Listed in (AS 2676.1, 1992) as being suitable for acid and alkaline solutions and electrical fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>

Standard for Substation Signage




10.16 SCADA / Communications room door zone substation site




SCADA / Communications Room Door Zone Substation Site	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Authorized Persons only.</p> 	<p>EESS-10181-16 (300 x 450) - Preferred</p>	<p>002423085</p>
<p>Authorized Persons only.</p> 	<p>EESS-10181-17 (450 x 300)</p>	<p>Order as required</p>
<p>Fire, naked flame and smoking prohibited.</p> 	<p>EESS-10181-28 (300 x 450)</p>	<p>002423150</p>
<p>Personal Protective Equipment (PPE)-required for substation site entry.</p> <p>4 Unit combination sign(head, protective clothing, footwear & eye protection.</p> 	<p>EESS-10181-04 (900 x 600)</p>	<p>002423028</p>
	<p>EESS-10181-48 (450 x 300)</p>	<p>Order as required</p>
	<p>EESS-10181-49 (300 x 225) - Preferred</p>	<p>Order as required</p>

Standard for Substation Signage





SCADA / Communications Room Door Zone Substation Site	Drawing No (Dimensions mm)	Stock Code (if applicable)
Non-ionising Radiation-Warning. 	EESS-10181-13 (300 x 450)	002423051

10.17 SCADA / Communications room door - Network Control Centre


SCADA / Communications Room Door Network Control Centre	Drawing No (Dimensions mm)	Stock Code (if applicable)
Authorized Persons only. 	EESS-10181-16 (300 x 450) - Preferred	002423085
Authorized Persons only. 	EESS-10181-17 (450 x 300)	Order as required
Fire, naked flame and smoking prohibited. 	EESS-10181-28 (300 x 450)	002423150

Standard for Substation Signage



SCADA / Communications Room Door Network Control Centre	Drawing No (Dimensions mm)	Stock Code (if applicable)
Personal Protective Equipment (PPE)-required for substation site entry. 4 Unit combination sign (head, protective clothing, footwear & eye protection). 	EESS-10181-04 (900 x 600)	002423028
	EESS-10181-48 (450 x 300)	Order as required
	EESS-10181-49 (300 x 225) - Preferred	Order as required
Non-ionising Radiation-Warning. 	EESS-10181-13 (450 x 300)	002423051


10.18 Entry points to an area classed as – ‘Confined Space’

Entry Points to an Area Classed as – ‘Confined Space’	Drawing No (Dimensions mm)	Stock Code (if applicable)
No entry without a confined space permit. 	EESS-10181-33 (300 x 450)	Order as required


Standard for Substation Signage




10.20 Adjacent to 'Un-Potable Water Tap' in substation switchyard (external)

Adjacent to 'Un-Potable Water Tap' in Substation Switchyard (external)	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Do not drink.</p> 	EESS-10181-34 (300 x 450)	Order as required

10.21 Adjacent to 'Un-Potable Water Tap' in substation amenities Area


Adjacent to 'Un-Potable Water Tap' in Substation Amenities Area	Drawing No (Dimensions mm)	Stock Code (if applicable)
<p>Do not drink.</p> 	EESS-10181-34 (300 x 450)	Order as required

10.22 Restricted site main entrance adjacent to restricted area / item within substation




Restricted Site – Main Entrance Adjacent to Restricted Area/Item within Substation	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Danger - Network Access Restriction Applies at this Site. Used only when an access restriction for safety reasons applies to some item of plant. Must be removed when safety exclusion no longer applies. NOTE: Item - drawing EESS-10181-58 may also be required in conjunction with the use of item below.</p> 	EESS-10181-20 (450 x 300)	002438042

Standard for Substation Signage




Restricted Site – Main Entrance Adjacent to Restricted Area/Item within Substation	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Danger - Network Access Restriction Exists Tag</p> <p>Applies to Plant Item.</p> <p>NOTE: This item may also be required in conjunction with the use of the above sign EESS-10181-20.</p> 	<p>EESS-10181-58 (80 x 80)</p>	<p>002438059</p>

10.23 Substation / Control building access doors (interior / exterior)



Substation / Control Building Access Doors (Interior / Exterior)	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Fire exit doors/external – Keep clear at all times.</p> 	<p>EESS-10181-39 (450 x 300)</p> <p>Procurement/Application By Civil Group</p>	<p>Order as required</p>
<p>No parking – Substation entrance.</p> 	<p>EESS-10181-37 (300 x 450)</p> <p>Procurement/Application By Civil Group</p>	<p>002423127</p>
<p>Building entrance (substation located within).</p> 	<p>EESS-10181-36 (300 x 450)</p> <p>Procurement/Application By Civil Group</p>	<p>Order as required</p>

