



ESR Amendment Advice 2020/0

Date: 24/07/2020

**TO: Ausgrid employees,
contractors to Ausgrid, and Accredited Service Providers.**

Amendment of the Ausgrid Electrical Safety Rules

The following changes have been made in the 2020/0 edition of the Electrical Safety Rules.

Clause	Subject	Change
Throughout the document		Changes in Ausgrid terminology. "Division" has been changed to "Group" and "Branch" has been changed to "Business Unit".
Preface	Preface by GM-TO	Minor amendment to wording
1.1.1	Purpose	Minor amendment to wording
1.1.5	Network Standards	Location on Ausgrid website corrected.
2.1.4	Electric shock	Additional clause requiring any worker who receives an electric shock to seek medical assessment or treatment.
2.1.6	Working on or near fallen conductors	a) Clause 10.1.5 referenced for fallen mains. b) Clause 9.2.2 referenced for proving conductors de-energised
2.1.8	Communicating unplanned operating work	New clause introduced to clarify the requirements for recording and repeating operating instructions or completed actions when carrying out unplanned operating work.
3.2.3	Authorisation for operating work – manager responsibilities	Removal of the responsibility for operating registers to be kept by Branch Managers.
3.2.4	Worker responsibilities for operating work	Wording amended for clarity.
3.2.6	Special authorisation to receive access permits	Wording amended for clarity.
3.3.2	Restricted operating authorities	a) Requirement added for restricted operators to stop and seek further information if they are uncertain how to safely carry out operating work. b) Specified the situations in which a restricted operator may issue a restricted access permit or clearance to work (CTW) with a common point of isolation. c) The situations in which a restricted operator must notify the System/ Area Operator have been more clearly defined.
3.3.2 Table 6	Class 2 Operating authorities	Clarification of scope of 2D operating authority - includes fuse replacement following fault operation.

3.3.2 Table 9	Class 5 operators	a) Scope of 5A & 5F operating authorities reworded for clarity and inclusion of Street Light Control Points (SLCP) in substations. b) Scope of 5H operating authority reworded for clarity. c) New Class 5P operating authority introduced.
4.3.1	Commissioning	Clause amended to clarify that a CTW may be used for work once mains and apparatus are made connectable.
4.3.2	Phasing	Wireless HV phasing equipment added to preferred phasing methods.
5.1.1 Table 12	Access authorities & permits	Removal of "HV" from mains and apparatus applicable for the use of an Access Permit for Test and Ancillary Work.
5.1.1 Table 12	Ausgrid access authorities and permits	Rewording of when a CTW must be used.
5.1.2 (previous)	Using the appropriate authority or permit	Former Clause 5.1.2 and Figure 8 removed.
5.1.2 Table 13	Access authorities and permits	Changes to the table to more clearly define what access authorities/permits may be issued by the various operating authorities.
5.1.3	Access authorities and permits issuers	The word "close" replaced with "in the vicinity of"
5.2.1 Table 15	Access permit not required	7th row of the table removed (duplication of row 4 – operating work).
5.2.2 Table 16	Cross referencing access authorities and permits	Clearance to Work folders added to access permit folders for cross referencing by Class 1 Operators
5.2.2	Cross referencing permits	Clarification added that multiple restricted access permits may exist on isolated mains and apparatus under an isolation folder.
5.2.2	Cross referencing, examining, altering, and duplicating access permits	Separated into different clauses - examining (5.2.3), altering (5.2.4), & duplicating (5.2.5).
5.2.3	Examining access authorities	New clause from separation of Clause 5.2.2
5.2.4	Access authorities needing alteration	New clause from separation of Clause 5.2.2
5.2.9	Withdrawing an access permit	Combines previous clauses 5.2.6 & 5.2.7.
5.2.10	Access authorities not accepted	New clause from the separation of previous Clause 5.2.6.
5.3.6	Access permit cancellation	Recipient required to record the specific access permit earths removed (aligns with Clause 9.8.4).
5.4.2	Completing a restricted access permit	Additional information for restricted operators to record any earthing applied by a Class 1 Operator under an Isolation Folder, on a restricted access permit.

