

Working at Height (including work on ladders)

Warning

You cannot undertake this activity in the rail corridor unless you have completed a pre work brief and work site protection plan.

Reference should also be made to the [Protocol for Entering the ARTC Rail Corridor](#) and the [Business Rules for Working in the ARTC Rail Corridor](#)

Minimum Personal Protective Equipment (PPE) requirements must also be met in line with the [Personal Protective Equipment \(PPE\) Work Instruction](#).

Work Activity:	Work at Height (including work on ladders)		WMS No:	WHS-WI-011
Coverage:	ARTC employees, and contractors directly managed by ARTC		Version No:	2.0
Developed by:	Corporate WHS Manager Corporate WHS Coordinator	Approved by:	Group Executive Manager Corporate Services and Safety	
			Date Approved:	26 April 2018

Instructions

1. Where you work within 2 metres of a place where there is a risk of a fall from height, plan to do as much work as possible on solid ground or on a solid construction, well away from a place where a risk of fall may exist.
2. Where you cannot avoid working at height, and you are within 2 metres of an edge from which you could fall more than 2 metres, you must apply control measure (a), where this is not considered practical you **must then** apply control measure (b), where this is not considered practical you **must then** apply control measure (c). You may need to apply a combination of control measures.
 - (a) Use a fall prevention device (such as a scaffold or elevating work platform, or install a guard rail or place a cover over a hole)
 - (b) Use a work positioning system (such as a travel restraint system or rope access system)
 - (c) Use a fall-arrest system (such as a catch platform, safety net, or a fall arrest lanyard)
3. You must follow the:
 - Section 1 (General Requirements) and the Reference Section (Training, etc)
 - Other sections of the document, if they apply to your work:
 - Section 2 – Scaffolding
 - Section 3 – Elevating Work Platforms
 - Section 4 – Travel Restraint Systems
 - Section 5 – Rope Access Systems
 - Section 6 – Fall Arrest Systems
 - Section 7 – Fixed Ladders
 - Section 8 – Portable Ladders

Section 1

Ensure these general requirements are followed at all times.

Section 1 - General Requirements			
What are the tasks involved?	What are the hazards and risks?	What are the control measures?	Related Documents
Work at Height	<p>Workers and/or members of the public falling from height due to:</p> <ul style="list-style-type: none"> • Adverse weather conditions • Electric shock • Exiting a vehicle in an area where a person could fall • Falling over an edge or into a hole • Losing balance • Slipping on a steep or unstable surface <p>Workers and/or members of the public being hit by falling objects due to falling:</p> <ul style="list-style-type: none"> • From a worker's hands • When being raised and lowered • Unstable natural materials on steep embankments <p>Workers hitting objects due to:</p> <ul style="list-style-type: none"> • Working under or near a structure • Falling from height <p>Workers sustaining electric shocks due to touching, or getting too close to, powerlines.</p>	<p>Complete a site specific assessment of risk to determine PPE requirements. However, you must wear suitable head protection (such as a hard hat) when there is a risk of:</p> <ul style="list-style-type: none"> • Objects falling on your head. For example, working below a work area, or steep embankment • Your head hitting objects or obstructions. For example, when falling from height, or when working under or near a bridge. <p>If your head protection could fall off, consider using a chin strap, so that your head remains protected.</p> <p>When there is a risk of a fall and it has been decided that a harness must be used, you must remain connected to the work positioning system or the fall arrest system to be used (i.e. always remain tied off when there is a risk of a fall).</p> <p>Restrict access to places within 2 metres of where a person or object could fall more than 2 metres, or where there is a risk of a person being hit by something falling. For example, install warning tape, bunting, witches hats, fencing, pits covers and/or use an observer.</p> <p>Provide:</p> <ul style="list-style-type: none"> • A controlled means of raising and lowering equipment. For example, use ropes. • A means of restraining objects and tools that could fall from height. For example, use tool bags, tool belts and/or tethers. <p>Avoid:</p> <ul style="list-style-type: none"> • Working at height alone, whenever possible. • Working at height during adverse weather conditions. For example, strong winds, heavy rain, floods and thunder storms. • Walking along the edge of a steep embankment, whenever possible. • Exiting a vehicle where you could fall, such as near an unfenced edge of a bridge, steep embankment, or in a poorly lit and unfamiliar location. 	<p>Code of Practice – Managing the Risk of Falls</p>

