Shore Supply Connection

Document No.	Work description
SMS-06-SW-1242	This document describes the safe work practices for connecting and disconnecting the 120 Volt Shore Supply to trains within Electrical Maintenance Centres
	Scope This SWI applies to any Rolling Stock Division (RSD) Electrical Fleet Maintenance Centre using shore supply. Connection of the Shore Supply is only to be undertaken by those with an Electrical Trade Certificate or higher
Review date 12/12/10	**References** • NSW OHS Act 2000 • NSW OHS Regulations 2001 CL 64 & 65 and Chapter 5 • Rail Safety Act 2008 • SMS-06-GD-0268 Working Around Electrical Equipment • SMS-06-PR-0104 Workplace Risk Management • SMS-06-GD-0323 Personal Protective Equipment • SMS-06-PR-0173 Plant and Equipment Lock-out Tag-out • SMS-06-SW-1133 Guard's Emergency Cock Lock-Out • SMS-12-OI-0886 Red Flagging Trains in stabling yards, depots and Maintenance Centres • SMS-06-GD-0001 Guide to Manual Handling • SMS-06-SW-0838 Pantograph Raising and Lowering • SMS-06-SW-0836 Isolating 1500V DC OH using an Annett Key

Responsible supervisor	PPE and precautions	Competencies or qualifications	Licences or permits required
Line Manager	• High visibility clothing or vest • Safety Footwear	• Site specific Induction • RISI • Electrical Trade Certificate or higher	

Tools and equipment required

Red Flag

Shore supply lead with black & red battery plug connection

Train keys

IF CONTROL MEASURES ARE NOT SUITABLE AND MAJOR CHANGES ARE NEEDED, CONDUCT A RISK ASSESSMENT AND DEVELOP NEW CONTROLS ACCORDING TO SMS-06-PR-0104 WORKPLACE RISK MANAGEMENT.

Isolation	Before carrying out any work on an isolated road, gain an Annett Key, in accordance with SMS-06-SW-0836 Isolating 1500v DC OH using an Annett Key To protect from the movement of Electric Trains whenever possible • If positioned under the overhead, lower the pantograph(s) in accordance with SMS-06-SW-0838 Pantograph Raising and Lowering, and • If positioned under the overhead, isolate the road in accordance with SMS-06-SW-0836 Isolating 1500V DC OH Using an Annett Key, and • Isolate the guard's emergency cock, in accordance with SMS-06-SW-1133 Guard's Emergency Cock Lock-Out
Check	Visually inspect that the pantograph(s) has been lowered from the overhead power supply
	***Warning*** *Ensure all pantographs are lowered in accordance with SMS-06-SW-0838 Pantograph Raising and Lowering. **Visually check** that the pantographs are lowered. Do not simply rely on the pantograph air pressure gauge, this will not guarantee that the pantographs are lowered. Failure to confirm that pantographs are lowered correctly may lead to serious **INJURY** or **DEATH**.*

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	Warning • *Always isolate in accordance with the referenced SWIs. Failure to correctly isolate could result in electric shock to you or others, causing serious injury or death*
Red Flag	Place a Red Flag accordance with SMS-12-OI-0886 Red Flagging Trains in stabling yards, depots and Maintenance Centres.

Locate Lead	Locate a shore supply lead with black & red battery plug connection	 **Figure 1 – Approved Shore Supply Lead**
	Warning • *Ensure the shore supply lead you are using is the correct type and is in fit and proper condition before use. Any lead found to be damaged is to be tagged-out, in accordance with SMS-06-PR-0173 Plant and Equipment Lock-out Tag-out, removed from service and provided to the Line Manager. Never use an incorrect or damaged lead. Doing so could result in serious injury or death from electric shock*	
Routing the Shore Lead	Route the shore supply lead to the battery fuse compartment through the terminal end door Ensure the cable enters the car on the battery fuse side to prevent introducing a trip hazard across the terminal end doorway	 **Figure 2 – Shore Supply Lead (non-trip hazard)**
	Warning • *The lead can present a trip hazard. Always ensure the lead is positioned to minimise the risk of trips (e.g. Use the mechanical arms fitted beside the switchboards to keep the cable clear of the maintenance centre walkways and lay it along side the walls within the car)*	

Connect to Car	Access the battery fuse compartment and remove the battery positive and battery negative fuses Connect the shore supply battery plugs to their respective holders, i.e. Red to battery positive, Black to battery negative	 **Figure 3 – Shore Supply Connected to Car**
	Warning • *Pins on the plug (switchboard end) may be come live if the battery is not completely dead. Do not handle pins, as doing so could result in electric shock* • *Failure to ensure shore supply is connected correctly i.e. black to battery negative and red to battery positive, could result in equipment damage*	
Connect to Switch Board	Always verify the connection to the car is correct before proceeding with the steps below • Connect the shore supply plug to the switchboard receptacle • Turn on the 120V shore supply circuit breaker and the associated 63A isolating circuit breaker • Verify power is being supplied by checking that emergency lighting is on and 120V supply to car is available (i.e. train radio display is on, cab lighting is on, doors release etc.)	 **Figure 4 – Shore Supply Connected to Switchboard**
Return to Service	To return the car to normal service • Turn OFF the 63A isolating circuit breaker and the 120V shore supply circuit breaker, then • Unplug the lead from the shore supply switchboard, then • Unplug the lead from the car, then • Lock the battery compartment door / cupboard • Gently lower the plugs from the car, by the lead, to the ground to avoid damage • Roll snake up neatly and place on hook adjacent to the shore supply switch board or other designated area	
	Warning • *Always lock the battery compartment door / cupboard. Failure to do so allows others access to terminals that will later become live exposing them to a potential electric shock*	
	Note • *Do not drop the lead from the car. Doing so could result in damage to the plugs*	

Remove Red Flag and Exit

Remove Red Flag in accordance with SMS-12-OI-0886 Red Flagging Trains in Stabling Yards, Depots and Maintenance Centres

Notify the Line Manager (supervisor or foreman) of completion, as required

WARNING

Removal of a RED flag or PId card without authorisation may be treated according to Just Culture Policy as a reckless violation of a safety procedure

Additional controls
Additional isolation and other controls may be required depending upon the work being undertaken. Refer to relevant SWI *If you identify additional hazards and / or controls relevant to this SWI, notify your Safety Facilitator or Line Manager as soon as practicable, so they can be noted and used to continuously improve this document*