

RL D 79803

Working Near or On/Within

1 Principle

All workers must ensure that all individuals, plant, equipment and objects are safe from electrical hazards by doing any one or more of the following in order to minimise or eliminate any risk:

- Conduct comprehensive preparation and planning for the delivery of work and ensure reviews are completed utilising electrical expertise, and:
 - a. Remove the hazard, or
 - b. Isolate, make safe, or
 - c. Do not encroach electrical Safe Approach Distance.

2 Electrical Risk Mitigation

The *SMS-06-OP-3026 Work Health and Safety (WHS) Risk Management* risk from electrical hazards at the worksite shall be mitigated by the safest method practical (from top down):

- 1st** Remove the Electrical hazard which includes the installation of approved hard barriers, or
- 2nd** Isolate Electrical equipment and make safe with associated workers in control of an approved token to ensure that the electrical equipment remains Isolated, or
- 3rd** Do Not Encroach upon the Electrical Safe Approach Distance (SAD) by ensuring controls are put in place so that the potential of all workers, plant, equipment and things do not encroach upon the SAD as set out in *SP D 79049 Safe Approach Distances (SADs)*.

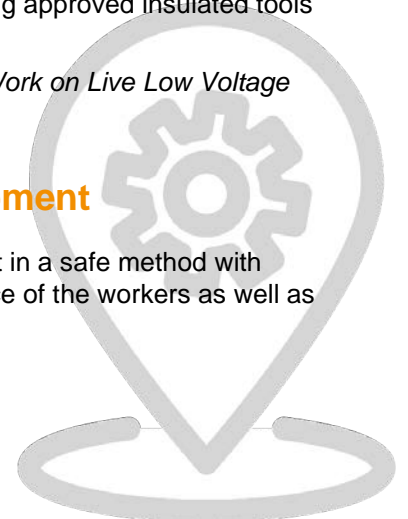
3 "LIVE" work

Sydney Trains does not allow "LIVE" work on AC HV at in service voltage and only permits:

- a. "LIVE" work near or on/within 1500 Volt equipment using approved insulated tools and SWIs.
- b. Restricted low voltage activities, refer to *PR D 78403 Work on Live Low Voltage Equipment*.

4 Working near or on/within electrical equipment

Work near or on/within electrical equipment shall be carried out in a safe method with controls consistent with the risk, and the training and experience of the workers as well as the work to be performed.



4.1 Work requiring an isolation

When working on or work has the potential of encroaching the SADs of electrical equipment, supply shall be removed, made safe and persons have a control that ensures that:

- a. The Electrical Equipment is Isolated and secured so that it cannot be inadvertently re-energised by:
 - i. Persons to work under the conditions of an Electrical Permit (EP), that details the isolated equipment, points of isolation, safety earths and any relevant electrical hazards as set out in *PR D 78500 Electrical Permits*.Or
 - ii. 1500 Volt OHW equipment to be Isolated and Rail Connected per the approved processes to access specific roads for work on rail mounted vehicles only.And
- b. For High Voltage equipment, all conductors shall be connected to a common earth on each side of the worksite, on which work is being carried out. At least one set of working earths shall be near the work site and positioned to be readily checked.

WARNING

Persons shall treat all electrical equipment as live, unless:

- they have signed onto an Electrical Permit for that equipment, or
- another provision of the Electrical Network Safety Rules applies.

4.2 Working alone near electrical equipment

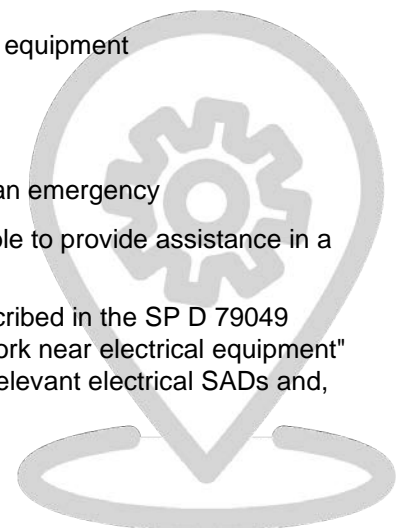
No person is permitted to work alone near exposed high voltage equipment, exposed 1500 Volt equipment, exposed live low voltage equipment in substations, or live low voltage aerial lines.

In the event of danger to human life, a person may take any appropriate action as necessary to prevent or mitigate this danger.

Where a person is required to work near exposed high voltage equipment, exposed 1500 Volt equipment, exposed live low voltage equipment in substations, or live low voltage aerial lines, they shall be accompanied by an appropriate person. The accompanying person shall be:

- competent in the particular task being undertaken
- able to release a person from live low voltage electrical equipment
- competent in cardiopulmonary resuscitation (CPR)
- able to implement control measures in an emergency
- capable of using communication equipment in case of an emergency
- located near or on/within of the worker in order to be able to provide assistance in a timely manner.

