CRITICAL HAZARD & ASSOCIATED RISK MANAGEMENT STANDARD FOR WORKING AT HEIGHT

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Spark Working at Height Risk Management Standard

This standard outlines the methods by which Spark will manage the risk associated with working at height on the Spark network. This document applies to all Spark worksites (including offices) and covers Spark workers, clients, visitors, suppliers, third-party contractors and across Sparks property portfolio.

Contents

1. Overview

1.1. Working at Height at Spark

A fall from height is one of the most common industry related causes of injury or death. Spark recognises that working at height (WAH) is any situation where there is potential for a person to fall, or to injure another person.
This includes high and low-level off the ground work, as well as short duration and maintenance work that is regularly carried out across the Spark network.

It is important to note, there is no 'minimum height': a person can be killed or sustain serious injury from a fall from ANY height. So, to make this clear, this standard applies to: any height where a person could fall, items falling from height, or into an unprotected opening at ground level. This applies when carrying out their work, irrespective of what height they are working at or what that work involves.

1.2. Purpose

The purpose of this standard is to ensure that so far as is reasonably practicable, steps will be taken to eliminate or minimise those associated risks when a person is working at height at a Spark worksite, or when working at another company's worksite where Spark has been granted access to carry out work. These steps will include pre-planning, safe systems of work, risk management (assessment), worker consultation, monitoring and emergency planning. This document will be continually reviewed and on an annual basis.

1.3. Legal Outline

This Critical Hazard and Associated Risk Standard has been specifically developed to give the reader a comprehensive overview of how WAH is managed at Spark and is aligned with all stakeholder's obligations under current H&S legislation.

WAH shall be, so far as is reasonably practicable, managed within Spark in accordance with legislation and the documents listed below in section 1.4

1.4. Related Legislation and Best Practice

Health and Safety at Work Act 2015
Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
Health and Safety in Employment Regulations 1995
Best Practice Guidelines for working at height in New Zealand https://worksafe.govt.nz/topic-and-industry/working-at-height/working-at-height-in-nz/
Best Practice Guidelines for Mobile Elevating Work Platforms 2014
Good Practice Guidelines for Scaffolding in New Zealand – Nov 2016
Working on roofs – good practice guidelines: https://worksafe.govt.nz/topic-and-industry/working-at-height/roofs/working-on-roofs-gpg/ Working safely at height: https://worksafe.govt.nz/topic-and-industry/working-at-height/working-safely-at-height/
Worksafe: https://worksafe.govt.nz/
Spark H&S Supplier Policy 2017 http://www.sparknz.co.nz/about/suppliers/

1.5. Scope

This document outlines the standard and framework that Spark will put in place to identify and manage any hazards and risks associated with WAH on Spark worksites and that of its subsidiaries. It applies to all Spark worksites (including offices) and covers Spark managers and employees, suppliers, service providers, internal and external project managers (PMs), delivery integrators, external consultants, designers, external visitors, clients, contractors and third-party contractors.

1.6. Definitions of Terms and Acronyms Used

Please see Section 7

2. Document Details

2.1. Document Ownership

Prepared by Paul Uttley Date: March 2018

Sponsor Rob Berrill Date: March 2018

Approved by Mark Beder Date: March 2018

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2.2. Document Version History

VERSION	DATE	PAGES	DESCRIPTION	AUTHORISED
1	12 Nov 2017	New WAH document written	Written by Group H&S Manager	Paul Uttley
1	17 Jan 2018	All	For review with HS team	Paul Uttley
1	26 Jan 2018	All	For review with Connect SLT & key personnel	Mark Beder, Rob Berrill, Paul Uttley
1.1	20 March 2018	All	Approved	Mark Beder, Rob Berrill, Paul Uttley

2.3. Roles and Responsibilities

Refer to the table below for roles and responsibilities:

When more than one PCBU (person conducting a business or undertaking) have the same health and safety duties in a WAH matter (e.g. overlapping duties) Spark will make sure, so far as is reasonably practicable that they consult, co-operate and co-ordinate with one another over the same matter. This will help avoid unnecessary duplication of effort and help prevent gaps in managing WAH related risks. In most instances Spark will be a leader in promoting and encouraging good Health and Safety (H&S) practices at shared worksites. Although, the nature of this leadership will reflect how much influence and control Spark have on working at height risks at the shared workplace, and what is reasonably practicable in the circumstances.

Role	Responsibility
Spark N.B Spark means all entities and people who also have responsibilities **involved in managing WAH activities**	Spark will make sure, so far as is reasonably practicable that: • the H&S of Spark workers and others is not put at risk by any WAH activities being undertaken across their worksites. • It works closely with their suppliers and engaged contractors for managing and controlling WAH hazards and associated risks through a suitable PBCU and workers consultative and participation process. • both Spark and Supplier workers are provided clear guidance on how to effectively manage WAH critical hazards and associated risks through the content of this standard. • Spark suppliers (in consultation with Spark Management) develop, deploy and monitor suitable WAH safe systems of work when carrying out WAH activities across Spark worksites.
Spark Health and Safety Team	• make sure the H&S requirements of this standard are applied and monitored through participation and consultation with Spark Management and Suppliers • assist Spark Management in the review of safe systems of work for suppliers and contractors (including WAH risk control plan) for best managing and controlling WAH hazard and associated risks.
Spark Procurement Team	• make sure a suitably competent and reputable contractor and sub-contractor is selected and engaged through a sound pre-qualification process for any type of WAH related works. • prior to works commencing at a Spark worksite or office, liaise with the relevant Spark teams, respective Project Manager (PM) and H&S Advisor for the selection of any contractor undertaking critical WAH activities.
Manager, managing WAH work on a Spark site (including: Spark Property Asset Manager, Facilities Manager, Internal PMs, Delivery Integrators, External PMs engaged by property and service companies)	• make sure critical risk WAH activities are managed and controlled taking practical guidance from this Risk Management Standard for WAH. • review and audit the performance of suppliers critical WAH activities in consultation with the supplier and Spark H&S representative. • work closely with any supplier or contractor or third-party contractor who may be carrying out critical WAH activities at a Spark worksite or office.
Contractor and third-party contractor	• critical risk WAH activities are identified, assessed and controlled taking practical guidance from Sparks Risk Management Standard for WAH. and make sure they comply with the requirements of legislation and best practice. • it develops and supplies risk assessments and Safe Work Method Statements (SWMS) for critical WAH activities when requested from Spark management or a Spark representative. • workers or self-employed workers have the necessary knowledge, experience and qualifications to carry out WAH activities safely, and are supervised by competent personnel. • they audit the performance of their WAH activities, self-employed and workers and make sure they comply with the requirements of legislation and best practice. • all workers are consulted with and provided the content of Sparks Risk Management Standard for WAH. • they supply correct, suitable and safe WAH related plant and equipment including PPE (personal protective equipment) always.

3. Working at Height – Standard Guidance

WAH has been identified and assessed as one our critical H&S hazards and associated risks at Spark. The risks associated with WAH is prevalent across all parts of Spark's business.

Spark has introduced this Standard for WAH to provide practical guidance for Spark and supplier employees, when planning to control critical risks relating to WAH activities across all our worksites where practicable. It is important to note that although this standard covers our most prioritised critical risks that workers may be exposed to daily, it may not address all WAH associated risks encountered when working or carrying out works across the Spark network.

3.1. Worker Consultation

To further improve the H&S risk management process, Spark will always consult with their available resources and expertise within the business (i.e. managers and employees, designers, H&S team and suppliers) mainly at the planning and design stage of any Spark H&S risk management process. This consultative process enables Spark to define the context and basic parameters within which critical hazard and associated risks must be managed.
This Risk Management Standard was developed in consultation with Spark's H&S team, Spark managers, employees and suppliers, who manage and carry out WAH works for Spark. This consultation process occurred between 15 – 23 November 2017 via worker feedback, where a Spark request was made for suitable worker representation made up of the above persons, who were requested to complete and return the simple table below.

Working at Height Feedback		
WAH activities: examples • mechanical and electrical services maintenance works, above a ceiling grid or cable tray. • Network maintenance from a roof area. • General building and office maintenance.	• How are these activities and associated H&S risks currently controlled?	• What could be done to improve and make these WAH activities safer

All worker feedback was then collated into a register and reviewed to help determine what is occurring for WAH activities at Spark worksites and how risks are currently managed and controlled by Spark and their suppliers. All recommendations were considered, then suitable improvements were applied to the development of this Risk Management Standard for WAH. Recommendations included:

- Consider safety in design during the planning stage of risk management.
- Better standards concerning management and the detailing of WAH task to workers and identification of risks.
- A standard that gives our suppliers practical advice on conducting a risk assessment for working at heights.
- Offer links to WorkSafe best practice guidelines.
- Only competent and qualified workers to carry out work at height.
- Make the use of temp work platforms mandatory (not step ladders) when carrying out short duration works and offer guidance on the safe assembly, use and movement of mobile scaffold.
- We need not only produce a professional standard but deliver it out to the contractor community in a meaningful way with our Senior Leader's support.
- Make sure that Spark expect an individual using a step ladder to have had this approved as part of a risk control plan approved by their employer.