Standard for Substation Signage






Substation / Control Building Access Doors (Interior / Exterior)	Drawing No. (Dimensions mm)	Stock Code (if applicable)
Fire door – Do not block. 	Production/Application via Civil Group	Order as required

10.24 Fire appliance signs - general

Fire Appliance Signs – General	Drawing No. (Dimensions mm)	Stock Code (if applicable)
Fire Appliance - Generic Sign. 	Production/Application via Civil Group	Order as required
Fire appliance – Carbon Dioxide CO ₂ , Flammable Liquid & Electrical Fires. 	Production/Application via Civil Group	Order as required

Standard for Substation Signage







Fire Appliance Signs – General	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Fire Appliance – Powder, Oil/Liquid & Electrical Fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire Appliance – Foam, Petrol, Oil & Other Flammable Liquid Fires – Not for Electrical Fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>
<p>Fire Appliance – Water, To be used for Wood, Paper and Fabric Fires– Not for Electrical or Flammable Liquid Fires.</p> 	<p>Production/Application via Civil Group</p>	<p>Order as required</p>

Standard for Substation Signage






10.25 Regulatory – Mandatory

Regulatory – Mandatory	Drawing No. (Dimensions mm)	Stock Code (if applicable)
Personal Protective Equipment (PPE) advice sign - Eye Protection - (single sign alternative). 	EESS-10181-05 (300 x 450)	Order as required
Personal Protective Equipment (PPE) advice sign - Safety Goggles (Single sign alternative). 	EESS-10181-06 (300 x 450)	Order as required
Personal Protective Equipment (PPE) advice sign - Head Protection - (single sign alternative). 	EESS-10181-07 (300 x 450)	Order as required
Personal Protective Equipment (PPE) advice sign - Hand Protection - (single sign alternative). 	EESS-10181-29 (180 x 250)	Order as required
	EESS-10181-30 (300 x 450)	Order as required

Standard for Substation Signage







Regulatory – Mandatory	Drawing No. (Dimensions mm)	Stock Code (if applicable)
Personal Protective Equipment(PPE) advice sign - Protective Clothing (single sign alternative). 	EESS-10181-08 (300 x 450)	Order as required
Personal Protective Equipment(PPE) advice sign Foot Protection (single sign alternative). 	EESS-10181-09 (300 x 450)	Order as required
Personal Protective Equipment (PPE)-required for substation site entry- 4 Unit combination sign(head, protective clothing, footwear & eye protection). 	EESS-10181-04 (900 x 600)	002423028
	EESS-10181-48 (450 x 300)	Order as required
	EESS-10181-49 (300 x 225) - Preferred	Order as required

Standard for Substation Signage







10.27 Hazard – Danger

Hazard – Danger	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Danger – Equipment starts automatically.</p> 	<p>EESS-10181-38 (450 x 300)</p>	<p>Order as required</p>
<p>Danger – High Voltage Testing Keep Clear.</p> 	<p>EESS-10181-72 (450 x 300)</p>	<p>Order as required</p>
<p>Danger - Do not operate Tag – Referenced in Appendix B - Sample Signs & tags of Q.E.E. Procedures for Safe Access to High Voltage Apparatus.</p> 	<p>EESS-10181-41 (150 x 75)</p>	<p>2401684 Use Item Stock Code as per Q.E.E. Appendix B Sample Signs & tags for application</p>
<p>Danger - Network Access Restriction Applies at this Site – Used only when an access restriction for safety reasons applies to some item of plant. Must be removed when safety exclusion no longer applies.</p> <p>NOTE: Tag item EESS-10181-58 may also be required in conjunction with the use of item below.</p> 	<p>EESS-10181-20 (450 x 300)</p>	<p>002438042</p>


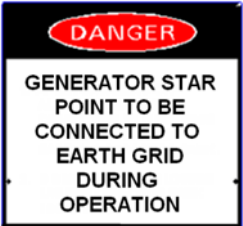
Standard for Substation Signage





Hazard – Danger	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Danger - Network Access Restriction Exists Tag Applies to Plant Item NOTE: This item may also be required in conjunction with the use of the above sign EESS-10181-20.</p> 	<p>EESS-10181-58 (80 x 80)</p>	<p>002438059</p>
<p>Cable screen earth bonding – earth bonded at this end.</p> 	<p>EESS-10181-68 (250 x 180)</p>	<p>Order as required</p>
	<p>EESS-10181-77 (80 x 60)</p>	<p>Order as required</p>
	<p>EESS-10181-80 (150 x 75)</p>	<p>Order as required</p>
<p>Cable screen earth bonding – not earth bonded at this end.</p> 	<p>EESS-10181-69 (250 x 180)</p>	<p>Order as required</p>
	<p>EESS-10181-78 (80 x 60)</p>	<p>Order as required</p>
	<p>EESS-10181-81 (150 x 75)</p>	<p>Order as required</p>
<p>Cable screen earth bonding – HV Sheath Voltage Limiters.</p> 	<p>EESS-10181-70 (250 x 180)</p>	<p>Order as required</p>
	<p>EESS-10181-79 (80 x 60)</p>	<p>Order as required</p>
	<p>EESS-10181-82 (150 x 75)</p>	<p>Order as required</p>

