

Transporting and Installing Racks

Issue date: 01/04/09
Review date: 31/03/12

SWMS number: SMS-06-SW-0926	SWMS Name: Transporting and Installing Racks			SWMS Team: <ul style="list-style-type: none"> Renato Dovecer – Safety Coordinator Geoff Wiggins – Supervisor Comms Field Construction Kevin Rosser – Technical Officer Construction
Custodian (Position): Safety Coordinator	Assumptions: <ol style="list-style-type: none"> Applicable to all Communications & Control Systems division staff. Applicable to all racks containing communications equipment. 			Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) <ul style="list-style-type: none"> Supervisor Comms Field Construction – C&CS, Asset Management Safety Coordinator – C&CS, Asset Management
Approving Authority (Position): Manager Communications Field Resources	Plant/Equipment/Tools: <ul style="list-style-type: none"> Trolley Hand tools Ladder Drill 	Records/Reporting: <ul style="list-style-type: none"> Installing Racks Risk Assessment 	Permits/licences required: <ul style="list-style-type: none"> Registered cabler under the ACMA Cabling Provider Rules 	PPE required: <ul style="list-style-type: none"> Safety Boots Protective Gloves (Cut resistant or Leather) Safety Glasses Hearing Protection (Ear muffs or Earplugs)
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> OHS Act 2000 OHS Regulation 2001 Rail Safety Act 2002 Manual Handling Resource WorkCover NSW 2004 AS 3084 Telecommunications installations – Telecommunications pathway and spaces for commercial buildings AS/ACIF S008 Requirements for Authorised Cabling Products AS/ACIF S009 Installation Requirements for Customer Cabling (Wiring Rules) AS/NZS 1892.5: 2000 Portable ladders - Selection, safe use and care WorkCover Code of Practice - Electrical practices for construction work 	Inspection requirements <ul style="list-style-type: none"> Trolley – Conduct maintenance as per the Manufacturer's Specifications. Ladder – Inspected every 6 months. Electrical inspecting & tagging – monthly 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 MIMS or METRE Ref: N/A	Training/Qualifications required: <ul style="list-style-type: none"> Rail Industry Safety Induction (RISI) OHS Construction Induction Training Card 	

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1	Lifting & transporting rack from storage to vehicle.	Manual handling	B-	Use both team lifting & mechanical aid (trolley). Adequate staff to assist. Co-ordinate lifting. Make sure that the load is stable. Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Keep proper footing & balance at all times.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
	Crush injuries		B-	Co-ordinate lifting PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling SMS-06-GD-0323 Personal Protection Equipment
	Cuts & abrasions		C+	PPE: Protective Gloves (Cut resistant or Leather). Be aware of sharp edges. Cover sharp edges with tape.	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
	Slips, trips & falls		B-	Plan the move and a clear path of travel. Awareness of terrain. Remove any obstructions. Good housekeeping practised at all times. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
	Restricted room for movement		C+	Provide adequate space to facilitate ease of loading. Use assistance if required	D	Line Manager	

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2	Moving rack in & out of vehicle.	Manual handling	B-	<p>Use team lifting.</p> <p>Adequate staff to assist.</p> <p>Co-ordinate lifting.</p> <p>Make sure that the load is stable.</p> <p>Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees.</p> <p>Avoid pushing or pulling the rack from within the vehicle, to minimise bending of the back & unbalanced / awkward positions.</p> <p>Load / unload rack from outside & behind the vehicle (where possible), allowing you to keep back straight and providing more space for assistance.</p> <p>Slide the rack in & out of vehicle.</p> <p>Reduce reach distances by positioning / organising tools & equipment to allow work to be done in a comfortable position.</p> <p>Keep proper footing & balance at all times.</p>	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Crush injuries	B-	<p>Co-ordinate lifting</p> <p>PPE: Safety Boots</p>	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling SMS-06-GD-0323 Personal Protection Equipment
		Cuts & abrasions	C+	<p>PPE: Protective Gloves (Cut resistant or Leather).</p> <p>Be aware of sharp edges.</p> <p>Cover sharp edges with tape.</p>	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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2	Moving rack in & out of vehicle. (cont.)	Slips, trips & falls	B-	Plan the move and a clear path of travel. Awareness of terrain. Remove any obstructions. Good housekeeping practised at all times. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Restricted room for movement	C+	Provide adequate space to facilitate ease of loading. Reduce reach distances by positioning / organising tools & equipment to allow work to be done in a comfortable position. Use assistance if required	D	Line Manager	
3	Transport rack from vehicle to place of install.	Manual handling	B-	Use both team lifting & mechanical aid (trolley). Adequate staff to assist. Co-ordinate lifting. Make sure that the load is stable. Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Keep proper footing & balance at all times.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Crush injuries	B-	Co-ordinate lifting PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling SMS-06-GD-0323 Personal Protection Equipment
		Cuts & abrasions	C+	PPE: Protective Gloves (Cut resistant or Leather). Be aware of sharp edges. Cover sharp edges with tape.	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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3	Transport rack from vehicle to place of install. (cont.)	Slips, trips & falls	B-	Plan the move and a clear path of travel. Awareness of terrain. Remove any obstructions. Good housekeeping practised at all times. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Restricted room for movement	C+	Provide adequate space to facilitate ease of loading. Use assistance if required	D	Line Manager	
4	<p>Check location prior to any drilling <u>Note:</u> Only applies to racks that are required to be permanently fixed. For racks that have wheels which are then locked in place, proceed to step 6.</p>	Exposure to Hazardous Materials (eg. Asbestos, lead dust, etc)	B+	Check Hazardous Materials Register If hazardous materials are present do not proceed with work and notify your Line Manager.	C-	Line Manager	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)	B+	Contact local electrician/plumber to gain understanding of service locations. Conduct cable/service search and mark out path. Use appropriate detectors to establish the presence of all services and mark out location. Use insulated tools. If not sure do not start job.	C-	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment
		Exposure to gases (if fire sensors are disturbed).	C+	De-activate fire alarm system. If in critical infrastructure or stations, this must be done in consultation with site controller. A permit may be required in underground stations.	D	Line Manager	SMS-06-GD-0199 Dangerous Goods and Hazardous Substances