Section 1 - General Requirements			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
		<p>If crossing a bridge (i.e. not working on, or from, the bridge):</p> <ul style="list-style-type: none"> • Travel in a rail vehicle, • Use a fenced walkway, • Use a travel restraint system and walk within the '4 foot', • Walk within the '4 foot' where filled with ballast or grating or closely positioned sleepers and you are more than 2 metres from an edge from which you could fall more than 2 metres. <p>If you do not have an electrical supply authority permit or other control measure, maintain a separation distance of 3 metres from power lines for voltages up to 132KV and 8 metres for voltages greater than 132KV.</p>	

Sections 2 to 8

Ensure these specific requirements are followed as relevant to your work.

Section 2 – Scaffolding			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
Scaffold use	<p>Workers and/or members of the public falling from height due to:</p> <ul style="list-style-type: none"> • Incorrect set-up • Scaffolding collapse • Unauthorised access / interference • Unsafe method used to access, or exit, scaffolding <p>Scaffolding collapsing on workers, members of the public, rolling-stock and structures.</p>	<p>Use a competent person to inspect the scaffold before:</p> <ul style="list-style-type: none"> • First use • After an incident that may affect its stability. For example, a severe storm or vandalism. • After scaffold repairs • Every 30 days <p>Ensure a safe means of entering and exiting complete and incomplete scaffolding. For example, use a ladder and/or ramp.</p> <p>Prevent unauthorised access to incomplete, unsafe and/or unattended scaffolding. For example, attach danger tags, warning signs, warning tape, install witches hats and/or fencing.</p> <p>Where there is a risk of children accessing unattended scaffolding, install secure worksite fencing or control the risk by more effective means.</p> <p>Brief workers on the safe use scaffolding, and consider use of additional protection. For example, use a travel restraint system or fall-arrest system.</p>	Manufacturer / Supplier Safe Use Instructions

Section 3 – Elevating Work Platforms (such as a cherry-picker or scissor lift)			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
Elevating Work Platform use	<p>Workers and/or members of the public falling from height due to:</p> <ul style="list-style-type: none"> • Ejection from equipment • Equipment roll over • Unauthorised access / interference <p>Equipment or workers striking obstructions or objects during equipment movement.</p>	<p>Plan work to avoid equipment or workers hitting obstructions or objects. For example, use an observer when moving equipment.</p> <p>If using a work box or boom-type elevating platform, use a fall arrest system with a full body harness.</p> <p>Use equipment on stable surfaces. Deploy stabilisers and install outrigger foot plates where required.</p> <p>Prevent unauthorised access to unattended elevating work platforms (for example, remove keys from equipment and/or securely fence equipment).</p> <p>Appoint a competent person to establish a rescue plan, and appoint a dedicated and competent observer / rescuer with ready access to rescue equipment.</p>	<p>Manufacturer / Supplier Safe Use Instructions</p> <p>Work at Height Rescue Plan</p>

Section 4 – Travel Restraint Systems (such as rail skates)			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
Travel Restraint System use	<p>Workers falling from height due to:</p> <ul style="list-style-type: none"> • Anchor failure or poor condition • Equipment connection failure • Equipment failure • Failure to select suitable equipment • Incorrect adjustment or length of the fall restraint lanyard 	<p>Set-up the system so that you cannot access places where you could fall.</p> <p>Use a fall restraint lanyard and a full body harness and connect them to a robust anchor(s).</p>	<p>Manufacturer / Supplier Safe Use Instructions</p>

