Manufacture of Signalling Bonding Cable – Under workshop conditions

Issue date: 11/04/08
Review date:19/02/11

<table>
<tr><td>SWMS number:
SMS-06-SW-1009</td><td colspan="3">SWMS Name:
Manufacture of Signalling Bonding Cable – Under workshop conditions</td><td>SWMS Team :
Signal Review Team</td></tr>
<tr><td>Custodian (Position):
Signal Services & External Resources Manager</td><td colspan="3">Assumptions:
Site specific risks are addressed and assessed in pre- work briefing</td><td rowspan="2">Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group)
Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals</td></tr>
<tr><td>Approving Authority (Position):
Safety and Quality Manager Commercial / Renewals</td><td rowspan="2">Equipment/Plant/Tools:
Forklift / Lifting Devices
• Cable Jacks
• Knives, Cutting Implements, Scissors, Hammer / Chisels, Tongs
• Hydraulic Pressure Crimper
• Heating Gas Torch
• Fire extinguisher
• Oxy cylinders/torches, Flint Gun
• Heat Shrink Tube, Heating Gas Torch
• Packing Tape for securing roll</td><td rowspan="2">Records/Reporting:
• Worksite Protection Plan
• Pre-work Brief
• Electrical Test Tags
• Forklift Service Records or Log book
• MSDS for chemicals
• RailCorp Regional Environmental Officer
• Equipment Test & Service Records</td><td rowspan="2">Permits/Licences required:
• Forklift Operators Certificate
• Rough Cutters Ticket
• Rail Bond Welder</td></tr>
<tr><td>Applicable Standards, Codes of Practice and guidance:
• OH&S Act 2000
• OH&S Regulation 2001
• Rail Safety Regulation 2003
• RailCorp Network Rules & Procedures
• Signalling Maintenance Procedures
• Technical Maintenance Plan
• Signal Engineering Standards
• RailCorp Safety Management System.</td><td rowspan="2">Personal Protective Equipment required:
• Safety Boots
• High Visibility Vests
• Hardhats
• Protective Clothing
• Safety Glasses

And as specified below.

• Welding Helmet, Gloves, Spats
• Gloves</td></tr>
<tr><td></td><td>Inspection requirements
Nil</td><td>Service schedule:
Nil</td><td>Training/Qualification required:
• Construction Industry Induction</td></tr>
</table>

• MSDS for all chemicals and Hazardous substance used on site • Safe use of Oxy-fuel Gas Sys - AS-4839 • Fire Fighting Procedures • WorkCover NSW Plant Guide • National Code of Practice for Manual Handling [NOHSC:2005 • AS 4839 portable oxy-fuel gas systems • AS/NZS 2865:2001 Safe working in a confined space		**MIMS or METRE Ref:** Nil	• Track Safety Awareness or RISI (Rail Industry Safety Induction)	• During all Site Works a FIRST AIDER MUST be Present

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1	Supervisor undertakes site pre-work briefing and gives local induction.	Staff not Listening to Pre-Work Brief	B -	Identify all hazards, Staff to ensure they are properly Briefed as to risks involving Worksite.	D	Team Leader / Work Group Leader / All Staff	Pre-Work Briefing SMS-06-FM-0163
2	Supervisor verifies competence of personnel doing the task and currency of permits for work.	Expired Competency Cards & Permits, Unqualified type of Personnel for the Task.	B -	Visual Inspection of Personnel Competency Cards & Currency of Permits	D	Team Leader / Work Group Leader	Safety Training & Competence SMS-11-SR-0128
3	Review SWMS and confirm it is current.	Use of a SWMS that is out of date	C -	Ensure SWMS is current and up to date.	D	Team Leader / Work Group Leader	SWMS & SWI's SMS-06-PR-0023
4	Verify that plant and equipment for the task is fit-for-purpose.	Plant & Equipment kept in poor working condition	C +	Conduct a Daily Plant Checklist	D	All Staff	Plant SMS-06-GD-0225
5	Use of Forklift / Lifting Devices to pick up Cable Drums or place of Cable Jacks	Cable Drum slippage from Forklift / Lifting Devices	B+	Ensure Cable Drum is secure, fastened Instruct Staff to be careful when near Forklift / Lifting Devices or to keep clear. Use guide ropes if required	D	Competent Forklift Operator All Staff	Lifting Equipment Inspection SMS-16-FM-0089 Plant SMS-06-GD-0225
		Hand or Bodily Injury from cable drums slipping or placement on Jacks.	B+	Instruct Staff to be careful when near Forklift / Lifting Devices or to keep clear.	D	Work Group Leader, All Staff	Lifting Equipment Inspection SMS-16-FM-0089
6	Removal of Plastic / Timber Protective Cover & pull Cable from Drum	Cuts to Hands	C-	Use cutting implements properly for removing Plastic / Timber Protective Cover	D	All Staff	PPE SMS-06-GD-0323
		Back / Muscle Injury	B+	Take regular breaks. Do not over exert. Pull Cable from Drum by the approved method only.	D	Work Group Leader	Manual Handling Guide SMS-06-GD-0001
7	Cut Cable to size, strip Cable Insulation ends with Knives	Blisters from Cable Cutters	B+	Use cutting implements properly	D	All Staff	PPE SMS-06-GD-0323
		Cuts to Hands / Body from Knives. (Eg. Sharp Knife)	C+	Use cutting implements properly	D	All Staff	