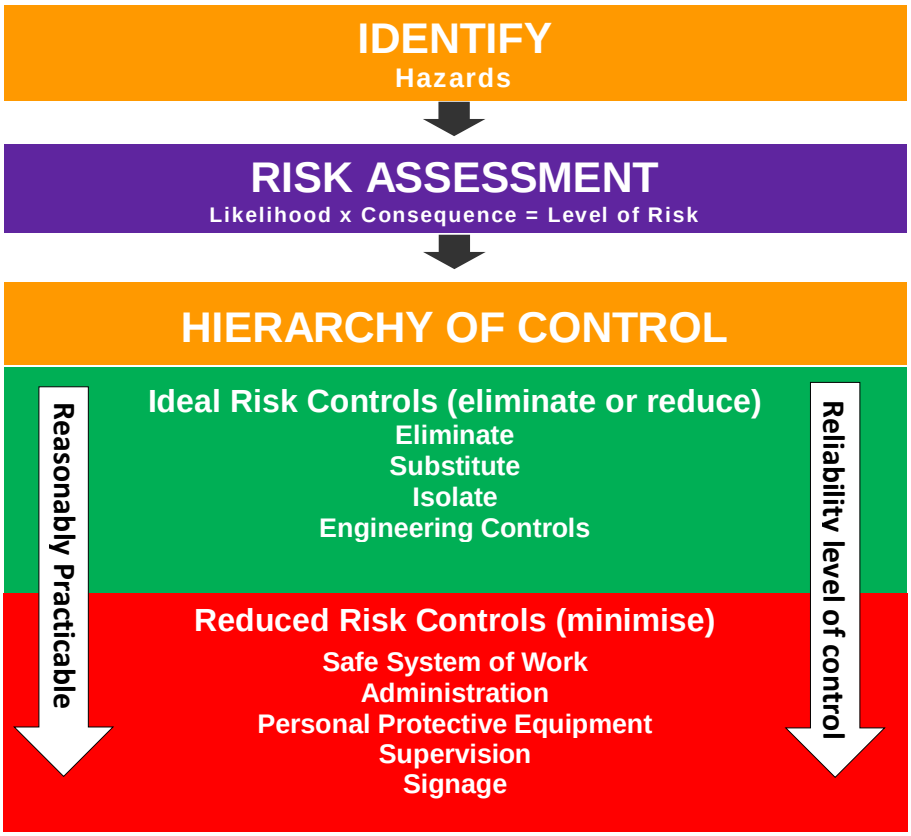
3.2. Spark WAH Standard Risk Profile

WAH at Spark is broad in terms of the many different types of tasks being frequently carried out each day across our network and worksites. This Standard will take a risk-based approach and focusses on the critical risk WAH activities that occur at Spark on a regular basis i.e. Where negative outcomes could lead to a fatality or a person's future being permanently altered, or where plant, property or equipment damage could have resulted in fatality, serious or personal harm, injury or illness.

The following WAH activities were identified and assessed as critical within the Spark WAH risk profile, and several of these will be discussed in detail for the remainder of this document: Where a person works from or within or uses a specific WAH system or piece of plant or equipment.

- Roof
- Ceiling void
- Mobile cell tower / mast / antennae
- Temporary work platforms (scaffolding, mobile scaffolds, ladders and step ladders)
- Mobile Elevated Working Platforms (MEWP)
- Fall arrest and fall restraint systems
- Within proximity of an unprotected opening at ground level

Spark Risk Assessment Model



4. Working at Height Risk Management

4.1. Overview: Plan Do Check Act (PDCA)

The following PDCA system is a basic yet effective risk management system used for continual improvement for managing WAH activities and will be adopted by Spark to provide an easy to follow sequence and overview of their current list of Critical Hazard and Associated Risk Management Standards. The sequence and flow chart illustrated within section 4.2 will be used for its application at the following two levels:

1. The planning and risk assessment of identified WAH critical hazards and associated risks that apply at a Spark Worksite or office **(Plan)**
2. The application, monitoring and review of WAH controls at a Spark worksite or office **(Do, Check, Act)**

Planning

The purpose of planning using the PDCA system is to establish a risk profile of existing and potential WAH hazards and risks, across Spark's worksites and what types of remedial works are to be applied and then agree on the appropriate WAH risk controls. This will require a risk assessment which is the Spark WAH risk management process (refer to sec 5.1) to identify the nature and extent of the risks, and the possible options for control measure.

Standards (legal and other requirements)

Legal and other requirements (e.g. SWI, COP, Guidelines and Standards etc.) must be first identified and applied, since agreed risk control measures are unlikely to be appropriate and effective if they do not satisfy the same requirements.

Do

This part of the PDCA approach consists of implementing WAH risk controls measures as agreed in consultation during the planning and design stage of the same process. For our suppliers this would include documenting and applying safe systems of work such as task specific risk assessment and Safe Work Method Statements (SWMS), Job Safety Analysis, work permits and daily pre-start meetings where applicable.

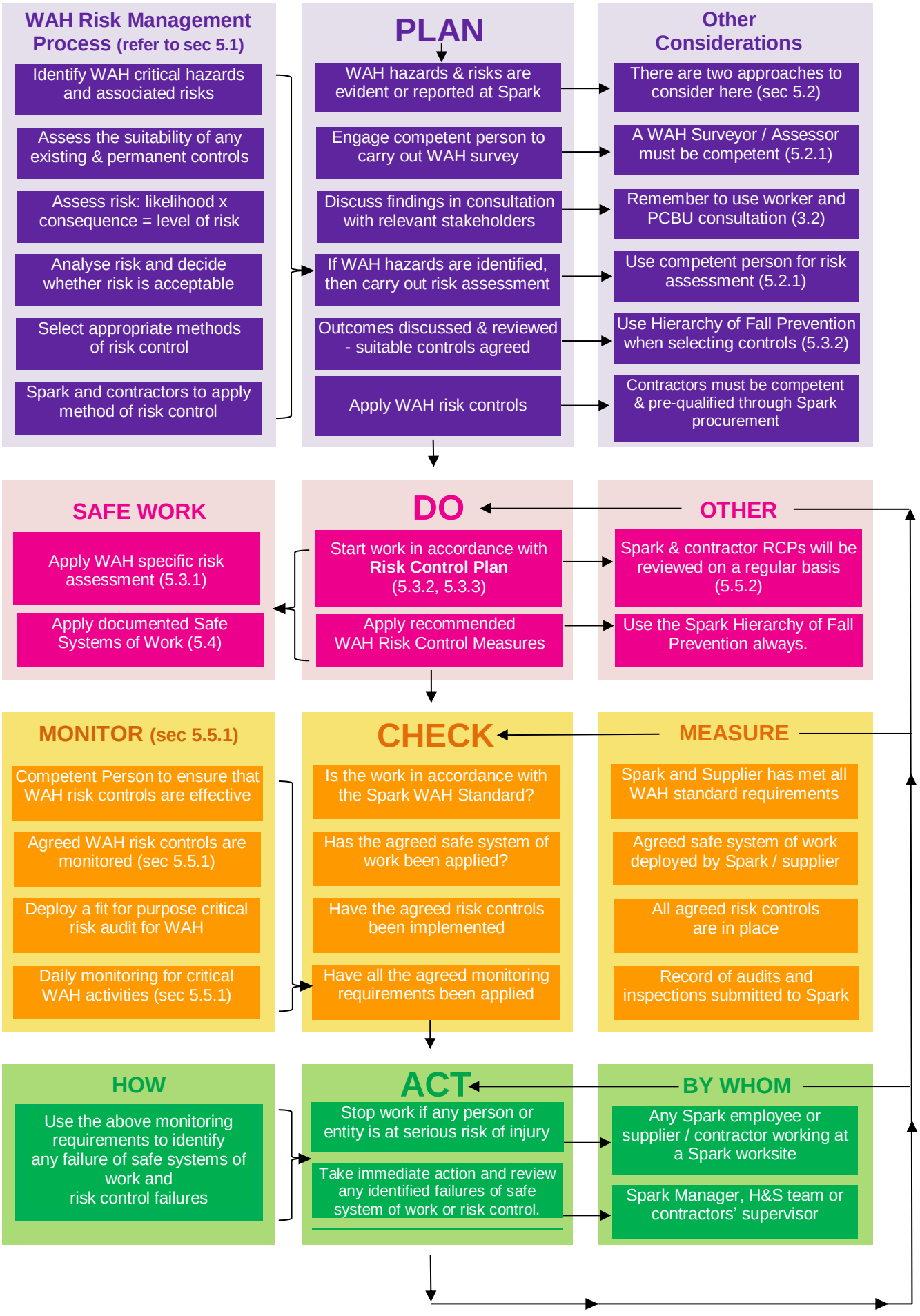
Check

The minimum requirement for checking is monitoring. This is to make sure that agreed risk controls are effective, realistic and practical in their execution by both Spark and their suppliers and have met with the agreed task specific risk controls as detailed within any pre-submitted safe systems of work as detailed above.

