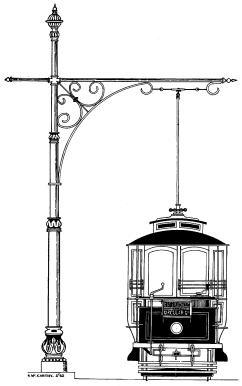

SYDNEY TRAMWAY MUSEUM

PROCEDURE FOR TOWING A TRAM ACROSS THE RNP LEVEL CROSSING

~~MAY 2015~~MARCH 2016

SYDNEY TRAMWAY MUSEUM

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3. Distribution List

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SYDNEY TRAMWAY MUSEUM

1. Purpose

To ensure that any tram that needs to be towed across the RNP level crossing is done safely.

2. Scope

This procedure applies to ALL trams that need to be towed across the RNP level crossing by a road vehicle.

3. Responsibilities

The Operations Manager is responsible for ensuring that all relevant staff have knowledge of this procedure.

4. References

STM6110 – Level Crossing Operation Manual

5. Definitions

Tow vehicle	Refers to either the Matador road vehicle or the Fiat Tractor.
RNP	Royal National Park
STM	Sydney Tramway Museum, the trading name of South Pacific Electric Railway Co-operative Society Limited

6. Actions

In the event of the overhead wiring, which crosses the Princes Highway level crossing, being damaged or torn down and a tram is trapped on the Royal National Park side of the highway the following procedure must be followed when returning the isolated tram to the museum side of the line.

The level crossing has been deliberately constructed with a gradient from east (RNP) to west (STM). The intent of this procedure is to tow the stranded tram over the crest on the eastern edge of the roadway, and then use the gradient to coast the tram across and clear of the highway.

If the contact wire can no longer be used across the road but the power is available once the damaged section of the contact wire has been removed or made safe, the Royal National Park side of the line can be energised using the catenary wire as a feeder.

The stranded tram can be driven to the RNP side of the crossing and parked **BEFORE THE INDUCTION LOOP THAT ACTIVATES THE CROSSING LIGHTS.** The stranded tram crew must then wait until a suitable tow vehicle is available to tow the tram across the highway.

As this is deemed to be an emergency operation due to the situation, members of the Police should be in attendance to direct and oversee the operation.

The following steps then should be undertaken:

- A nominated, qualified person should then take control of the stranded tram for the duration of the operation.
- Switch the level crossing system to Manual, consult with Police to determine if and when the warning equipment should be manually operated. Remember that the crossing warning equipment will cease operating after 2 minutes. If the method of operation advised by the police is likely to take longer than 2 minutes, use the Emergency flasher controls.

- Under the direction of the police, once they have halted all traffic, couple the stranded tram to the tow vehicle using a suitable tow chain (if necessary the stranded tram may be drawn forward under its own power to suit the length of the tow chain).
- If possible, ensure that the tow vehicle remains on the roadway and that the tow chain is as short as possible.
- Once the stranded tram is safely coupled, the nominated person must first ensure on an air-braked tramcar that the main reservoir is pumped to full operating pressure (vent air if necessary to cause the compressor to operate) and then ensure the trolley pole is pulled down and secured.
- The stranded tram brakes are then to be released and the tow vehicle then proceeds to tow the stranded tram over the crest of the grade on the approach to the crossing.
- Once clear of the crest the stranded tram is to be stopped and then uncoupled from the tow vehicle which can then be run clear of the track.
- Once this is done the stranded tram brakes are released and the tram should then coast across the road and stop clear of the road and under the undamaged overhead wire.
- The correct pole can then be placed on the trolleywire and then the tram is driven back to the museum normally.
- Ensure that the crossing lights have been cancelled.

NOTE: If the stranded tram has a problem coasting across the road, the towing vehicle should then recouple to the tram and then proceed to tow the tram at a slow speed until it is clear of the road so road traffic can then proceed. The nominated person controlling the tram must use the brakes in such a way as to maintain minimum tension on the tow chain and to also prevent the tram overrunning and hitting the tow vehicle.

The above procedure is for returning conventional air-braked cars to the museum. However in the event that the isolated car is PCC 1014, Z2 111, a Berlin car, or Brisbane 180 the following should be observed:

- Berlin car – follow the procedure above, only use the hand brake to control the car whilst under tow or coasting. **Do not attempt to use dynamic braking**.
- PCC 1014 & Z2 111– follow the procedure above, except, both these cars have an extended range dynamic brake / park brake combination that has power supplied from the battery once the traction supply has been isolated, the nominated person **MUST** have the safety interlock pedal depressed and use the braking pedal to control the speed while coasting or under tow.
- If the isolated car is a hand brake car (e.g. Brisbane 180) the above should be followed and the hand brake used and monitored in the same way as an air brake.

In the event of a crossing lights failure, please refer to Level Crossing Operation Manual (STM6110) section 6.5.2 SIGNAL FAILURE.

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