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8	Place Terminal Lugs onto ends of Cable	Wire Splinters into Fingers / Hand	C-	Use of PPE – Gloves	D	All Staff	PPE SMS-06-GD-0323
		Skin Reaction from anti-corrosion paste found in Terminal Lugs	C-	Use of PPE – Mandatory, Refer to Material Safety Data Sheet for Information	D	Work Group Leader, All Staff	
9	Crimping of Terminal Lugs with Hydraulic pressure Crimper	Squashing of fingers with Hydraulic Pressure Crimper	B+	Keep Fingers away from Jaws of the Crimper operation, Only Competent Staff to Operate Crimper.	D	Work Group Leader, Competent Staff	Plant SMS-06-GD-0225 Equipment Operating Manual
9	Crimping of Terminal Lugs with Hydraulic pressure Crimper (Cont……)	Blown Hydraulic Pressure Hose, Oil Spill	C-	Check Machinery before operation	D	Work Group Leader, Competent Staff	Signalling Construction Manual Plant SMS-06-GD-0225 Equipment Operating Manual
10	Placing Heat Shrink Tubing onto completed Signalling Bond & Heat Shrinking	General Process Hazards					
		Burns to Hands / Body / Clothing	C+	Use of PPE – Gloves, Use Heating Gas Torch in correct manner. Use tongs when handling hot objects	D	Work Group Leader, All Staff	PPE SMS-06-GD-0323
		General Heating Hazards					
		Fire	B-	Ensure fire protection measures based on risk assessment	D	Rough Cutters Ticket	Site Incident Response Procedures SMS-15-PR-0245
		Breathing difficulties from fumes	B-	Ensure well ventilated area MSDS on chemicals	D	All Staff	PPE SMS-06-GD-0323
		Smoke Fumes from Burning Rubber / Heat Shrink Tube	B-	Use Heating Gas Torch in well ventilated area's	D	All Staff	
		Oxy Acetylene Cutting					
		Explosions from leaking hoses and damaged equipment	B+	Visually check equipment MSDS on chemicals Flint igniters	D	Rough Cutters Ticket	AS-4839 (Safe use of Oxy-fuel Gas Sys) Storage/Handling of Gases SMS-06-SW-0196
11	Roll up finished Signalling Bond, place onto pallets for storage / take to Worksite	Back Injury from leaning over Finished Signal Bond	C+	Use of correct Backsafe method Techniques when rolling up Signal Bond	D	Work Group Leader, All Staff	Manual Handling Guide SMS-06-GD-0001

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		Lifting rolled up Signal Bonding onto pallet	B+	Use of correct Backsafe method Techniques when lifting up Signal Bonding	D	All Staff	Lifting Equipment Inspection SMS-16-FM-0089
		Use of Forklift / Lifting Devices to pick up pallet for storage	C-	Instruct Staff to be careful when near Forklift / Lifting Devices or to keep clear.	D	Competent Forklift Operator	

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NOTE: Each work group or team member must sign off on the SWMS to acknowledge they have been briefed about or instructed in the SWMS

Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date	Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date

RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)		Likelihood/Frequency						
		Event Frequency	Less than once every 1000 years	Once every 100 to 1,000 years	Once every 10 to 100 years	Once every 1 to 10 years	More than once per year up to and including 10 times per year	More than 10 times per year
		Historical (Likelihood)	Unheard of in the rail industry	Has occurred once or twice in the rail industry	Has occurred many times in the rail industry, but not in NSW	Has occurred once or twice in NSW	Has occurred frequently in NSW	Has occurred frequently at specific locations
		Workplace Predictive (Likelihood)	Not expected to occur	May occur only in exceptional circumstances	Could occur at some time but not likely	You would expect it to occur at least once in the next 10 years performing similar activities	You would expect it to occur at least once this year performing similar activities	You would expect it to occur at least once this month performing similar activities
			F1	F2	F3	F4	F5	F6
Consequence			Incredible	Improbable	Remote	Occasional	Probable	Frequent
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	A
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-

Extreme
High
Medium
Low

Definition for Use - Regional & Local level (Workplace)

Used for workplace hazards and safety risks that do not consider the whole of the network. Indicatively this matrix is appropriate for use where the hazards under consideration are up to 10% of the total network exposure. This includes regional and local workplace risk assessments.

As an example, the Level 2 scale would be used when examining the risk of slips, trips and falls on specific RailCorp platforms within a region or at a particular station, or the risk of fire within a depot.

There are 3 options for descriptors which can be used to determine the frequency category. One set of descriptors is provided for frequency, one for historical likelihood, and one for predictive liklihood in the workplace. Choose the most appropriate.

To score the risk, follow the steps:

1. Identify the magnitude of the credible consequence if the risk were to occur. If applicable, risks should be considered in terms of the safety (this matrix), commercial and environmental impact (using other matricies).

2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)

3. Score the risk using the combination of likelihood and consequence ranking.

Note: Where there are a range of credible consequences which may lead to a different level or risks and/or where the controls may be different. It may be useful to score the risk more than once.