For the purpose of the Sydney Trains ENSR, the activities described in the SP D 79049 Section 4 Exceptions and Exclusions are not considered as "work near electrical equipment" provided they do not bring the Authorised Operator within the relevant electrical SADs and, as such, can be completed alone.



4.3 Work around electrical equipment

The requirements for working around electrical equipment are covered in *PR D 78700 Working around Electrical Equipment*.

WARNING

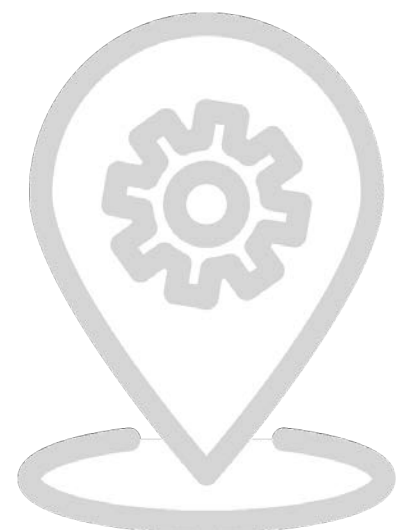
Workers shall not bridge themselves between items that may have a potential voltage difference of greater than 50 Volt, refer to *Code of Practice: Managing electrical risks in the workplace* Section 1.1 What are electrical risks?.

Persons shall treat all electrical equipment as live, unless:

- they have signed onto an Electrical Permit for that equipment, or
- another provision of the Electrical Network Safety Rules applies.

5 Development of Safe Work Instructions involving Electrical Hazards

Safe Work Instructions that mitigate a risk from Sydney Trains Electrical Equipment shall be reviewed by an electrically certified person that holds the appropriate function and approved by responsible manager accepting the risk, refer to *SMS-06-OP-3043 Preparing and using Safe Work Practices*.



6 Reference documents

The following documents provide a subset of relevant supporting information. This list is not exhaustive:

Code of Practice: Managing electrical risks in the workplace – August 2019

PR D 78403 Work on Live Low Voltage Equipment

PR D 78500 Electrical Permits

PR D 78501 Electrical Permit to Work

PR D 78501 FM01 Request for Electrical Permit to Work

PR D 78501 FM02 Portable Rail Connection/Earthing Schedule

PR D 78501 FM03 6 Personnel Register Cover

PR D 78501 FM04 26 Personnel Register Cover

PR D 78501 FM05 Electrical Permit to Work

PR D 78501 FM06 Electrical Permit to Work

PR D 78501 FM07 6 Personnel Register

PR D 78501 FM08 26 Personnel Register

PR D 78501 FM11 Request for Electrical Permit to Work (1500V)

PR D 78501 FM12 Request for Electrical Permit to Work (HV)

PR D 78502 Substation Access Permits

PR D 78502 FM01 Substation Access Permit

PR D 78502 FM02 Substation/Low Voltage Personnel Register

PR D 78503 Low Voltage Access Permits

PR D 78503 FM01 Low Voltage Access Permit

PR D 78506 Substation – Demarcation Taping

PR D 78700 Working around Electrical Equipment

PR D 78702 Stringing of 1500 Volt OHW Conductors in the Vicinity of Existing Electrical Equipment

SMS-06-OP-3026 Work Health and Safety (WHS) Risk Management

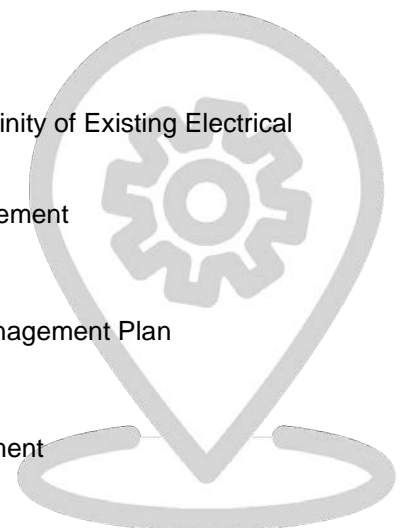
RL D 79800 Electrical Network Safety Rules

SP D 79035 Sydney Trains Electricity Distribution Network Management Plan

SP D 79049 Safe Approach Distances (SADs)

SP D 79050 Safe Use of Mobile Plant around Electrical Equipment

SP D 79050 FM01 Request for Auto Re-Close Disablement



SP D 79051 Temporary Structures around Electrical Equipment

SP D 79052 Cables – Work near or on/within

SP D 79053 Risk Management: Mobile Plant in proximity to aerial lines

SP D 79056 Special exception from working to the ENSR

SP D 79056 FM01 Electrical Network Safety Rules Waiver

7 Document properties

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Version	Date	Author/ Prin. Eng.	Summary of change
1.0	1 February 2022	ENSR Project Team	First issue as Sydney Trains document. Extracted from PR D 78000 Electrical Network Safety Rules and PR D 78101 General Requirements for Electrical Work. Reviewed as part of the ENSR Project.