Standard for Substation Signage






Hazard – Danger	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Cable screen earth bonding – Refer to EDMS.</p> 	<p>EESS-10181-71 (250 x 180)</p>	<p>Order as required</p>
<p>Generator Star Point To Be Connected To Earth Grid.</p> 	<p>EESS-10181-73 (140 x 100)</p>	<p>Order as required</p>

10.28 Hazard – Warning


Hazard - Warning	Drawing No. (Dimensions mm)	Stock Code (if applicable)
<p>Warning –Exhaust Ducts may Vent on Fault at any Time- POSITIONED AT REAR OF PANELS.</p> 	<p>EESS-10181-52 (250 x 180)</p>	<p>Order as required</p>
	<p>EESS-10181-53 (125 x 90)</p>	<p>Order as required</p>
<p>Warning –Exhaust Ducts may Vent on Fault at any Time- LEFT HANDED ORIENTATION (on L H side of panels).</p> 	<p>EESS-10181-50 (300 x 225)</p>	<p>Order as required</p>

Standard for Substation Signage



Hazard - Warning	Drawing No (Dimensions mm)	Stock Code (if applicable)
Warning –Exhaust Ducts may Vent on Fault at any Time- RIGHT HANDED ORIENTATION (on R H side of panels). 	EESS-10181-51 (300 x 225)	Order as required
Warning – Frame leakage Protection. 	EESS-10181-47 (180 x 120)	Order as required
Switchgear contains SF6 Gas. 	EESS-10181-43 (450 x 300)	Order as required



10.29 Sustainable forestry plantations

Sustainable Forestry Plantations	Drawing No. (Dimensions mm)	Stock Code (if applicable)
Sustainable Forrestry Plantation - Pole Supply Site Name & Fire Risk Contact Details – 600 x450 <ul style="list-style-type: none"> • Eagle Rock • Mount Marsh • Miva • Gundiah • Boomerang 	<ul style="list-style-type: none"> • EESS-10181-55 • EESS-10181-59 • EESS-10181-60 • EESS-10181-61 • EESS-10181-62 (600 x450)	Order as required

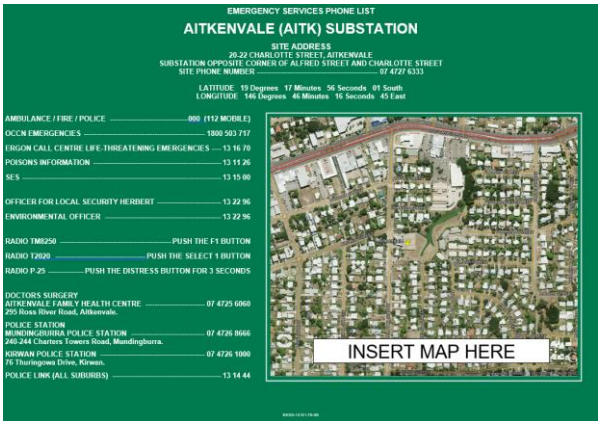
Standard for Substation Signage



10.30 General purpose - Notice

General Purpose - Notice	Drawing No. (and Dimensions)	Stock Code (if applicable)
<p>Notice – Illegal Dumping & Contact Details.</p> 	<p>EESS-10181-56 (600 x 450)</p>	<p>Order as required</p>
<p>Notice – Log Book Location.</p> 	<p>EESS-10181-54 (150 x 80)</p>	<p>Order as required</p>

10.31 Substation Telephone – Emergency information

Control/Switchroom Building – Emergency Information Sheet	Drawing No (and Dimensions)	Stock Code (if applicable)
<p>Sign is to be printed on an A4 sheet and housed in a photo frame with a white border and a Perspex protective cover.</p> <p>Sign is to be mounted as per 7.1 of this standard. Located indoors adjacent to the public network telephone.</p> <p>This sign shall be Jade green with white text only.</p> <p>Information shall cover all shown in example below.</p> <p>Modify information to suit individual sites.</p> <p>** Some sites may need to dial (0) to get an external line.</p> <p>Example:</p> 	<p>EESS-10181-76 A4</p>	<p>Create as required via dedicated template.</p> <p>Modify addresses and phone numbers to suit.</p> <p>Do not adjust colours.</p>

End