

Installing antenna on building

Issue date 14/10/10

Review date: 06/09/13

SWMS number: SMS-06-SW-0877	SWMS Name: Installing antenna on building			SWMS Team: <ul style="list-style-type: none">Fred Devadoss – Safety FacilitatorSteven Grant – Wireless & Systems Operations ManagerGraham Payne – Technical SpecialistBryan Germain – Technical SpecialistAndrew Outerbridge – Wireless & Systems Operations Centre Supervisor
Custodian (Position): Wireless & Systems Operations Manager	Assumptions: N/A			
Approving Authority (Position): Asset Management & Maintenance Manager	Plant/Equipment/Tools: <ul style="list-style-type: none">Hand toolsDrillLadderTest equipment (Battery Operated SWR Meter, dummy load)	Records/Reporting: <ul style="list-style-type: none">Antenna Installation Risk Assessment	Permits/licences required: <ul style="list-style-type: none">ACMA licence	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) <ul style="list-style-type: none">Safety Facilitator, Safety Support Services DivisionTechnical Specialist, Communications & Control Systems Division
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none">OHS Regulation 2001WorkCover NSW Plant GuideNational Code of Practice for Manual Handling [NOHSC: 2005 (1990)]Manual Handling Resource WorkCover NSW 2004AS/NZS 1892.5: 2000 Portable ladders - Selection, safe use and careAS/NZS 1891 "Industrial fall arrest systems and devices"AS/ACIF S009 Installation Requirements for Customer Cabling (Wiring Rules)WorkCover Code of Practice - Electrical practices for construction work				
	Inspection requirements <ul style="list-style-type: none">Electrical inspecting & tagging – monthlyHarnesses & Lanyards – Inspected every 6 monthsConduct maintenance as per the Manufacture’s Specifications.Maintain inspection and test records in accordance with SMS-16-SR-0057 Inspection and Testing and SMS-05-SR-0027 Records Management.	Service schedule: N/A	Training/Qualifications required: <ul style="list-style-type: none">Rail Industry Safety Induction (RISI)OHS Construction Induction Training CardHeights Safety Course	PPE required: <ul style="list-style-type: none">Safety BootsHigh Visibility VestSafety GlassesHard HatProtective Gloves (Cut resistant or Leather)Hearing Protection (Ear muffs or Earplugs)Harnesses & Lanyards
		MIMS or METRE Ref: N/A		

Custodian: Wireless & Systems Operations Manager
 Approver: Asset Management & Maintenance Manager
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Number	Step	Hazard or human error (Safety/Environmental hazards identified, including physical environment, human errors, plant and equipment)	Risk ranking before controls	Control (to be Implemented to eliminate or reduce the risk to the lowest practicable level)	Risk ranking after controls	Responsibility	Job step to be completed in accordance with (name associated documentation)
1	Check location	Exposure to Hazardous Materials (eg. Asbestos)	A	Check Hazardous Materials Register	C-	Team Member	SMS-06-GD-0228 Hazardous Materials SMS-06-GD-0223 Hazardous Rail Corridor Locations
		Contact with hidden services/cables (eg. electrical cables, water & gas pipes)	A	Conduct cable/service search and mark out path. Contact local electrician/plumber to gain understanding of service locations. Use insulated tools. If not sure do not start job.	D	Team Member	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol
2	Ascend building / structure	Slips, trips & falls	B-	Make sure work area is clear of obstacles. Work area isolated by means of barricade from other employees / public. PPE: Safety Boots	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Fall from heights	B+	All persons are certified and competent for working at heights. Maintain 3 points of contact when ascending ladder. Don't over reach – move the ladder as you work. Position ladder to make sure it is stable. Use Fall Arrest System (Harness, Lanyards) Second person required.	C-	Team Member	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Attachment Hardware SMS-06-SW-0260 Fall Arrest Systems (Harnesses, Lanyards and Attachment Hardware)
		Hit by falling objects	B+	Isolate other employees / public from the area directly beneath. Secure tools and equipment. PPE: Hard Hat	C-	Team Member	SMS-06-GD-0240 Working At Heights

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3	Drill holes	Injury from power tools (Drill)	B-	Individual competent with use of tool Make sure drill is in good condition Use tool only for purpose it was designed for. Secure handling. Keep hands out of the path of drill bits. Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. Don't overreach. Keep proper footing and balance at all times. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Safety Glasses	C-	Team Member	SMS-06-PR-0225 Plant SMS-06-SW-0479 Power Drills
		Exposure to noise	B-	PPE : Hearing Protection (Ear muffs or Earplugs)	D	Team Member	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Use correct manual handling techniques when lifting and holding drill. Avoid reaching and stretching Use assistance if required	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling
		Contact with electricity	A	Electrical leads & equipment tested and tagged. Use insulated tools. Observe safe work clearances when working in the proximity of electrical cables and outlets.	C-	Team Member	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol SMS-06-SW-0479 Power Drills

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3	Drill holes (cont.)	Hit by projectiles	B-	PPE: Safety Glasses Clear worksite in a 3 metre radius from the drill. If necessary barricade work area.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
4	Install antenna mount	Hand injury	B-	Secure handling Use correct tools for the task.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Perform all movements smoothly, in a controlled, balanced, comfortable position. Avoid reaching and stretching Use correct tools for the task.	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. Cover sharp edges with tape. PPE: Protective Gloves (Cut resistant or Leather)	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment
5	Install antenna to mount and connect co-axial cable.	Hand injury	B-	Secure handling Use correct tools for the task.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Perform all movements smoothly, in a controlled, balanced, comfortable position. Avoid reaching and stretching Use correct tools for the task.	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. Smooth sharp edges prior to installation. Cut ties straight rather than on angle. Use cable tie cutting tool. PPE: Protective Gloves (Cut resistant or Leather)	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to RF Radiation	C+	Make sure all transmitters are turned off.	D	Team Member	

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6	Descend building / structure	Fall from heights	B+	All persons are certified and competent for working at heights. Maintain 3 points of contact when ascending ladder. Don't over reach – move the ladder as you work. Position ladder to make sure it is stable. Use Fall Arrest System (Harness, Lanyards) Second person required.	C-	Team Member	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Attachment Hardware SMS-06-SW-0260 Fall Arrest Systems (Harnesses, Lanyards and Attachment Hardware)
		Hit by falling objects	B+	Isolate other employees / public from the area directly beneath. Secure tools and equipment. PPE: Hard Hat	C-	Team Member	SMS-06-GD-0240 Working At Heights SMS-06-GD-0323 Personal Protection Equipment

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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							<u>Definition for Use - Regional & Local level (Workplace)</u> 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 likelihood 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 matrices). 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.
			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-		