Act

The Act element is achieved by regularly reviewing and acting on all issues raised within the Check (e.g. monitor and measure) element of the PDCA Sequence, and discussing with all those involved within the same process e.g. w*hat is and what isn't working? Are current controls adequate to protect people from falling at height or items falling from height?*

4.2. Plan Do Check Act



5. Managing Working at Height at Spark

This section outlines how WAH hazards and risks will be managed at a Spark's worksite.

The objective of the below process is to make sure that Spark establishes a safe WAH environment in which exposure to WAH activities and its associated risks are eliminated or minimised where practicable. In addition, suitable risk assessments are to be carried out to make sure that all known hazards and recommended risk controls are recorded and made available to workers accessing a specific work area.

This following process has been designed to make sure that:

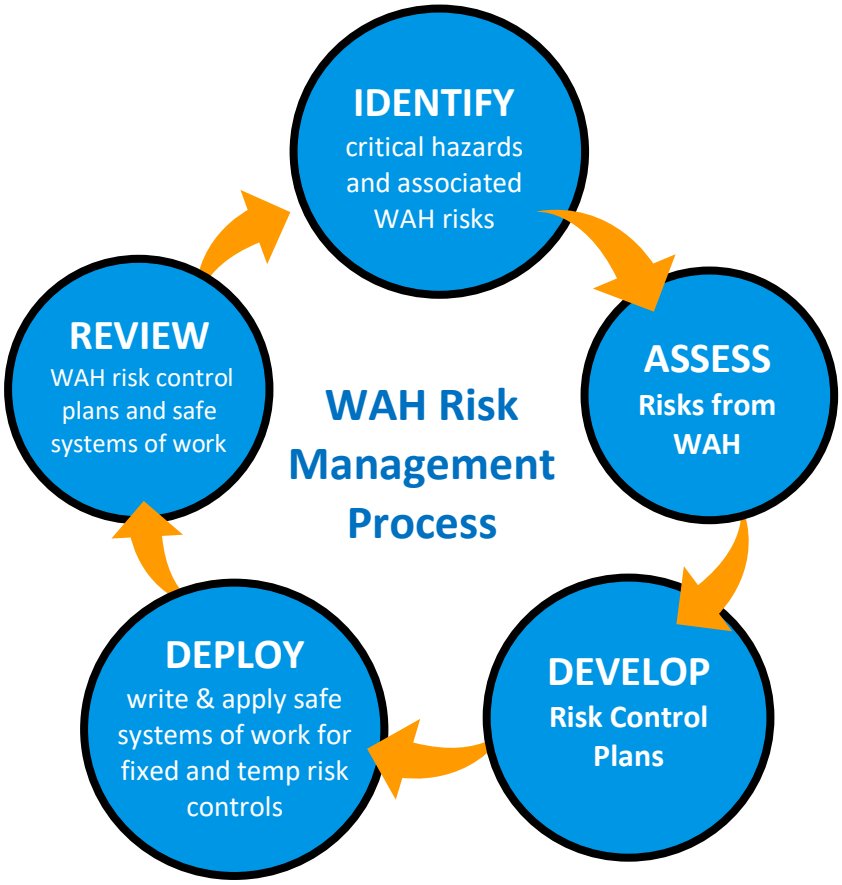
- Both Spark and suppliers inherent and work activity related WAH hazards are identified, assessed, controlled and monitored, and that any other height related hazards and risks are considered at all times.
- Suitable processes are developed and implemented using the Hierarchy of Fall Prevention.
- Safety in design is given consideration at the planning stage in all circumstances.
- Safe working conditions and safe access to heights are deployed and monitored once the heights have been risk assessed.
- Sound advice is given on the use of suitable plant and equipment (including PPE) for critical WAH activities.

In general terms, Spark will identify and control WAH hazards and risks as per the management process in Diagram 1 below:

5.1. WAH Risk Management Process

The following process is to be applied in all cases where Spark has known WAH critical hazards and associated risks.

Diagram 1



5.2. Identify

WAH hazards and associated risk will be identified with two different approaches at Spark:

1: Spark will carry out risk assessments to identify WAH hazards that are specific to their worksites such as exchange buildings, mobile cell sites and offices. This will be carried out using several processes such as:

- Desktop surveys e.g. information already available about a worksite
- Safety in design workshops
- Worksite observations carried out with Spark employees and suppliers where applicable
- WAH surveys and risk assessments carried out by a competent person and Spark Management
- Hazard reporting through the Spark Intranet site
- Previous Incident reporting and noticeable trends regarding WAH issues
- WAH issues noted through H&S audits and inspections across Spark's network

2: Spark suppliers will identify their own WAH hazards through a pre- planning process. This will apply when they carry out work that involves WAH hazards and risks which are not covered by Spark deployed risk controls. This would normally apply where it wasn't reasonably practicable for Spark to apply suitable access points or work platforms to certain Spark areas or assets.
In this instance, the Supplier and Contractor would be expected to identify, assess and supply suitable plant and equipment to carry out their work safely through ongoing consultation with Spark, and by using the Hierarchy of Fall Prevention always (5.3.2) and deployment of a suitable WAH Risk Control Plan.

5.2.1. Competency requirements

Any person carrying out WAH surveys and risk assessments at a Spark worksite (including offices) must have gained competency through a combination of knowledge, experience and training. This person would need to have as a minimum 5 years' experience in application of H&S risk management for WAH activities (including harness systems) and gained suitable training at a base level of NEBOSH International certificate and Unit Standard working at height 15757 or equivalent (i.e. Europe or Australasia qualifications)

5.3. Assess

5.3.1. Risk assessment

Spark and its suppliers have a responsibility to ensure, so far as is reasonably practical, that a person's exposure to a fall at height, falling items, open internal voids and other associated hazards and risk are eliminated or minimised always. Please refer to page 7: Risk Assessment Model

Once Spark and suppliers have identified WAH hazards at a Spark or shared worksite, then a suitable risk assessment process with assistance from a competent person is to be applied to assess the likelihood and consequence of exposure to any WAH associated risks.

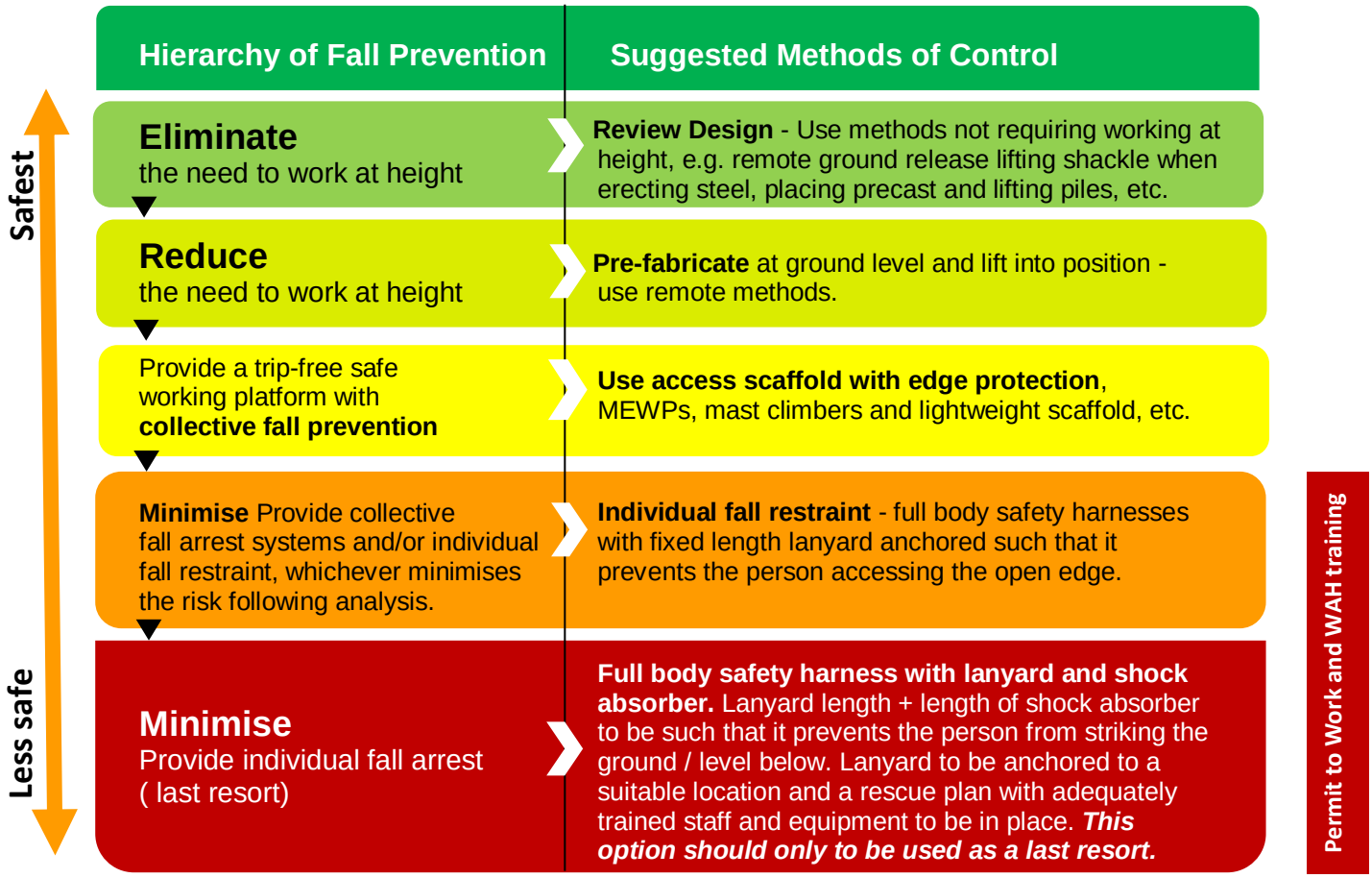
This should ideally commence with a risk assessment and safety in design process, and where elimination is not practicable, workers at height should ideally be protected by carrying out works on a level surface and within isolated areas (where applicable), and working platforms with secure, rated, compliant fixed edge protection.