Section 5 – Rope Access Systems (such as abseiling, controlled lowers using tripods or A-Frames)			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
Rope Access System use	<p>Workers falling from height due to:</p> <ul style="list-style-type: none"> • Anchor failure or poor condition • Equipment connection failure • Equipment failure • Failure to select suitable equipment • Unauthorised interference with anchors or equipment 	<p>Connect each rope to two independent and robust anchors.</p> <p>Use a full body harness.</p> <p>Appoint a competent person to establish a rescue plan, and appoint a dedicated and competent observer / rescuer with ready access to rescue equipment.</p>	<p>Manufacturer / Supplier Safe Use Instructions</p> <p>Work at Height Rescue Plan</p>

Section 6 – Fall Arrest Systems			
What are the tasks involved?	What are the hazards and risks?	What are the control measures?	Related Documents
<p>Fall Arrest System use</p> <p>(such as a catch platform, safety net, or fall arrest lanyard)</p>	<p>Workers falling from height due to:</p> <ul style="list-style-type: none"> Anchor failure or poor condition Equipment connection failure Equipment failure Falling over an edge <p>Workers striking objects or the ground during a fall due to:</p> <ul style="list-style-type: none"> Failure to select suitable equipment Swing back Swing down 	<p>If using:</p> <ul style="list-style-type: none"> A catch platform or safety net, ensure a competent person oversees set-up. An anchorage line with a fall arrest lanyard, ensure that any potential free fall will be limited to a maximum of 60 cm. An individual fall arrest system, ensure that any potential free fall will be limited to a maximum of 2 metres. <p><u>Specific Requirements – Fall Arrest Systems</u></p> <p>Select suitable equipment that will effectively and safely arrest a fall. (always calculate the total fall distance, including the tear out of lanyards)</p> <p>Connect the lanyard to a robust anchor.</p> <p>Use a full body harness.</p> <p>Eliminate the risk of ‘swing back’ and ‘swing down’.</p> <p>Appoint a competent person to establish a rescue plan, and appoint a dedicated and competent observer / rescuer with ready access to rescue equipment.</p>	<p>Manufacturer / Supplier Safe Use Instructions</p> <p>Work at Height Rescue Plan</p>

Section 7 – Fixed Ladders			
<i>What are the tasks involved?</i>	<i>What are the hazards and risks?</i>	<i>What are the control measures?</i>	<i>Related Documents</i>
Fixed ladder use	<p>Workers falling from height due to:</p> <ul style="list-style-type: none"> • Electric shock • Equipment failure • Exceeding equipment safe working capacity • Inattention • Over reaching / worker feet or hands slipping 	<p>Inspect the ladder before use each shift.</p> <p>Use:</p> <ul style="list-style-type: none"> • Platform chains, where provided. • Three points of contact when climbing a ladder (use rungs, not stiles). • Travel restraint system or fall arrest system where practical and where this will reduce the risk of injury. 	-

Section 8 – Portable Ladders			
What are the tasks involved?	What are the hazards and risks?	What are the control measures?	Related Documents
Portable ladder use	<p>Workers falling from height due to:</p> <ul style="list-style-type: none"> • Electric shock • Equipment failure • Equipment not levelled or not being placed on unstable surfaces • Exceeding equipment safe working capacity • Inattention • Over reaching / worker feet or hands slipping <p>Ladder falling over during installation and removal, due to:</p> <ul style="list-style-type: none"> • Adverse weather conditions • Help not provided • Poor technique <p>Hand or finger injury due to:</p> <ul style="list-style-type: none"> • Placing hands or fingers in, or on, moving ladder latching mechanisms 	<p><u>General Requirements</u></p> <ul style="list-style-type: none"> • Inspect ladder before use each shift. • Get help to move, raise and lower the ladder. • Ensure ladder feet are placed on stable surfaces and are levelled. • Foot the ladder unless or until it can be secured to a stable structure. For example, have a second person hold and help steady the ladder. • Use three points of contact when climbing a ladder (use rungs, not stiles). • Do not exceed the safe working capacity of the ladder. • Use a fibreglass ladder when performing work in an electric traction area, or in an area incorporating unprotected low voltage and high voltage electrical conductors. • Use a travel restraint system or fall arrest system where practical and where this will reduce the risk of injury. <p><u>Specific Requirements - Extension Ladders</u></p> <ul style="list-style-type: none"> • Place the ladder so that the: <ul style="list-style-type: none"> ○ Feet are 1 metre out from a stable structure that the ladder rests upon for every 4 metres in height. ○ Head extends 1 metre above a stable structure (when using the ladder to access another level). <p>Use ropes to raise and lower the ladder, and to engage or disengage ladder latching mechanisms; do not place hands or fingers on, or in, the ladder latching mechanism.</p>	<p>Manufacturer / Supplier Safe Use Instructions</p> <p>Code of Practice – Managing the Risk of Falls</p>

