

# FATAL AND SEVERE RISK PROGRAM

LEADER SESSION

FALL FROM HEIGHTS

# ARTC



**STOP  
& THINK**

Only do the task if it can be done safely

# FALL FROM HEIGHTS

**OUR  
COMMITMENT**

**LIFE  
SAVING  
BEHAVIOUR:**

**I WILL ALWAYS USE  
ADEQUATE PROTECTION  
WHERE I CAN FALL MORE  
THAN 2M OR WITHIN 2M  
OF AN EDGE**

**NO HARM – LINE IN THE SAND**



# INTRODUCTION

Fall hazards are found across ARTC's network and premises. Hazards exist where levels change and workers may be exposed to a fall from one level to another.

This booklet provides clear information about the risks and controls required when working at heights.

It is part of a series of booklets about the fatal and severe risks of working on the railway.



WORKING ON SCAFFOLDING

# IDENTIFY FALL HAZARDS

- On any structure or plant being constructed or installed, demolished or dismantled, inspected, tested, repaired or cleaned, signal ladders, poles and gantries.
- On a fragile surface (for example, sheeting roofs, rusty metal roofs, fibreglass sheeting roofs and skylights).
- On a potentially unstable surface (for example, areas where there is potential for ground collapse).
- Using equipment to work at the elevated level (for example, when using elevated work platforms or portable ladders).
- On a sloping or slippery surface where it is difficult for people to maintain their balance (for example, cuttings, ballast shoulders and bridges).
- Near an unprotected open edge (for example, near incomplete stairwells, bridges, viaducts and culverts).
- Near a hole, shaft or pit into which a worker could fall (for example, trenches, excavations and service pits).



# INSPECTING THE WORKPLACE

Walk around the workplace to understand where the work is to be completed and how falls could occur. Key things to look for include:

- Surfaces – the stability, fragility or brittleness.
- The potential to slip, for example where surfaces are wet, polished or glazed.
- The safe movement of workers where surfaces change.
- The strength or capability to support loads.
- The slope of work surfaces, for example, where they exceed 7 degrees.
- Level – where levels change and workers may be exposed to a fall from one level to another.
- Structures – the stability of temporary or permanent structures.
- The ground – the evenness and stability of the ground for safe support of scaffolding or a work platform.
- The working area – whether it is crowded or cluttered.
- Entry and exit from the working area.
- Edges – protection for open edges of floors, working platforms, walkways, walls or roofs.
- Holes, openings or excavations – which will require guarding.
- Hand grip – places where hand grip may be lost.

# WHAT IS ADEQUATE FALL PROTECTION

**REMOVE THE HEIGHT RISKS BY BRINGING WORK TO THE GROUND.**

Where this is not possible, implement safe work at height controls including:

- Temporary Work Platforms
- Using an EWP, scissor lift to access the work area
- Scaffolding and secured ladders
- Use of a harness and lanyards (fall restraint or fall arrest)
- Barricades and delineation to restrict access to an edge
- Work Boxes
- Perimeter guard rails



# WHAT IS NOT ADEQUATE FALL PROTECTION

The following are not defined as fall protection methods:

- Working at Heights permit
- ‘Stop & Think’ or TAKE 5
- Three points of contact
- WMS

Heights  
Work Method Statement



Heights (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](#).

<b>Work Activity:</b>	Work at Height (including work on ladders)	<b>WMS No:</b> WHS-WH-011
<b>Coverage:</b>	ARTC employees, and contractors directly managed by ARTC	<b>Version No:</b> 1.0
<b>Developed by:</b>	Corporate Work Health and Safety Manager	<b>Approved by:</b> Executive General Manager Enterprise Services
		<b>Date Approved:</b> 7 April 2016

Instructions	
Where you may work within two metres of a place where there is a risk of a fall from height:	
1. Plan to do as much work as possible on solid ground or solid construction, well away from the place or places where a risk of fall may be (that is, avoid risk as much as possible. Try to avoid having to work at height at all, or having to work within 2 metres of any place where there is a risk of fall)	
2. Where you cannot avoid working at height, reduce the risk by putting in place one or more of the below control measures where practical	
Options include to:	
<ul style="list-style-type: none"> <li>• use fall prevention devices (such as scaffolding or elevated work platforms, or installing guard rails or covers over pits or holes)</li> <li>• use work positioning systems (such as rope access systems, or rail skidlers)</li> <li>• use fall-arrest systems (such as catch platforms or safety nets, or a fall arrest lanyard or anchorage line with fall arrest lanyards)</li> </ul>	
3. In all situations, ensure the general requirements as listed in the following section are applied:	
Section 1 – General Requirements	
4. Also ensure the following sections of the document are applied as relevant to how you will do the work:	
Section 2 – Scuffing	
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	



# KEY FACTS AND STATISTICS

**359**  
**WORKER FATALITIES**



Over the 13 years from 2003 to 2015, 359 workers died following falls from a height.