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5	Drill holes and secure rack into position (on floor or wall)	Injury from power tools (Drill)	B-	<p>Individual competent with use of tool</p> <p>Make sure drill is in good condition</p> <p>Isolate work area 3m from plant</p> <p>Use tool only for purpose it was designed for.</p> <p>Secure handling.</p> <p>Keep hands out of the path of drill bits.</p> <p>Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit.</p> <p>Don't overreach.</p> <p>Keep proper footing and balance at all times.</p> <p>Wear proper apparel; loose clothing or jewellery can become caught in moving parts.</p> <p>PPE: Safety Glasses</p>	C-	Line Manager	SMS-06-GD-0225 Plant SMS-06-SW-0479 Power Drills SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	<p>Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees.</p> <p>Avoid reaching and stretching</p> <p>Use assistance if required</p>	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Contact with electricity	A	<p>Electrical leads & equipment tested and tagged.</p> <p>Use insulated tools.</p> <p>Observe safe work clearances when working in the proximity of electrical cables and outlets.</p>	C-	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0479 Power Drills
		Slips, trips and falls	B-	<p>Make sure work area is clear of obstacles.</p> <p>Keep electrical leads elevated.</p> <p>Awareness of terrain.</p> <p>PPE: Safety Boots</p>	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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5	Drill holes and secure rack into position (on floor or wall) (cont.)	Exposure to Dust	C-	PPE: Safety Glasses, Face Mask (P1 Industrial Low Tox)	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE : Hearing Protection (Ear muffs or Earplugs)	D	Line Manager	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms
		Hit by projectiles	B-	PPE: Safety Glasses Clear worksite in a 3 metre radius from the drill. If necessary barricade work area.	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut Resistant or Leather)	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
6	Install rack mounted equipment (eg. Servers, Patch Panel, Voice Recorder, VCS)	Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance if required	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling

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6	Install rack mounted equipment (eg. Servers, Patch Panel, Voice Recorder, VCS) (cont.)	Pinching injuries	C-	Careful handling when placing onto frame. Use caution when pressing the component rail release latches and sliding a component into the rack. The slide rails could pinch your fingers.	D	Line Manager	
		Restricted room for movement	C+	Provide adequate space to facilitate ease of loading. Use assistance if required	D	Line Manager	
		Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms
7	Run and terminate cables	Muscular strain	B-	Avoid reaching and stretching. Use a relay system – passing cable from one person to the next.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges (distribution frame, krone modules, cable tray, cable ties). Cut away from body & limbs. Use appropriate tools. Cut cable ties straight rather than on angle. PPE: Protective Gloves (Cut Resistant or Leather)	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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7	Run and terminate cables (cont.)	Hand injuries	C+	Use the krone tool in the correct manner. Make sure the hook is in the closed position	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Pinching injuries	C-	Careful handling when placing onto frame.	D	Line Manager	

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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

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RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)		Likelihood/Frequency							Definition for Use - Regional & Local level (Workplace)
		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	
Consequence		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	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.
			F1	F2	F3	F4	F5	F6	
Incredible	Improbable	Remote	Occasional	Probable	Frequent				
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A	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 of risks and/or where the controls may be different. It may be useful to score the risk more than once.
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-	

Custodian: Safety Coordinator

Approver: Manager Communications Field Resources

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