Note that when identifying WAH Hazards other related risks should be considered and assessed for suitable control e.g. working within proximity of high voltage equipment such as Busbars or Radio Frequency exposure when working at one of Spark Mobile Towers, Cell sites.

RISK RATING TABLE				
Likelihood of Injury or Harm to Health	Consequence of Injury or Harm to Health			
	Insignificant (No Injuries)	**Moderate** (First Aid and/or Medical Treatment)	**Major** (Extensive Injuries or Harm to Health)	**Catastrophic** (Fatalities)
Very Likely	**Medium**	**High**	**Very High**	**Very High**
Likely	**Medium**	**High**	**Very High**	**Very High**
Moderate	**Low**	**Medium**	**Very High**	**Very High**
Unlikely	**Low**	**Medium**	**High**	**Very High**
Highly Unlikely	**Low**	**Medium**	**High**	**High**

5.3.2. Risk Control Plan

Risk control measures are to be applied to protect personnel working at height and other people in the vicinity, by using a descending grading of controls as listed in the Spark Hierarchy of Fall Prevention as shown below in **Diagram 2: Hierarchy of Fall Prevention**



5.3.3. Spark and Supplier

Spark will eventually list and document their own WAH risk control plans (e.g. WAH risk assessment and risk register) at applicable worksites by means of a Worksite Safety Plan. This will be achieved through the introduction of Spark's Health and Safety new information management system (H&S software platform). Each risk assessment and register will be internally reviewed by the Spark H&S team and respective Spark Manager before any agreed risk controls are applied.

For Spark Suppliers, the above hierarchy is to be applied before work commences and recorded in a Safe Work Method Statement (or similar) assisted by daily pre- start meetings where applicable (see safe systems of work below.)

Suppliers WAH risk control plans for critical risk activities (e.g. working from a harness system) may be internally reviewed by the H&S team and respective Spark manager (upon request by Spark) before any agreed risk controls are applied.

Where identified hazards and associated risks have been controlled by means of a minimised risk control (e.g. harness system), then this type and use of control must only be applied and monitored if it was not reasonably practicable to eliminate or reduce the same risk by using a hierarchal approach as above, and applying other means of risk controls above minimisation Refer to the Spark Risk Assessment Model shown on p7.

In every WAH situation, Spark will endeavour to follow guidance from the regulators Best Practice Guidelines for selection of controls relating to group controls, and would expect the same from their suppliers, unless they can apply WAH controls that are equal or above those suggested in the same standard. Refer to section 1.4 for WorkSafe link to Best Practice Guidelines for working at height in New Zealand 2012

5.3.4. Safety in Design

Before purchasing any plant and equipment at a Spark worksite, Spark and suppliers should apply a safety in design approach and process for its location at the worksite and ongoing maintenance requirements prior to its

installation. This is to make sure where reasonably practicable that working at height risks relating to the same plant and equipment are eliminated or minimised at all times.

5.3.5. Eliminating, reducing or controlling foreseeable risks through design

Spark, suppliers and contractors must consider the WAH risks that people may be exposed to through the passage of both installing plant and using it once it's installed. When controlling hazards and risk by design, the following questions ought to be considered when carrying out a safety in design risk assessment:

- Can Spark and / or supplier get rid of the problem (or hazard) altogether? For example, can air-conditioning plant on a roof be moved to ground level, so work at height is not required for either installation or maintenance?
- If not, how can they reduce or control the risks so that harm is unlikely or the potential consequences less serious? For example, can we place the plant within a building on the roof and not near the roof edge, or provide a barrier around the roof?
- If risks cannot be eliminated altogether, a design approach should apply the principles below in deciding how to reduce or control the remaining risks – if possible, in the following order:
  - Provide a less risky option,
  - Make provisions so the work can be organised to reduce exposure to WAH hazards,
  - Make sure that those responsible for planning and managing the work are given the information they will need to manage remaining risks

In summary, WAH hazard and risks need to be considered alongside other factors that influence the design, such as cost, fitness for purpose, aesthetics and environmental impact. Working with all those involved in the purchase and installation can help Spark identify the potential risks and ways they may be controlled. (e.g. suppliers and contractors and third-party contractors)

5.4. WAH Documented Processes - Safe Systems of Work

5.4.1. Safe system of work

Any written safe systems of work should be developed before work commences, in worker consultation and specific to the area and task they apply. Also, they should be practical and easy to understand and where practicable, be aligned with H&S legislation and industry best practice and include the following:

- WAH risk controls that are specific to the works being carried out and work location
- The identification and control of falling items (materials and tools)
- The use of exclusion zones (where assessed as essential)
- Applicable emergency rescue arrangements for people working at height
- Relevant training/competency requirements to complete the works including; rescue recovery, installation of harness systems and supervision
- Maintenance and inspection requirements for plant and equipment

5.4.2. Safe Work Method Statement

All critical risk WAH activities carried out by suppliers and contractors should be ideally incorporated into a SWMS or similar. This type of H&S supporting process is also sometimes referred to as a Safe Operating Procedure (SOP) or Job Safety and Environmental Analysis (JSEA). The use of WAH risk assessment and SWMS should be developed, implemented and actively monitored by those who have been engaged to carry out operational site activities that involve critical WAH activities.

All developed risk assessments and safe working method statements should as a minimum contain the following information:

- ✓ A description of the work to be undertaken
- ✓ A step by step sequence of completing the work
- ✓ The assessment (including likelihood and consequence) of potential WAH hazards and risk likely to be caused associated with each step of the work
- ✓ The H&S risk control measures to be applied to control each of the identified hazards
- ✓ Precautions that will be taken to protect the health and safety of other people
- ✓ The names and qualifications of people who will be undertaking the work
- ✓ A description of mandatory WAH training to have been completed by people doing the work
- ✓ Identification of plant and equipment required on site to complete the work
- ✓ Emergency preparedness and procedures for WAH critical risk activities
- ✓ Identification of mandatory PPE to be worn by all involved workers

- ✓ Identification of the person (or position) that will be responsible for supervising the work and deploying and monitoring risk controls

It is important that any risk assessment and SWMS is to be developed and applied in consultation with those who carry out the work and discussed at daily prestart meetings where applicable.

5.4.3. Permit to Work

Where harness systems are to be used at a Spark worksite, a working at height permit must be applied for, completed and deployed by the contractor or third-party contractor carrying out the works.

Where applicable, all approved permits must be kept with the person supervising the works and will remain 'live' until signed off by NOC a Spark manager or Spark delegate.

