Engineering System Integrity

Engineering Guideline
Electrical Distribution Unit

GL D 79103

Contractors Assessment Guide for MEL53 Accredited OHW Worker

Version 1.2
Date in Force: 07 March 2022

Transport Sydney Trains

UNCONTROLLED WHEN PRINTED

Approved by:	Associate Director Electrical Distribution Unit Engineering System Integrity	Authorised by:	Engineering Technical Publications Manager System Integrity

Disclaimer

This document was prepared for use by persons in connection with works near or on/within the rail network electricity system operated by Sydney Trains. Sydney Trains makes no warranties, express or implied, that compliance with the contents of this document shall be sufficient to ensure safe systems or work or operation. It is the document user's sole responsibility to ensure that the copy of the document it is viewing is the current version of the document as in use by Sydney Trains. To the extent permitted by law, Sydney Trains excludes any and all liability for any loss or damage, however caused (including through negligence), which may be directly or indirectly suffered in connection with the use of this document.

Copyright

The information in this document is protected by copyright and no part of this document may be reproduced, altered, stored or transmitted by any person without the prior consent of Sydney Trains.

Document control

Version	Date	Author/ Prin. Eng.	Summary of change
1.0	10 August 2017	Brian Lidbetter	First version
1.1	23 April 2021	Peter Woods	Update roles and position names to reflect the current organisation
1.2	07 March 2022	Joanna Santos	Updated document references

Table of Contents

1 Introduction

As an operator of the electrical system, Sydney Trains is defined in the Electricity Supply Act (1995) NSW as a Distribution Network Service Provider (DNSP) and, as a DNSP, has the obligation to ensure that sound processes are in place to govern its practices. This document defines the requirements and expectations of contractors requesting electrical authorisation to carry out electrical works on Sydney Trains' electrical infrastructure.

Sydney Trains *SP D 79055 Electrical Competency Specific Certifications* outlines the Sydney Trains process for accreditation/re-accreditation of MEL53 Accredited OHW Worker.

2 Scope

The following information is provided as further guidance material to develop an assessment tool to meet SP D 79055 Table 6 requirement H. This information will directly refer to requirements out of SP D 79055 and reference to that document should be made while reading this information

2.1 Requirements

MEL53 Accredited OHW Worker Accreditation/Re-Accreditation (SP D 79055 Section 5.5 Table 6):

1. Re Requirement A, a copy of Certificate.
2. Re Requirement B, written advice from Transport for NSW (TfNSW) Training or an RTO must be provided to the certifying authority.
3. Re Requirement C, written advice from TfNSW Training or an RTO must be provided to the certifying authority.
4. Re Requirement D, written advice from TfNSW Training or an RTO must be provided to the certifying authority.
5. Re Requirement E, written advice from TfNSW Training or an RTO must be provided to the certifying authority.
6. Re Requirement F, written advice from TfNSW Training or an RTO must be provided to the certifying authority.
7. Re Requirement G, written advice from TfNSW Training must be provided to the certifying authority that the person has successfully completed either the accreditation or re-accreditation ENSR examination as applicable.
8. Re Requirement H, the assessment by the supervisor and assessor must include on-the-job assessment of the person’s ongoing ability to perform the duties of an OHW Worker. For the purposes of this assessment, in order for the Contracting Company’s assessment material to receive consideration as being deemed suitable to the Sydney Trains Associate Director Electrical Distribution Unit, it must give detail on how this assessment will be performed in the following activities: Section 3 Assessment Content.

3 Assessment Content

Minimum assessment content to comply with Requirement H of Table 6:

	On-the-job assessment for Accredited OHW Workers – Activities Description
(a)	**Erection of OHW components (fittings)**
	Understands and correctly uses cantilever data sheets
	Understands Sydney Trains OHW fitting numbers and correctly selects fittings required to complete a task from the Sydney Trains drawing
(b)	**Registering Wire, including attachment of arms**
	Standing on wrong side
	Attaching slings
	Correcting twist
	Checking for correct length of arm
	Split pins
	Mechanical wear on span wires
	What is thin contact wire (is it suitable for safe rigging)
	Vertical alignment of catenary and contact insulators
	Checking correct stagger of contact wire
	Checking clearance between live equipment and rail or earth
(c)	**Clipping up catenary**
	Correct orientation of envelope
	Knows the correct angle the cantilever should be to the mast dependent on the position in the tension length and the temperature of the day
(d)	**Installing droppers and feeders**
	Droppers
	Feeders
	Has demonstrated the ability to correctly position and install droppers and feeders (correctly installed onto contact groove)
	correct orientation
	cleanness of contact wire and catenary
	Correct nut tension
	Different size dropper clips and how to identify them
(e)	**Removing kinks**
(f)	**Removing wire at reduced tension with particular emphasis on risk of contact wire handling**
(g)	**Installation of bridge/structure bonding arrangements as per design**
(h)	**Appropriate use of SWMS and SWI's and pre work briefs**
(i)	**Adjusting height, stagger, heel heights, clearances to design**

	On-the-job assessment for Accredited OHW Workers – Activities Description
(j)	**Works in the vicinity of running lines safely**
	Valid Rail Industry Workers card
(k)	**Works around electrical equipment safely**
	Appropriate use of mobile plant and equipment around RailCorp's Electrical System
	Compliance with Safe Approach Distances
	Complies with requirements of Sydney Trains Electrical Permits
	Construction earthing/rail connecting
(l)	**Works aloft safely**
	Appropriate use of harness
	Appropriate attached climbing (when approved) and fall arrest systems
	Appropriate EWP usage
	Appropriate ladder usage
	Inspects safety equipment before use
	Displays the appropriate attitude to their duties to their co-workers and themselves
	On-the-job assessment for Accredited OHW Workers – Activities Description
(m)	**Wears appropriate safety equipment and PPE**
	Correct clothing
	Safety glasses
	Hard hat
(n)	**Follows the instructions of supervisors**
(o)	**Running of wire – elements of a risk assessment – right equipment, right plant and right material**
	Identification of cad copper from tinned copper from hard drawn bare copper
	Silly side issue
	Swivel for polymeric insulator
	Positioning of machinery in correct order
	Live wire in vicinity
	Running roads in vicinity
	Clearance to redundant structures
	Mid-point anchor installation
(p)	**Tensioning wire**
	Working in fixed rather than regulated – recognition and memory
	Unloaded tension/loaded tension/over tensioned/use of tensioning charts/ temperature reading

	On-the-job assessment for Accredited OHW Workers – Activities Description
(q)	**Terminating wire (fixed and regulated)**
	Full splices
	Half splices
	Wedges
	Shims
	Snail clamps for 510mm2 catenary
	Use of pfisterer clamps
	Application of preformed terminations
	Application of preformed splices on catenary
(r)	**Installing section insulators**
	Demonstrate knowledge of the use of the proforma
	Use of tension wrench
	Adjustment for running and its importance
(s)	**Installing pennant insulators**
	Clearances – between pans and OHW arrangements
	Clearances – electrical clearances
	Clearances – between pans and drop verticals
	Bonding issues – floating sections
	Vertical alignment of insulators in catenary and contact
	Cutting in rigging process for catenary pennant insulator
	Cutting in rigging process for contact pennant insulator
(t)	**Deals appropriately with unexpected situations, e.g. the design not working**
	Asks someone with design authority for advice
(u)	**Correcting twisted wire**
(v)	**Installation of aerial feeding arrangements at overlaps and section insulators as per design**
(w)	**Removal of wire**
	Order of dropping
	Stripping fittings from catenary and contact wires
	Rigging up
	Lowering conductors
	Cutting up conductors
(aa)	**Testing required under Sydney Trains Electrical Network Safety Rules (ENSR)**
	Structure to rail tests

	On-the-job assessment for Accredited OHW Workers – Activities Description
(bb)	**Switches**
(cc)	**Demonstrated knowledge of their own QA system and the Accredited OHW worker's role in this system**
	What are the important issues to consider for runability and safety?
	Checklist
	Sectionability
(dd)	**Installation of tension regulators**
	Distance between pulley wheels is correct for the temperature and tension length
	Existence of objects under the weight system
	Distance between thimble on top of weight system and first pulley wheel is correct for the temperature and tension length
	Position of the weight guide eye bolt is correct with respect to the top and bottom of the weight guide rod for the range of movement of the eye bolt over the required temperature extremes and for that tension length
	That pulley wheel bearing protectors are installed