5.5.1	Access permits for test and ancillary work.	Amended wording of requirements for development work and system alterations under an access permit for test and ancillary work. Aligns with ESR wording in pre-2012 editions.
5.6.2 Table 18	When a clearance to work is required	a) Major rewrite of Table 18 defining where a CTW must be used. b) Use of CTW for live LV work has been removed. c) The previous exemption for Ausgrid lineworkers and cable jointers from the need for a CTW under their own isolations has been modified.
5.6.3	When a clearance to work is not required	Statement that a CTW is not required for work on or near isolated service conductors or individual isolated streetlighting luminaires, or for ancillary operating work.
5.6.4	Completing the clearance to work - operator	Requirement added for restricted operators to record the application and removal of LV shorts on the CTW when a folder is not used.
5.6.8	Cancellation of clearance to work	Details added for recipient to note any LV permit shorts removed at the completion of work under the approval of the Area/System Operator. (Same process as HV earths).
5.6.9	LV shorts form	Added the requirement to use the LV shorts Form to record any LV shorts applied to LV mains when a CTW is not used.
5.8.1	Equipping permit overview	Clause modified to: a) allow a CTW to be used for work on mains and apparatus once they are connectable; and b) clarify that NAR authorisation is required to issue an equipping permit.
5.8.5	Replacing an equipping permit with an access permit	Clause modified to allow CTW to be used once the equipping permit is cancelled.
5.9.2	Completing the access permit folder	Requirement to record earths on the folder "as each set of earths are applied and removed" added to Clause.
5.9.5	Clearance to work folder	a) New clause added to define when a CTW folder is required and the requirements for restricted operators when not completing one. b) New information added regarding CTW receptacles.
6.1.7	Working safely on or near LV	Reference to NS223 replaced by reference to Clause 9.2.3.
6.2.3	Protective clothing	Footnote added explaining the relationship between Arc Thermal Performance Value (ATPV) and PPE category.
6.2.6	Safety helmets	Requirement for safety helmets to comply with AS1801 added.
6.2.7	LV insulating gloves	Requirement for LV insulating gloves when working on live exposed LV replaced with "Where required by these Rules" - as they are required by the Rules in other situations also (e.g. exposed conductive sheathed cables).

6.2.11	LV detectors	Reference to Technical Guide T0032 added for Ausgrid employees.
6.2.13	Low voltage tools	Differences between “insulated” tools and “covered” tools explained.
7.1.5 Table 23	MSWD	a) 120V to 150V dc row removed as the table refers to “nominal” system voltage, not actual voltage at a given point in time. This is then consistent with all voltage ranges in the table. b) Footnote updated to clarify tools covered with insulating material relates only to ELV.
7.4.1 Table 25	Minimum fixed clearances	Row 1 Column 1 of Table 25 modified to 1kV, as the table relates to HV
7.5.3	Operating cranes in proximity to OH power lines	Removal of “tree trimming” from scope of work covered by this clause. (Mobile plant clearances for tree trimming are found in Section 10.3).
7.5.3 Table 27	Minimum approach distances for mobile plant	Row 1 Column 1 of Table 27 specified as LV to clarify these distances do not relate to ELV.
7.5.4 Table 28	Observer requirements for mobile plant	Row 1 Column 1 of Table 28 specified as LV to clarify these distances do not relate to ELV.
7.5.5 Table 29	Personnel and handheld tools	Row 1 Column 1 of Table 29 specified as LV to clarify these distances do not relate to ELV.
7.5.6 Table 30	Clearances and minimum operating requirements	Row 1 Column 1 of Table 30 specified as LV to clarify these distances do not relate to ELV.
8.1.7 Table 36	Tags	Use of Operator Danger Tags more accurately defined.
8.4.3	Operator Danger Tags	a) Statement added that Operators Danger Tags must also include the words “This apparatus must not be operated”. b) Operator Danger Tags must no longer be attached to earth switches that are intended for operation by the permit recipient. c) Removal of statement that danger tags are to be attached no more than 1.0m below LV underslung links.
8.4.4	Personal Danger Tags	Added “clearance to work”. (See the clause)
8.4.9	Switching information tags	New clause explaining the use and purpose of switching information tags. These have not been previously included in the ESR.
9.1.1	Working on or near LV mains and apparatus	Previously reference to NS223 & requirements for LV shorts replaced by reference to Clause 9.2.3
9.1.2	Working with exposed live LV	Previously listed live LV controls replaced by reference to Section 9.5.
9.1.3	Insulation effectiveness on LV mains and apparatus	Addition of controls required for work on or near overhead PVC & XLPE insulated conductors, and UG cables that are detailed in Network Standard NS199.
9.1.6	Insulation effectiveness on HV mains and apparatus	Amendment of wording and removal of: <ul style="list-style-type: none"> • non-metallic screened HV ABC; and • temporary insulation for HV Live Work;