Permits will be issued to the person in charge of critical risk works, including but not limited to the following work activities:

- **Working in fall arrest from a harness system**
- **Working from a Mobile Elevated Working Platform (MEWP)**

5.4.4. Applying for a permit.

Before applying for any of the above permits, a supplier or contractor must make sure that any other higher-level risk control methods have been considered before the use of any type of harness system, and they have carried out a risk assessment and developed a Safe Work Method Statement (in consultation with the workers carrying out the task) that details the addressed risk controls, competent personnel, safety equipment/PPE and emergency rescue plan**. NB: upon Sparks request**, **you may be asked to submit the above documentation for review.**

In all instances, Spark will supply the above permits in either electronic or hard copy, depending on the situation or location at the time of its application. However, if a supplier or contractor has already developed and deployed their own permit systems. (which is equal in requirements to that of Spark permits) Their system may be used in its full application upon review and approval from the Spark H&S team.
NB: Please allow 5 working days pre-work activity for WAH Spark work permit requests.
Note, the above permits will be incorporated into Spark's NOC conditions for site access into high risk environments at Spark worksites. This process will commence 01 Sept 2018

5.5. Monitor & Review

5.5.1. Monitor

Workplace monitoring is to be carried out for WAH activities by both Spark and their suppliers/contractors. Spark will endeavour to monitor their most critical WAH activities through a structured representative H&S audit programme.

The following monitoring requirements apply at Spark:

- **On site monitoring/audit (Spark Managers & Spark H&S team- refer to section 2.3)**
- **Spark Risk Management Standard internal audits**
- **Hazard and incident reporting**

All suppliers are required to periodically audit their own WAH performance through a fit for purpose H&S audit and inspection process. All supplier monitoring requirements should be included into a pre-work developed SWMS or similar process.

5.5.2. Review

Spark worksite and office WAH risk control plans will be reviewed every three years or when any of the following applies:

- When new plant and equipment has been purchased and installed and the risk could not be eliminated through design or other.
- A reported WAH hazard that requires urgent rectification or remedial action within a given timeframe
- A change to a previous reviewed and agreed safe system of work which has further improved the existing method of risk controls
- Recommendations made from a formal workplace audit or inspection
- Known industry changes and improvements made to controlling WAH hazard and risks that Spark and supplier ought to reasonably know about in most circumstances

Where applicable, WAH reviews will be carried out between PCBUs and workers through a consultative approach

5.6. WAH Emergency Procedure

In nearly all instances, WAH emergency rescue will form part of a contingency plan, where a minimised control has been applied i.e. where an individual is attached with a harness and lanyard to some form of harness system, MEWP, or when a MEWP has failed and is suspended at height with workers attached.

All these types of scenarios must always be identified and assessed by our suppliers / contractors and once achieved, each scenario must be formulated into an emergency plan, and applied when a person is working in fall arrest system or from a MEWP. The plan should outline the immediate actions required of all workers directly involved.

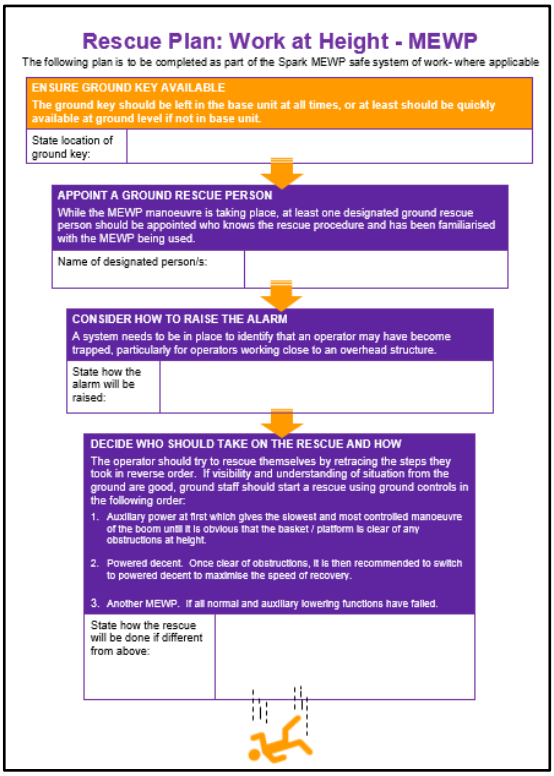
Also, the plan must be specific to the location where WAH activities are being carried out, made readily available to all the people who carry out the work, be part of a submitted and approved safe system of work and discussed where applicable at the WAH pre- start meeting.

All WAH emergency rescue plans for fall arrest and MEWP works should include as a minimum the following information:

- Emergency numbers
- Recovery means
- Recue kits
- Communication to be used during rescue
- How to raise the alarm
- Rescue team members
- Appointed ground person for MEWP
- Location of ground key
- Who should take on the rescue and how it should be deployed
- Training

In summary, suppliers and contractors must plan for emergencies and rescue (e.g. agree a set procedure for rescue), think about any foreseeable situations, and make sure workers who do the work are fully aware of the same emergency procedures. **More importantly, don't just rely entirely on the emergency services for rescue in your plan.**

Refer to Section 8 for suggested rescue plans for working in fall arrest and from MEWP.



Rescue Plan: Work at Height - MEWP

The following plan is to be completed as part of the Spark MEWP safe system of work- where applicable

ENSURE GROUND KEY AVAILABLE

The ground key should be left in the base unit at all times, or at least should be quickly available at ground level if not in base unit.

State location of ground key:

APPOINT A GROUND RESCUE PERSON

While the MEWP manoeuvre is taking place, at least one designated ground rescue person should be appointed who knows the rescue procedure and has been familiarised with the MEWP being used.

Name of designated person/s:

CONSIDER HOW TO RAISE THE ALARM

A system needs to be in place to identify that an operator may have become trapped, particularly for operators working close to an overhead structure.

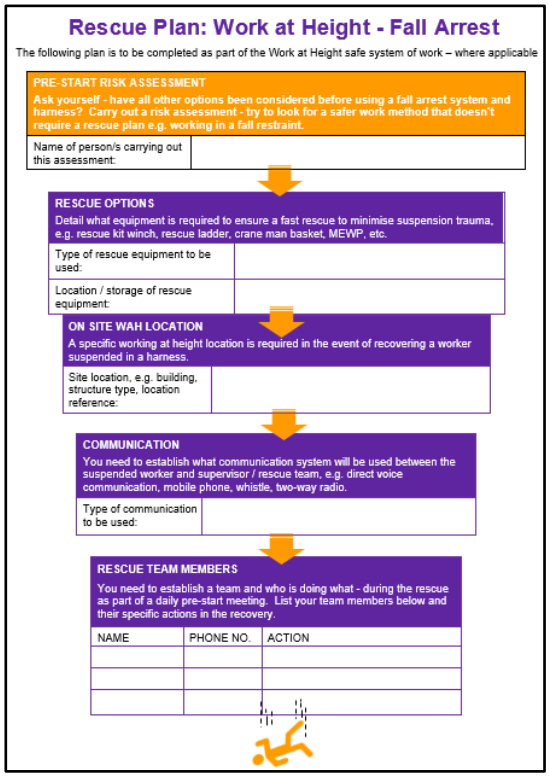
State how the alarm will be raised:

DECIDE WHO SHOULD TAKE ON THE RESCUE AND HOW

The operator should try to rescue themselves by retracing the steps they took in reverse order. If visibility and understanding of situation from the ground are good, ground staff should start a rescue using ground controls in the following order:

1. Auxiliary power at first which gives the slowest and most controlled manoeuvre of the boom until it is obvious that the basket / platform is clear of any obstructions at height.
2. Powered decent. Once clear of obstructions, it is then recommended to switch to powered decent to maximise the speed of recovery.
3. Another MEWP. If all normal and auxiliary lowering functions have failed.

State how the rescue will be done if different from above:



Rescue Plan: Work at Height - Fall Arrest

The following plan is to be completed as part of the Work at Height safe system of work – where applicable

PRE-START RISK ASSESSMENT

Ask yourself - have all other options been considered before using a fall arrest system and harness? Carry out a risk assessment - try to look for a safer work method that doesn't require a rescue plan e.g. working in a fall restraint.

Name of person/s carrying out this assessment:

RESCUE OPTIONS

Detail what equipment is required to ensure a fast rescue to minimise suspension trauma, e.g. rescue kit winch, rescue ladder, crane man basket, MEWP, etc.

Type of rescue equipment to be used:

Location / storage of rescue equipment:

ON SITE WAH LOCATION

A specific working at height location is required in the event of recovering a worker suspended in a harness.

Site location, e.g. building, structure type, location reference:

COMMUNICATION

You need to establish what communication system will be used between the suspended worker and supervisor / rescue team, e.g. direct voice communication, mobile phone, whistle, two-way radio.

Type of communication to be used:

RESCUE TEAM MEMBERS

You need to establish a team and who is doing what - during the rescue as part of a daily pre-start meeting. List your team members below and their specific actions in the recovery.

NAME	PHONE NO.	ACTION

6. Performing WAH Related Work

The following section will focus on Spark's most critical WAH activities which requires the use and/or application of specific plant, work equipment, safe systems of work and verification of competency (VOC) from our suppliers and contractors.