\* SAFEWORK AUSTRALIA 2016

**BETWEEN 2003 AND 2015, FALL FROM A HEIGHT MOST COMMONLY INVOLVED FALLS FROM A:**

<b>FATALITIES</b>	<b>59</b>	ROOF
	<b>54</b>	LADDER
	<b>26</b>	TRUCK, SEMI TRAILER, LORRY
	<b>19</b>	BUILDING UNDER CONSTRUCTION AND DEMOLITION
	<b>18</b>	ELEVATING WORK PLATFORM
	<b>16</b>	SCAFFOLD

\* SAFEWORK AUSTRALIA 2016

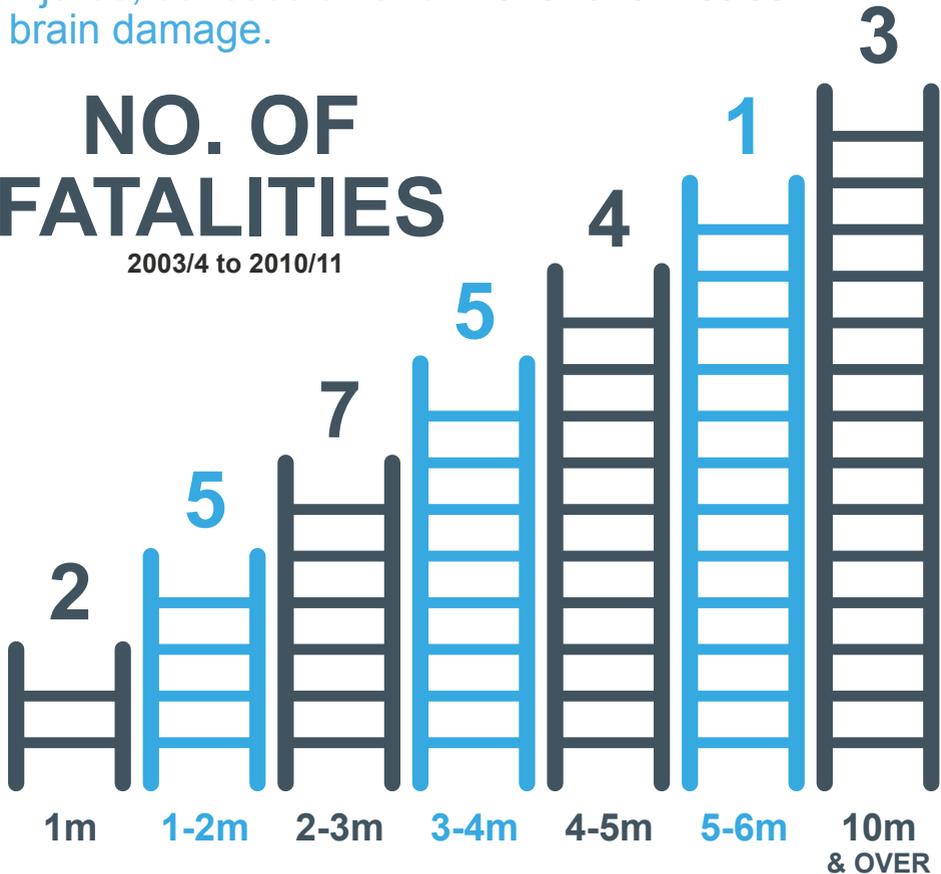


Falls from less than one metre can result in serious injury such as fractures, spinal cord injuries, concussion and brain damage.

The risk of serious injury or death from a fall increases significantly when working at heights over two metres.

## NO. OF FATALITIES

2003/4 to 2010/11



\* WORK RELATED INJURIES AND FATALITIES INVOLVING A FALL FROM HEIGHT, AUSTRALIA, 2013, SAFEWORX AUSTRALIA

# TYPICAL CASE STUDY FARLEY BRIDGE REPLACEMENT



## BORE HOLES

In order to construct the bridge supports for the Farley Bridge upgrade, large bore holes had been drilled to a depth of 12m. The bore holes were covered with large steel plates to prevent access to them.

During November 2016, a contracted worker was observed manually lifting the large steel plates covering one of the previously bored out pile holes. In addition, he was working on a ballast shoulder with an unstable surface. There was no fall restraint or fall protection measures in place. With no assistance, the worker struggled due to the weight of the plate.

