Public Transport Services

Government of South Australia

Engineering Instruction

TOWING OF A EMU BY A DEMU TO DRY CREEK

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Document Control

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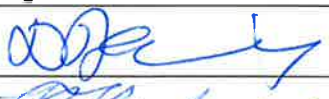
Prepared By:	Name: Doug Fleming Title: Senior Technical officer		17/12/2014
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1	Initial issue	19/08/2014	Doug Fleming	Peter Lindqvist	Peter Haskard
2	Allow normal speed of movement	17/12/2014	Doug Fleming	Peter Lindqvist	Peter Haskard

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1. Introduction

To facilitate the movement of EMU's to Dry Creek maintenance facility they are required to be coupled to multiple DEMU's.

2. Purpose

This instruction describes the processes to be followed when an EMU is required out at Dry Creek Maintenance facility.

3. Scope

This work instruction applies to Rollingstock Engineering and Operations for all towing operations to & from Dry Creek.

4. Related Documents

DOCUMENT NAME	DOCUMENT NUMBER
Procedures Manual 4000 Class (EMU) Railcars	MN-TO-GE-819

5. Acronyms

ACRONYM	FULL NAME
EMU	Electric Multiple Unit
DEMU	Diesel Electric Multiple Unit
MEL	Main Electrical Locker
BP	Brake Pipe
TCMS	Train Control and Management System
AWS	Automatic Warning System

6. Definitions

TERM	DEFINITION

7. Roles and Responsibilities

Manager Operations shall be responsible for providing competent personnel to facilitate the movements required.
Manager Rollingstock Engineering shall be responsible for providing technical support.

8. DEMU/EMU towing procedure.

- Ensure that there is a Driver for both the 3000 and 4000 vehicle. There must be a Driver present in the 4000 Cab at all times when moving.
- Lower the pantograph on the 4000, apply park brake, and turn climate control and saloon lights OFF, move direction controller to ISOLATE.
- ISOLATE Pantograph by operating the "Pantograph Isolation Switch" place in the OFF position, located 'T' car B# end locker RHS.

Pantograph Isolation Switch

Not Isolated

Isolated

- In the 3000 B# electrical locker – isolate Circuit Breaker 8Q3, 'Coupling Control' of the coupled car.
- Driver of the 4000 to signal the 3000 to approach and bring their train to a stop approximately one metre from the 4000.
- 3000, when signaled will move on and couple with the 4000.
- Driver of 4000 (coupled end) insert direction controller and put in direction of travel, operate deadman feature (twist handle) so as to charge Brake Pipe.
- Open MEL and isolate vigilance by turning rotary switch.
- The Drivers shall visually check the units have coupled correctly. The Driver of the 3000 should briefly apply traction (pull back) to check the coupling remains coupled when under tension. The vehicles should not move.
- In the 3000 (at non-coupled end), charge the BP to 500kPa, traction brake controller Full Brake.
- At TCMS/Process info menu/Traction/aux, check Battery Voltage (Towing range 96 - 90 V).
- If battery voltage is below the required voltage range "<89" volts follow, section 34.4 Scenario 4: 3000 Rescuing a Disabled 4000.
- If within range charge the BP, turn headlights off, Press and hold the emergency Deadman foot Switch or twist handle, move traction/brake controller to the off position (park brake still ON).
- Communicate to driver in 3000 that 4000 is ready to move, on confirmation from 3000 that movement is imminent release park brake on 4000.
- Train is now ready to be moved.
- AWS will also need to be Acknowledged
- Full emergency braking is available and can be operated by either driver, removing the need to limit the speed of the movement (Note the Driver of the 3000 must allow for a significant increase in braking distance, under service brakes).
- When towing complete. 4000 place traction brake controller in full brake, confirm brake cylinder pressure rises, apply park brake, move Direction controller to ISOLATE, Reinstate Pantograph isolation switch.
- 3000 Reset 8Q3 coupling control circuit breaker.
- Uncouple from 4000 Cab.
- Turn vigilance rotary switch in MEL to reinstate vigilance.