In all circumstances, any related access equipment used by contractors at a Spark worksite or office, (including MEWP, scaffold, mobile scaffold and temporary work platforms) must be:

- Fit for purpose.
- Compliant, safe and approved for use
- Inspected by a competent person prior to use
- Used and maintained in accordance with approved codes of practice, best practice guidelines, manufacturers' instructions and specifications or approved design documents
- Assembled, operated and maintained by competent workers

6.1. Scaffold and Temporary Working Platforms

6.1.1. Planning

Every effort should be made by both Spark suppliers and contractors to plan and detail suitable and relevant scaffold requirements in accordance within their agreed safe systems of work. This means, all types of scaffold designed for and erected on Spark work sites are to satisfy the following requirements:

- All scaffolds designed for and erected at Spark worksite are to comply with **Good Practice Guidelines for Scaffolding New Zealand (published by WorkSafe 2016).**
- Coordinated pre-planning should be undertaken by suppliers/contractors prior to design and selection of scaffold to ensure that scaffold is suitable for the job, fit for purpose and safe for use.

6.1.2. Safe system of work

A safe system of work must be developed by Spark suppliers / contractors carrying out any scaffolding work at a Spark worksite to make sure that assembling scaffolds can be carried out and used safely. This may be achieved by suppliers and contractors developing and deploying suitable WAH risk assessments, SWMS and WAH permit to works where applicable.

Important requirements for Spark contractors before selecting and using Scaffolding at a Spark worksite:

- Scaffolds and standing scaffolds over 5 metres require notification to Worksafe NZ, in accordance with the Health & Safety in Employment Regulations.
- Notifiable scaffold is to be erected by a scaffolder certified for the type of scaffold to be erected. A copy of the scaffolder's certificate of competency is to be provided to the contractor prior to works commencing; and where required, the scaffold contractor is to complete a 'Notification of Hazardous Works' form and submit to the nearest Worksafe NZ Office.
- Where applicable, scaffolding must be signed off by a certified scaffolder (by means of a handover certificate), suppliers and contractors who have ordered and are using that scaffold must be aware of the 'sign off' process before use.
- Design (or verification of design) of some types of scaffolding should be undertaken or verified by a chartered professional engineer (CPEng).

6.1.3. Safety in Design

In accordance with the Good Practice Guidelines for Scaffolding in New Zealand 2016, anyone involved in the design of scaffold systems (whether they are scaffolders, engineers, or designers of components) should consider the following:

- The intended use of the scaffolding system
- The expected environments it will be erected and used in
- The surfaces/structures, including ground conditions
- How it will be used and by whom
- The planned service life
- Testing, maintenance and repair requirements
- Other products and components that will interact with or are related to the scaffold
- Technical specifications recommended in industry standards

6.1.4. Competency and Training Requirements

Everyone involved in the process for designing, supplying and installing scaffolding at a Spark Worksite must have the **knowledge, training and skills to perform the work safely** regardless of the height of the scaffold, and must have certification under the HSE regulations where appropriate.

Competency requirements based on height of scaffold

Height of scaffold	Person permitted to assemble the scaffold
Up to 5m	Competent Person: someone who has the knowledge and skills to carry out a task. Skills and knowledge may be acquired through training qualification, or experience, or a combination of these. NB. NZQA registered unit standards may assist in fulfilling the qualification requirements.
Above 5m	Any contractor who carries out scaffolding work as detailed above, (including assembly, alteration, repair or dismantling of a scaffold) of which any part is **5 metres or more above the ground**, must hold the appropriate class of certificate of competence (COC) for that type of scaffold being supplied.

6.1.5. Monitoring and Inspection

Scaffolds must be pre-inspected by the scaffold contractor representative using an industry recognised handover certificate. Upon completion, the certificate must be provided to suppliers or contractors by the same scaffold contractor.

All scaffolding erected by certified scaffolders (including mobile scaffolds) should be formally inspected on a weekly basis by the same scaffold contractors and following any significant event such as earthquake, high winds or impact. The result is to be documented and dated on the Scaftag or Aculog as well as the worksite scaffold register.
Right: photo of Aculog safe scaffold tag:

In addition to this, at Spark worksites all types of scaffold are to be inspected on a weekly basis by suppliers and contractors using an industry recognised safety inspection form. This is to be carried out as part of an ongoing scaffold, inspection process that is independent of the already mentioned scaffold contractor's weekly inspection.

6.2. Edge protection and guardrail systems

Spark will, where reasonably practicable, provide suitable perimeter edge protection at the exposed edges of all work areas across their worksites, and advise and recommend accordingly the same to other PCBUs working at shared worksites across the Spark network. These include:

- Perimeters of buildings or other structures
- Access and egress points
- Openings / voids in floor or roof structures
- Scaffolding systems as detailed above
- The perimeter of skylights and fragile roofs

6.2.1. Edge protection

Edge protection is used extensively across Spark workplaces to prevent persons, objects and materials from falling to ground. This type of edge protection is normally used and permanently installed at Spark worksites such as, occupied buildings at roof top perimeters, or permanent balustrades around mezzanines and staircases through many of our office buildings; and other perimeters or worksites such as cell towers, opening and voids at exchange buildings etc.

Edge protection may also be used as temporary control measures during construction works carried out by Spark suppliers and contractors across the Spark network. Refer to section 6.2: edge protection, Best Practice Guidelines for Working at Height and Section 8.5 edge protection, Good Practice Guidelines // Scaffolding in New Zealand. In most cases, permanent and temporary edge protection may involve:

- A proprietary (engineered) system
- Sound material to form a guardrail and/ or physical barrier
- Assembling scaffolding that supports a temp edge protection system
- A combination of solutions

In all instances, Spark (along with its suppliers, contractors and other PCBUs working at a Spark or shared worksite) will, so far as is reasonably practicable, make sure that edge protection is assembled, used and maintained in accordance with its design and manufacturer information provided, periodically inspected by a competent person, inspected following extreme weather (e.g. storms) and other occurrences that could affect its purpose to prevent falls and remains free of any defects before use.

6.2.2. Guardrails

In accordance with Best Practice Guidelines, 'a guardrail is a barrier that is capable of physically preventing workers from falling. Guardrails are a group control that can be installed to protect workers from building edges, roof edges, building openings, lift shafts and other similar ducts within wall or floor openings'. (N.B. Group controls are Spark's preference of risk control against an individual control always)

The following extracts of Best and Good Practice Guidelines for Working at Height and Scaffolding in New Zealand apply to all Spark worksites and offices and ideally should always be deployed by Spark, suppliers and contractors.

- A guardrail must be constructed to withstand the forces that are likely to be applied to it while the work and therefore; guardrails (both permanent and temporary) must support at least 71kg (700N) downward force and a 46KG (450N) horizontal force. Temporary guardrails should generally be constructed using a proprietary metal tube and clip system.
- General guardrail systems must be assembled between 900mm and 1100mm in height with a single mid rail system halfway between the work platform or surface and temp top rails. NB. where practicable, a toe board should be installed to control any risk of falling items.

Photos of Guardrails



6.3. Safety requirements for mobile scaffold platforms

In mobile form, aluminium alloy scaffolds (or similar) are easy to move from point to point within a Spark worksite. However, the lightness of the structure means that extreme care must be taken to ensure the stability of the scaffold framework once assembled and in use.

6.3.1. Competent person

Only competent persons are permitted to assemble and inspect mobile scaffolds. A person is classed as 'competent' only if they have successfully completed a recognised training course on assembly and use of mobile aluminium scaffolds and have appropriate experience and knowledge. Ideally, the competent person must be in possession of the Manufacturers Instruction Manual (MIM) before assembly begins.

6.3.2. Pre-inspection

Before using a mobile scaffold, all components should be checked to see that they are in good condition and are for the same model of scaffold unit.

Adjustable legs should be checked to see that they are not damaged, or the threads damaged. Platforms should be checked to see that they are undamaged and that the frames are square and true. Additional parts, such as outriggers / stabilisers, should be checked for damage, to ensure effective functioning of all components.

6.3.3. Assembling Mobile scaffold

Mobile scaffold must be assembled and used only on ground suitable for purpose, generally with a surface of concrete, or similar. Where scaffolds are built on soft, uneven or sloping ground, they should be set on boards or other rigid packing, which will provide a firm foundation.

Working platforms should be fully and closely boarded. Guardrails must be used on all working platforms, and toe boards where applicable. Guardrails should be at least 900mm high and a mid-height guardrail should be provided so the unprotected gap does not exceed 450mm.

The heights at which a scaffold may be used are shown in the Manufacturers Instruction Manual and must be strictly followed at all times.

Outriggers or stabilisers increase the effective base dimensions of the scaffold framework and must always be fitted when higher scaffolds are required. ideally, these should normally be fitted as soon as the first lift is complete.