References

Standards, Codes of Practice, Guidance:

[Commonwealth Work Health and Safety Regulation](#)
(see Regulations 54, 55, 78, 79, 80, 81, 225, and Schedule 3)

[Code of Practice – Managing the Risk of Falls](#)

Australian and Other Standards:

- AS 1418 - Cranes, Hoists and Winches series
- AS/NZS 1576 - Scaffolding series
- AS/NZS 1891 - Industrial Fall-Arrest Systems and Devices series
- AS/NZS 1892 - Portable Ladders series
- AS 2550 - Cranes, Hoists and Winches – Safe Use series
- AS/NZS 4488 - Industrial Rope Access Systems series
- AS/NZS 4576 - Guidelines for Scaffolding
- AS/NZS 4994 - Temporary Edge Protection series
- BSEN 1263 - Temporary Works Equipment – Safety Nets

ARTC Forms:

[Work at Height Rescue Plan](#)

Plant / Equipment / Tools:

Minimum Personal Protective Equipment (PPE) requirements are specified within the [Personal Protective Equipment Work Instruction](#).

For work at height, PPE requirements may include:

- Gloves
- Harness
- Head protection, including chin strap
- Rescue knife and suitable foot wear (for abseiling workers)
- Safety glasses

The following equipment must comply with Australian Standards (or equivalent standards):

- Load bearing equipment.
For example, ropes, lanyards, karabiners, portable ladders and static lines.
- Permanent engineered anchors.
- PPE.
- Scaffolding (including when assembled).

References

Training Requirements:

Licencing Requirements

Check that workers, who are assigned work at height and set-up of work at height equipment, hold relevant high risk work licences (where required by law).

[Click here for high risk work licencing requirements.](#)

Some examples where high risk work licences are required:

- Operation of boom-type elevating work platforms.
(this applies where the boom length is 11 or more metres).
- Forklift truck operation.
- Rigging work.
- Scaffold installation, dismantling and inspection.
(this applies where a person or object could fall more than 4 metres from the scaffold).

Training Requirements

Check that workers who are assigned work at height and set-up of work at height equipment, have received working at height training that is relevant to the task they will perform. Training must include:

- Conducting a risk assessment.
- Equipment use, set-up, dismantling, inspection and where required, maintenance.
- Planning and performing rescues (where required).
- Harness use, set-up and inspection (where required).

Inspection / Testing requirements:

Pre-Start Inspection Requirements - PPE

When completing pre-start inspections on PPE, check that:

- Correct equipment has been selected.
- Equipment is correctly adjusted and in good condition.
- Equipment will hold weights applied to them (For example, harnesses).
- Secure connections exist between different fall system components, including to anchors.

Two workers must check that a harness is correctly adjusted and that secure connections exist between different fall system parts, including to anchors.

Pre-Start Inspection Requirements - Anchors

When completing pre-start inspections on anchors, check:

- Suitable and robust anchors have been selected
 - Hand rails are not to be used.
 - Anchors are in good condition.
For example, they are not heavily corroded or subject to rot.
 - Anchors are likely to hold weights applied to them.
- Permanent engineered anchors are used, whenever possible and appropriate.