

Electrical Isolation Diesel Fleet

Review date: 10/01/11

Document no.	Work description		
SMS-06-SW-1130	<p>This SWI describes the safe work practices for Isolating and Re-instating electrical power to the Diesel Fleet</p>		
	<p>Scope</p> <p>This SWI applies to all of the Diesel fleet in RSD</p>		
Review date	<p>References</p> <ul style="list-style-type: none"> • OHS Act 2000 • OHS Regulations 2001(Clause 64, 80, 81, 207 & 208) • Rail Safety Act 2008 • Code of Practice Low Voltage Electrical Work • AS 61010.1-2003 Safety requirements for electrical equipment for measurement, control & laboratory use • HB 187-2006 Guide to Selecting a Safe Multimeter • SMS-06-PR-0173 Plant and Equipment Lock-out Tag-out • SMS-06-GD-0268 Working Around Electrical Equipment • SMS-06-SW-0538 PPE for Electrical Work • SMS-06-SW-0269 Electric Shock Protocol • SMS-12-OI-0886 Red Flagging Trains in stabling yards, depots and Maintenance Centres • SMS-06-GD-0001 Guide to Manual Handling 		
Responsible supervisor	PPE and precautions	Competencies or qualifications	Licences or permits required
Line Manager	<ul style="list-style-type: none"> • High Visibility Clothing or Vest • Safety Footwear • Gloves • Safety Eyewear • Personal "Red" Lock and Danger tag • Bump hat as required 	<ul style="list-style-type: none"> • Site specific induction • Manual Handling training • RISI • Electrical Safety Awareness 	Electrical Trade Certificate as required
<p>Tools and equipment required</p> <ul style="list-style-type: none"> • Red Flag • Multimeter • Hand tools 			
<p>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.</p>			
	<p>General Warnings:</p> <p>The following warnings apply throughout this SWI:</p> <ul style="list-style-type: none"> • To prevent serious injury or death, work on live electrical equipment is prohibited • Some steps within this task require considerable manual handling. For the nominated steps, where possible, seek assistance. Whenever manually handling use a firm grip, keep the back straight, bend the knees and avoid twisting, bending or overreaching • Failure to correctly isolate could result in injury or death. Always isolate electrical systems in accordance with this SWI and seek assistance from your Line Manager as required • All isolations must only be carried out by approved and appropriately qualified personnel • At all times verify isolation has been achieved 		

Electrical Isolation Diesel Fleet

Prepare to Isolate Cars	<p>Position a Red Flag in accordance with SMS-12-OI-0886 Red Flagging Trains in Stabling Yards, Depots and Maintenance Centres</p> <p>Identify all the electrical circuits to be isolated</p> <p>After isolating attach a lock dog, personal "Red Lock" and "Danger Tags"</p> <p>Should testing/fault finding on live electrical equipment and or wiring be required, this is only to be carried out by:</p> <ul style="list-style-type: none"> ○ Qualified electricians or apprentices under their direct supervision, when: ○ Competent in the requirements of electrical shock protocol in accordance with SMS-06-SW-0269 Electric Shock Protocol ○ Wearing all the PPE for electrical work in accordance with SMS-06-SW-0538 PPE for Electrical Work ○ Using approved electrical test equipment (e.g. a multimeter that complies with AS 61010.1-2003)
	<p>Warning</p> <p><i>Failure to correctly identify and isolate the correct electrical circuits could result in serious injury or death, seek assistance from your Line Manager as required</i></p>
	<p>Note</p> <p>On XPT Power Cars when the engine requires isolation, shut the engine down, pull the jumpers out and turn off the engine cut out switches and control circuit breaker</p>

Battery Isolation Procedure	<p>Disconnect all jumpers from cars that require isolation</p> <p>Access the battery switch</p> <p>Turn off the battery switch</p> <p>Attach a lock dog, personal "Red Lock" and "Danger Tag" to the battery switch</p> <p>Notify the Line Manager on completion as required</p>
	<p>Warning</p> <p><i>Failure to carry out the above isolation correctly could result in serious injury to personnel interacting with this system.</i></p> <p><i>Always verify isolation has been achieved</i></p>
Reinstating the Battery	<p>Before reinstating power always check for Red Flags and that equipment is safe to reinstate</p> <p>Seek appropriate approval from the Line Manager to reinstate the battery</p> <p>Look for and inform other personnel that may be affected by reinstating the battery</p> <p>Remove the "Danger Tag"</p> <p>Remove your lock dog and personal "Red Lock"</p> <p>Turn on the Battery Switch</p> <p>Reconnect all disconnected jumpers</p> <p>Notify the Line Manager on completion as required</p>
	<p>Warning</p> <p><i>Failure to seek appropriate approvals and to carry out the above task correctly could result in serious injury to personnel interacting with this system</i></p>

Shore Supply Isolation	<p>Turn off the shore supply and disconnect the shore supply from the car</p> <p>Notify the Line Manager on completion as required</p>
	<p>Warning</p> <p><i>This task requires manual handling. Seek assistance if required. Whenever manually handling, use a firm grip, keep back straight, bend knees and avoid twisting, bending or overreaching. Always work in accordance with manual handling training</i></p>

Electrical Isolation Diesel Fleet

Reinstating the Shore Supply	<p>Check for Red Flags Seek appropriate approval from the Line Manager to reinstate the shore supply Look for and inform other personnel that may be affected by reinstating the Shore Supply Turn on the isolation switch Connect the shore supply to the car Notify the Line Manager on completion as required</p>
	<p>Warning</p> <ul style="list-style-type: none"> <i>Failure to seek appropriate approvals and to carry out the above task correctly could result in serious injury or death to personnel interacting with this system</i> <i>This task requires considerable manual handling. Seek assistance if required. When manually handling use a firm grip, keep back straight, bend knees and avoid twisting, bending or overreaching. Always work in accordance with manual handling training</i>
Engine Isolation	<p>Enter the Drivers Compartment Shut engine down Attach a lock dog and personal "Red Lock" Disconnect all adjacent jumpers from other cars Turn off the Battery Switch Attach a Danger Tag to the battery switch</p>
	<p>Note On XPT Power Cars when the engine requires isolation, shut the engine down, pull the jumpers out and turn off the engine cut out switches and control circuit breaker</p>
	<p>Warning</p> <p><i>Failure to seek appropriate approvals and to carry out the above task correctly could result in serious injury or death to personnel interacting with this system</i></p>
Reinstating the Engine	<p>Check for Red Flags Seek appropriate approval from the Line Manager to reinstate the Engine Look for and inform other personnel that may be affected by reinstating the Engine Remove the "Danger Tag" Remove your lock dog and personal "Red Lock" Reconnect all disconnected jumpers Turn on the Battery Switch Notify the Line Manager on completion, as required</p>
	<p>Note On XPT Power Cars when the engine requires reinstating, turn on the engine cut out switches and control circuit breaker</p>
	<p>Warning</p> <p><i>Failure to seek appropriate approvals and to carry out the above task correctly could result in serious injury or death to personnel interacting with this system</i></p>
Removing Tags & Flags	<p>Remove Red Flag, in accordance with SMS-12-OI-0886 Red Flagging Trains in Stabling Yards, depots and Maintenance Centres</p>
	<p>Warning</p> <p><i>Removal of a RED flag or Placard other than your own may be treated according to Just Culture Policy as a reckless violation of a safety procedure</i></p>
Notify	Notify Line Manager (supervisor or foreman) of completion, as required
Additional controls	
Additional controls may be required, depending upon the work being carried out. Refer to the relevant SWI's	