6.3.4. Other mobile scaffold essentials

When working outdoors, wind imposes a horizontal load on the scaffold tending to overturn it. In normal safe working conditions, the tendency to overturn is counteracted by the self-weight of the scaffolds, with the stabilising effect of the outriggers or stabilisers.

Apart from wind loads, other horizontal loads can act on the scaffold structure. These are mainly caused by the actions of the operatives working on the scaffold i.e., when using hand tools, such as a drill, pushing on the drill causes equal and opposite force on the scaffold. Such forces should be avoided as much as possible and further controls used as necessary e.g. add stabilisers/outriggers.

Any vertical load produced by persons or materials within the area of the working platform, adds to the stability of the scaffold, but any vertical load outside the area of the working platform can be hazardous i.e. heavy materials hoisted with a rope outside the scaffold tend to overturn the scaffold, particularly if no outriggers or stabilisers are fitted. N.B. this should be avoided at all times.

The manufacturer's instruction manual will detail the maximum loads that the scaffold can support. The manual will ideally state the designed load capacity (DLC) that can be supported on any platform, and the Safe Working Load that can be supported by the complete scaffold framework. All workers need to be aware of the **safe working load** before working on a mobile scaffold.

Always reduce the height of the scaffold before moving it to the next work area. Check that there is no overhead live service, cable trays, busbars or power lines or other obstructions overhead. Before moving a scaffold unlock the scaffold wheels, and reposition the stabiliser/outrigger feet, just above the ground.

When moving the scaffold, push or pull at the base only. Move the scaffold by manual effort at ground level only. No personnel or loose tools and equipment should be on the scaffold if it is in motion. Once in position, lock all wheels and reposition outriggers before use.

Workers should take any necessary precautions against collision of persons or vehicles e.g. barriers and/or signage.

Workers should always access and egress the scaffold via internal ladder access

After a scaffold has been erected, an inspection must be undertaken by a competent person prior to use. An inspection should also be undertaken if there are any substantial additions, dismantling or alterations.

Photos of Mobile Scaffold Platforms

6.4. Temporary Working Platform (TWP)

In all instances, temporary work platforms should be the very last option and piece of plant used for WAH at a Spark worksite. Many of Spark's reported injury events and incidents are often related to the incorrect selection, set up and use of temporary work platforms (TWP) for low-level access and short duration works. It is an acknowledged concern for Spark that much of the ongoing works carried out by contractors to maintain Spark's network is exactly that, short duration.

Spark recognises that ladders and stepladders do not generally offer suitable fall protection, and therefore other means of TWPs **must be considered and applied** when carrying out work at a Spark worksite. This section details specific safety requirements for the proper selection and use of Temporary Work Platforms (TWPs) while carrying out overhead works at a Spark worksite.

6.4.1. Risk assessment

All work activities must be risk assessed by the supplier / contractor i.e. the person/s carrying out the works, and every effort made to eliminate the need for a person/s to work from a TWP in the first place.

The first option for access / working platforms should be industry standard Scaffolding Working Platforms (including mobile scaffold platforms).

If this is not possible to do so, then non-scaffold TWPs such as low-level working platforms with guardrails, folding platform with guardrails, podium platform with guardrails on three sides should be used for low risk and short duration tasks.

Photos of temporary work platforms & step podium ladders (good and poor selection / use)








6.5. Ladders / stepladders

The use of ladders and step ladders at Spark will only be permitted where no other suitable means of TWP could have been used for the same task, or there were unforeseen circumstances that did not allow for the application of a TWP other than a ladder or step ladder.

If a ladder or step ladder is to be used, then their intended use must be for low risk and short duration tasks only, and form part of a formal hazard identification and risk assessment process and be approved by Spark management (e.g. asset manager, project manager, H&S manager)

When ladders and step ladders are to be used, then they must be used in a safe manner and where no person/s shall put themselves or others at risk of harm or injury.

All ladders and step ladders must be of an industrial grade (AS/NZS 1892 standard), free from damage and suitable for the task. (e.g. not domestic, not wooden ladders, correct height)

Please note that Spark management shall reserve the right to restrict the use of, or remove any ladders, step ladders or other access equipment which they believe to be unsuitable or unsafe for site use.

6.5.1. Spark supplied step ladders.

Spark currently hold a contract where low-level aluminium step ladders are supplied and maintained for staff and suppliers to carry out visual inspections at Spark Exchange buildings and network. Under no circumstances should this type of access equipment be used for carrying out overhead works and where a worker cannot maintain 3 points of contact always. All working at height equipment for carrying out works other than visual inspections, must be provided by suppliers, and be safe and suitable for the task.

6.5.2. Competency and Training.

Any person using any type of temporary work platform (TWP) at a Spark worksite must be competent **and** trained in the safe assembly and use of the same equipment.

Photos of Ladders (poor selection / use)

Poor selection and pre-planning, causing an unsafe condition for worker.

Poor selection, causing worker to stand above recommended safe working height, i.e. red step (2nd from top)

Poor selection and pre-planning, causing an unsafe condition for worker. i.e. unsuitable TWP when drilling above head height.

No explanation required!

6.6. Mobile Elevated Work Platform

A mobile elevating work platform (MEWP) allows work at height to be more efficient and safer rather than using traditional methods of access. When used safely and correctly, MEWPs significantly reduce the risk of injuries through falls from height.

Yet over the past few years in New Zealand, a significant number of incidents (including fatalities) involving the use of MEWPs have occurred. Some of these incidents have involved the unit toppling over and or the operator being thrown from the MEWP, or workers being crushed against fixtures or obstacles while accessing their work area, or while working at height. Many of these incidents may have been prevented through correct planning and selection of appropriate machinery, and correct use and training.

Planning consideration should be given in all instances to the following requirements:

- Consider the need for carrying out work at height from a MEWP e.g. could much of the work be carried out at ground level
- Select the right MEWP for the job – this is essential
- Sequencing activities to avoid the presence of obstructions that could cause trapping
- Adopting alternative work methods that avoid or reduce trapping risks when using a MEWP
- Sequencing activities to avoid collision with pedestrian, employees, site traffic nearby vehicles and overhead power lines
- When working within proximity of overhead power lines and other services

Safe System of Work

A safe system of work should be devised to ensure that tasks can be carried out safely. The current Spark permit to work for operating an MEWP may act as such a system along with a suitable SWMS.

A risk assessment / SWMS should be recorded and cover the following items:

- Type of MEWP to be used
- Hazards and risks that need to be considered when travelling to and from the work area, accessing the work area, and working at height
- Control measures to be applied
- Competence and training requirements
- Emergency arrangements- see section 8: Rescue Plans

MEWP - Safety Essentials

MEWPs have different access characteristics – always select an appropriate size of model and type of MEWP for the access route required, working area and for the works to be carried out and the environment in which it is used.

Plan and synchronise work tasks where possible, choose a route that avoids overhead obstructions and ensure sufficient clearance when travelling under or past overhead obstructions, taking account of the platform movement that can occur when travelling.

Don’t place objects on the platform control panel that could move and activate controls or place materials on top of guardrails that could move and distract the operator.

Ensure the ground conditions are suitable for the MEWP to travel on. If not practicable, ensure the correct selection of MEWP to suit the ground conditions e.g. all terrain.

Before commencing work and gaining access, walk the route of the MEWP. Remove obstacles as necessary from the area in which you will manoeuvre, lower platform down and manoeuvre at a safe speed that ensures platform movements are controlled when travelling.

Do not raise the platform on soft ground, adjacent to steps and over voids or service ducts, and use spreaders or swamp mats as necessary.

Segregate traffic routes where practicable, cordon off work area to prevent collision and keep workers and public at a safe distance. Use a spotter whenever necessary in areas where pedestrians will be present.

Ensure platform control is disabled when undertaking work at height.

6.6.1. Competency and Training Requirements

An employer (PCBU) who instructs someone to use a MEWP must make sure that the operator is adequately trained by a competent person and can demonstrate their competency before using any equipment.

Note: for the purposes of operating a MEWP, a competent person is a person who has achieved and demonstrated competency in the safe use of a MEWP. One means of demonstrating as recommended by Worksafe NZ is completing nationally recognized MEWPs NZQA standards or an equivalent or higher qualification as detailed below. In all instances, the operator should get training on the type of MEWP they will be using. Competency should also be assessed through supervision during the use of equipment by competent person.

Unit Standard Requirements by MEWP Type:

MEWP Type	23960	23961	23962	23963	23964	23966
Scissor Lift						
Truck Mounted						
Self-Propelled Boom Lift						
Trailer Mounted						
Vertical Lift						

Spark suppliers / contractors are also responsible for making sure operators and passengers are familiar with each type and model of the MEWP that they will use. They need to check that the correct manuals are kept on the MEWP – understand the manuals and refer to them as needed – know the purpose of all the controls and what they do – know what safety devices are installed and the operating differences of that model of MEWP. Inspect the units daily using an industry recognised inspection report. Ensure MEWP is within 6 monthly inspection/ service before use.