		from examples of mains and apparatus that may be regarded as insulated.
9.2.2	Proving LV mains & apparatus de-energised	Ausgrid workers directed to Technical Guide T0032 for information on approved detectors. Addition of the requirement for conductors being tested to be clean and clear of contamination or oxide at the point of detector contact.
9.2.3	Shorting LV network distributors	Major rewrite of this clause. Information added for the requirements for the application and removal of LV shorts. Inclusion of the need to isolate embedded generation above 10kVA per phase.
9.3.2	Remote cutting LV cables	Pilot cables included in LV cables required to be remotely cut/stabbed.
9.3.3	Pilot and communication cables	New clause confirming workers must sign onto a relevant permit prior to commencing work on pilot or communication cables.
9.3.5	Cutting cables, conduits, or cover strips	New clause to introduce the requirement to excavate a minimum radius of 200mm around cables, conduits, or cover strips, before cutting them.
9.3.6	Excavation of faulted UG cables	New clause requiring any worker involved in the excavation of faulted UG cables beyond 150mm above the cable cover strip, or within 300mm of the cable, to be signed onto the relevant access authority/permit for the testing and/or repair of that cable.
9.5.1	Assessment of work live or de-energised	<ul style="list-style-type: none"> a) Changes to customer impact numbers in response to COVID-19 restrictions and people working from home. Changed from 30 to 5 residential customers. b) Question 2: Regulated disconnection / reconnection & metering tasks on behalf of Ausgrid and Street Lighting maintenance activities (provided workers do not pass between conductors) exempt from the community impact assessment. c) Question 4: Details of planner & supervisor site visit for work by or for Ausgrid replaced with reference to Technical guide T0124 – LV Assessment Framework. d) Regulated disconnection/reconnection & metering tasks on behalf of Ausgrid exempt from this assessment question.
9.5.3	Operating, testing, and visual inspection	Requirement to wear a safety helmet added - when carrying out operating, testing, visual inspection on or near live exposed LV.
9.5.4	Controls for work on or near live exposed LV	Further information added on non-conductive rubber gum boots.
9.5.4	PPE	Full length arc rated clothing, safety helmet, and safety footwear, added to safety eyewear for PPE required for live LV work (in addition to LV insulating gloves). (Note the new requirement for a safety helmet for work on or near live exposed LV).

9.8.3	Earthing OH mains	Temporary insulation required on exposed LV “within reach”, not “within 0.5m”.
9.9.1	Cutting cables conduits or cover strips	New clause to introduce the requirement to excavate a minimum radius of 200mm around cables, conduits, or cover strips, before cutting them.
9.9.2	Excavation of faulted underground cables.	New clause requiring any worker involved in the excavation of faulted UG cables beyond 150mm above the cable cover strip, or within 300mm of the cable, to be signed onto the relevant access authority/permit for the testing and/or repair of that cable.
9.9.3	Remote cutting/stabbing HV cables	<ul style="list-style-type: none"> a) New clause to separate the requirements for remote cutting from the requirements for cable identification. b) Allowance for sheath removal before remote cutting removed. Note added that steel wire armour may be removed if required to allow the cable to be remotely cut.
9.9.5	Identifying sub-transmission cables	Removal of the statement “do not rely on labels and drawings as a positive means of identifying cables”. Permanent link labels may be used as part of the cable identification process for sub-transmission cables.
9.9.5	Remote cutting/stabbing subtransmission cables	<ul style="list-style-type: none"> a) New clause to separate the requirements for remote cutting from the requirements for cable identification. b) Requirement added for remote cutting/stabbing to comply with Technical Guide T0031 (Aligns with LV & HV). c) Allowance for sheath removal before remote cutting removed. Note added that steel wire armour may be removed if required to allow the cable to be remotely cut. d) Exemption from remote cutting for oil or gas-filled cables removed.
9.11.2	Isolation from specified customers	Requirements for LV shorts and CTW clarified.
10.1	Work on or near overhead mains and apparatus	New section combines work near live OH mains and “working aloft” (former section 10.6).
10.1.1	Precautions for climbing and working on poles	<ul style="list-style-type: none"> a) Precautions around dropping tools and traffic hazards removed as they do not relate to “electrical” safety and are addressed in Ausgrid Health & Safety Management System. b) Clarification added that LV insulating gloves are not mandatory for testing poles are safe to touch with an approved detector.
10.1.2	Conductive poles and structures	Former Clause 10.6.4 moved to new 10.1.2 and incomplete list of controls for live work removed.
10.1.4	Working on conductors in the vicinity of live OH mains and apparatus	“Near” changed to “in the vicinity” as work “near” requires the mains and apparatus to be isolated. Rewording of requirements. Introduction of community impact assessment and reference to Safety Alert 13-14_007 “Control of Conductors” added.