ARTC Supervisor stopped work to discuss the hazard and the potential of incident with the work crew. The work crew advised that they usually would use mechanical lifting devices for this task but didn't on this occasion.



# LESSONS

1

Stop &  
Think before  
commencing  
task.

2

Consider  
potential  
hazards and  
risks and  
potential for  
harm to workers.

3

Use controls as identified in the WMS.

4

Stop & Think  
when conditions  
change.

5

Falls can occur  
in any area,  
including from  
one level to  
another, not just  
from height.



HOLE – TYPE OF COVERING USED



TYPE OF AUGER USED TO DRILL PILE HOLE

# OUR CHALLENGES



MAINTENANCE VIA SCAFFOLDING

**ARTC Incidents (2015-2016):**

- 10 incidents related to inadequate fall protection
- Potential for harm to workers.



BRIDGE WORKS



# STOP & THINK

OUR LAST LINE OF DEFENCE WHEN IT COMES TO MANAGING OUR RISKS

## HAZARDOUS SITUATIONS



NO PROTECTION BEING USED



UNCOVERED BORE HOLE



ELEVATED WORK VEHICLES



UNPROTECTED EDGE

# STOP & THINK

OUR LAST LINE OF DEFENCE WHEN IT COMES TO MANAGING OUR RISKS

## EFFECTIVE CONTROLS



FALL PROTECTION IN PLACE



EFFECTIVE GUARD RAIL



HANDRAILS INSTALLED



SAFE LADDER USE



# KEY ACTIONS

## WORK METHOD AND PROCEDURES

- Inspect the workplace and **assess the risks** of falling.
- When working at heights (including work on ladders), **review the working at heights Work Method Statement**:
  - Plan the work.
  - Work from the ground or from a solid construction whenever possible to do so.
  - If not, **reduce the risk** by using appropriate controls:
    - Fall prevention device, Work-positioning system, fall-arrest system or a combination.
  - **Restrict** unauthorised access.
  - Have a **rescue plan for use** in the event of an incident.
- Establish and maintain a **safe means of access** and egress to the work area at height.

## WELLNESS

- Ensure when undertaking your work, you are fit and healthy, not fatigued and drug and alcohol free.

## TRAINING

- Ensure people that are working at heights are **trained where required and competent** for the task.
- Staff **hold the correct licence** to operate an EWP boom height of >11m.
- Ensure only **licenced staff** only to erect and inspect Scaffolds >4m in height.
- Always maintain **Safe ladder usage**.

## KEY ACTIONS

### PLANT AND EQUIPMENT

- Inspected prior to use and check for **potential hazards**.
- Ask another competent person to also '**double check**' equipment before use.
- **Do not use** defective equipment under any circumstance and place an out-of-service tag on the equipment to prevent others from using it.
- Scaffolding >4m inspected by **competent staff only**.
- **Check PPE** before each use to ensure correct selection, adjustment, robustness of connections between different fall system components and the integrity of the anchor/s used.
- Ensure fall arrest systems and height safety equipment are on a maintenance schedule and completed as per regulations.



# REFERENCE DOCUMENTS

## AVAILABLE ARTC PROCEDURES AND PROCESSES:

- WHS-WI-011 Heights (including work on ladders) Work Method Statement
- Apply the relevant documents to your work:
  - Section 2 – Scaffolding
  - Section 3 – Elevated 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

## AUSTRALIAN STANDARDS, CODES OF PRACTICE AND INDUSTRY REQUIREMENTS:

- Managing the risk of falls at workplaces Code of Practice April 2016
- Commonwealth Work Health and Safety Regulations
- Australian and British Standards:
  - AS1418 Cranes, Hoists and Winches Series
  - AS/NZS Scaffolding Series
  - AS/NZS 1897 Industrial Fall-Arrest Systems and Devices Series
  - AS/NZS 1892 Portable Ladders Series
  - AS2550 Cranes, Hoists and Winches (Safe Use Series)
  - AS4142 Fibre Rope Series
  - AS/NZS 4488 Industrial Rope Access System Series
  - AS/NZS 4576 Guidelines for Scaffolding
  - AS/NZS Temporary Edge Protection Series
  - BSEN 1263 Temporary Works Equipment (Safety Nets Series)







## FURTHER INFORMATION

If you require any further information, discuss with your supervisor or contact the ARTC safety co-ordinator for your location.

Federal and State safety regulatory agencies have guidance's, manuals and codes addressing working at heights risks and controls.

### Information sources:

Worksafe Victoria website

Work Related Injuries and Fatalities Involving a Fall from Height, Australia, 2003, Safework Australia

Managing the Risk of Falls at Workplaces Code of Practice, 2016, Safework NSW

**ARTC**