Previous 10.1.6	Warnings about adjacent live mains	Clause removed.
10.1.5	De-energised OH conductors on the ground	New Clause – brings in requirements from Technical Standard TS620 “Overhead Line Work” for work on de-energised overhead mains that are on the ground, but electrically connected to spans which cross or share a common span with live exposed conductors.
10.2	Work on or near street lighting circuits	New Section added detailing the controls for work on or near isolated street lighting circuits.
10.3	Mains and apparatus that are not connectable	Changed to include non-connectable LV mains and apparatus.
10.3.1	Non-connectable cables	a) Introduction of approval requirements for alternate identification measures when Table 49 cannot be met. b) Requirement for remote cutting to be carried out in accordance with Technical Guide T0031 added.
10.3.3	Non-connectable LV overhead mains	New Clause added to clarify requirements for work on or near non-connectable LV overhead mains.
10.4.6	Vegetation Control	Clarification added regarding CAVC over one phase at a time in relation to vertical CCT & HV ABC.
10.5.2	Applying HV for testing	Pedestrian barriers with a yellow and black rail may be used in situations where a yellow and black rope barrier is not suitable.
10.5.3	Tong or clip on ammeters	Live controls required for this task have been more clearly specified.
11.5.3	Current transformers	Requirement added to not make uninsulated contact with exposed conductors on CT secondary circuits.
11.5.4	Capacitors	Removed the requirement to isolate and earth capacitors “individually” as it is not possible to do so for capacitors that are connected in banks.
11.5.6	Substation doors	Gates added - now “Substation doors and gates”.
12.2.3	Non-Ausgrid networks - Sydney Light Rail	New clause added for the requirements for work within 3m of the Sydney Light Rail - Aesthetic Power Supply (APS) system.
Section 13 Glossary - Personnel	Definition of “operator”	Definition simplified to remove examples of operating authority limitations or restrictions.
Section 13 Glossary - Personnel	Definition of “recipient”	Definition amended to define the term and remove duplication from the Rules.
Section 13 Glossary - Personnel	Definition of “safety observer”	Removal of example and image relating to a safety observer for mobile plant exclusion zones.
Section 13 Glossary - Personnel	Definition of “specially authorised”	Definition reworded for clarity.
Section 14 Glossary - General	Definition of “access permit”	Definition amended to more closely align with other NSW Network Operators.
Section 14	Definition of “blowout”	Minor rewording of definition.

Section 14 Glossary - General	Definition of “clearance to work”	Definition amended to more closely align with the definition for access permit and remove duplication from the rules.
Section 14 Glossary - General	Definition of “clearance to work folder”	New definition to align with the definition of access permit folder
Section 14 Glossary - General	Definition of “close”	The definition of “close” has been removed and replaced by the definition of “vicinity”.
Section 14 Glossary - General	Definition of “covered tools”	Definition amended to align with amended Clause 6.2.12.
Section 14 Glossary - General	Definition of “exposed”	Notes regarding the effectiveness of different types of insulation replaced with references to Clause 9.1.3 (Insulation effectiveness for LV) & Clause 9.1.6 (insulation effectiveness for HV).
Section 14 Glossary - General	Definition of “insulated”	New definition - separated from “insulated tools”.
Section 14 Glossary - General	Definition of “insulated tools”	Definition amended to align with amended Clause 6.2.12.
Section 14 Glossary - General	Definition of “live low voltage work”	Sentence regarding work on insulated LV removed. The requirements are now stated in Clause 9.1.3.
Section 14 Glossary - General	Definition of “operating work”	Definition amended to more closely align with other NSW Network Operators.
Section 14 Glossary - General	Definition of “permit folder”	Definition amended to remove duplicated rules and more clearly state the purpose in relation to recording earthing equipment.
Section 14 Glossary - General	Definition of “vicinity”	New definition. Replaces “close” and aligns with Victorian VESI Rules
Section 15	Terminology	<p>“Abbreviations / Acronyms” added to the section title.</p> <p>The following abbreviations/acronyms have been added:</p> <p>APR – access permit recipient FIU – frequency injection unit ODT – open and danger tagged ORDT – open, removed and danger tagged SLCP – street light control point</p>

Other minor changes have been made, other than those itemised. Refer to grey shading in the document for details of modifications.

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