Photos of Mobile Elevated Work Platforms (good and poor selection / use)

6.7. Harness Systems

Any type of harness system installed at a Spark worksite (normally a rooftop or mobile cell tower) will be the very last consideration taken for controlling working at height risks. This is mainly because this type of control is dependent on the individual doing the right thing always, namely wearing and attaching a correct harness and lanyard. This would normally include, but not limited to the application of many administrative controls such as:

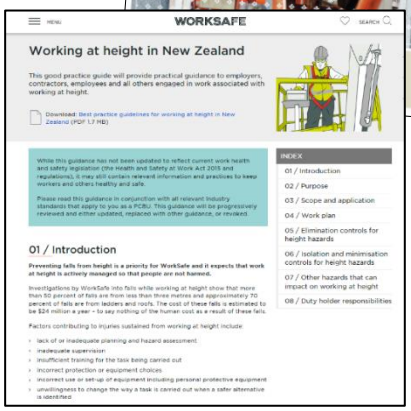
- WAH training in relation to the type of harness system being used
- Writing and applying safe systems of works (e.g. work permits)
- Rescue options for certain systems, approved access from Spark, ongoing maintenance and certification for anchor points and harness system.

In summary, controls such as harness systems offer less protection when working at height, and should only be provided where a risk assessment was carried out, and it was not reasonably practicable to provide group controls such as fixed guardrails etc.

The most common harness systems at Spark include:

- Total restraint systems
- Fall arrest systems
- Anchor Points
- Latchways Systems
- Work positioning systems

Other common harness systems such as industrial rope access equipment and safety lines, lifelines, are not fixed systems and would be more likely to be temporary anchorage and WAH systems applied by suppliers and contractors.



Any further information on this can viewed via relevant ACOP and Standards on the **WORKSAFE** site: Working at height in New Zealand https://worksafe.govt.nz/topic-and-industry/working-at-height/working-at-height-in-nz/

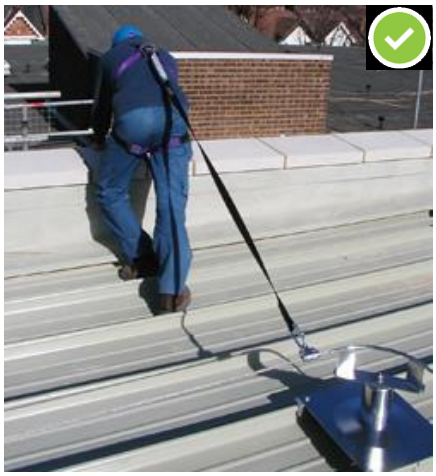
Best practice guidelines for working at height in New Zealand

All components of the harness systems must be properly rated and certified accordingly. More detailed information on harness systems can be found in AS/NZS1891.4: Industrial fall-arrest systems – Part 4: Selection, use and maintenance.

6.7.1. Total Restraint System

In all instances, the preferred harness WAH system at Spark will always be a total restraint system. The objective of this system is to prevent travel on a harness and restricts a worker from approaching an unprotected edge always. This system and control has the benefit of preventing a free fall occurring and essentially removing the need for rescuing a person suspended at height in a harness, as with a fall arrest system. However, (and as stated above) this minimised control is totally dependent on the individual connecting their harness and lanyard always.

Photos of Total Restraint Systems



6.7.2. **Fall Arrest Systems**

If it is not reasonably practicable or it is impractical to install and use a total restraint system, then a fall arrest system should be considered. A fall arrest system is designed to support and hold a person in the event of a fall, minimising the risk of injury. It is not a work positioning system as they are not designed to support a person while working. Minimum clearance below a fall arrest system should be minimum 6.55m plus any flexion in a static line if connected to one. Fall arrest systems require a higher level of competency and supervision and are typically made up of the following components:

- Harness
- Anchorage
- Deceleration device
- Emergency Plan and Equipment

Photos of Fall Arrest systems

6.7.3. **Anchorage**

Anchors should have a rated load of at least 15 kN. All fall restraint and fall arrest anchors should be tagged and re-certified annually to remain compliant. Current information relating to certification, installer date, and rated load can be found at the identification plate at the base of the anchor point. If it cannot be verified that the anchor has been certified within the last 12 months, then the anchor should not be used. NB this is a vital part of fall protection.

6.7.4. **Harness**

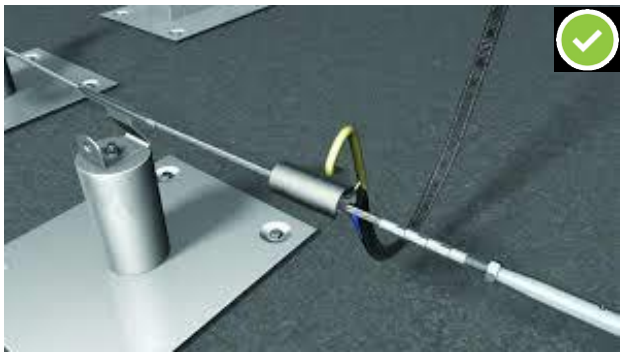
Workers who use harnesses should utilise the type of harness equipment which is appropriate to the restraint or fall arrest situation that could arise in their task. Harnesses should be inspected on a six-monthly basis by a qualified person. In addition, the harness is required to undergo a visual inspection prior to each use.

6.7.5. **Latchways Systems**

Each Latchways system that is installed needs to be certified. Prior to climbing a scaffold, the Latchways certification status needs to be confirmed. Certification details are contained on a plate at the base of the system. The checks prescribed in the Latchways User Guide should be carried out on a two-yearly basis, in line with AS/NZS1891.3-*1997 Industrial Fall Arrest Systems and Devices – Part 3*.

Note: *Spark is no longer supporting the use of Railok systems on Spark assets. All Railok systems are being replaced for Latchways systems. If a Railok system is encountered on a Spark-owned asset this should be reported to Spark Health and Safety team, so that an approved Latchways system can be installed.*

Spark shall have the ability to confirm the legitimacy of Railok systems on non-Spark assets at Spark request or contractor request.



6.7.6. Work Positioning Systems

This type of system is only used occasionally at Spark worksites. In most cases, a work position system is used to enable workers (e.g. riggers) to work supported in a harness under tension in a way that a fall at height is prevented. For this work, safety in design needs to apply to the system by means of ensuring that a worker does not travel beyond 600mm during a fall when attached to a harness. In most cases, this is achieved using short lanyards at 300mm approx.

6.7.7. Competency and Training Requirements

Note: for the purposes of installing and working from a harness system, a competent person is a person who has achieved and demonstrated competency through a combination of training, education and experience, acquired a suitable skill set enabling a person to correctly deploy and perform a specific work activity from a harness system.

From a legal position, workers must have the information, training instruction and supervision to protect them from risks to their health and safety for the type of working at heights activities that they may be performing or supervising.

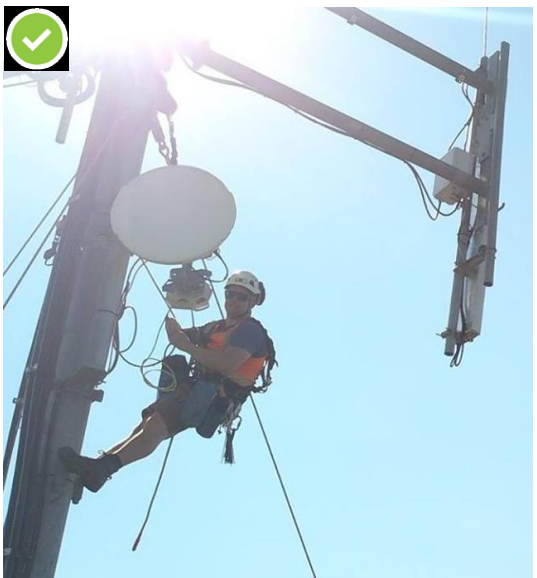
Examples of WAH **Unit Standards** (or equivalent) for Spark worksites are:

Unit	Title
15757	Use, install and disestablish temporary proprietary health safety systems when working at height
17025	Carry out a rescue from an electrical structure (for Mobile Scaffolds)
23229	Use safety harness system when working at height

6.8. Spark Mobile Towers, Cell Sites

Spark currently own and maintain a vast range of climbable and non-climbable towers in our Mobile and Radio Network i.e. satellite dishes, monopoles, poles with guy ropes and lattice towers with microwave dishes which are visited almost daily across the country. Both Spark and suppliers need to be aware of the inherent hazard and risks associated with such works and are strongly recommended to consider adopting and applying the WAH Risk Management Process and safe systems of work, as detailed above in section 5.1; and in all other cases where Spark and suppliers have known WAH critical hazards and associated risks.

Photos of Spark climbable and non-climbable towers

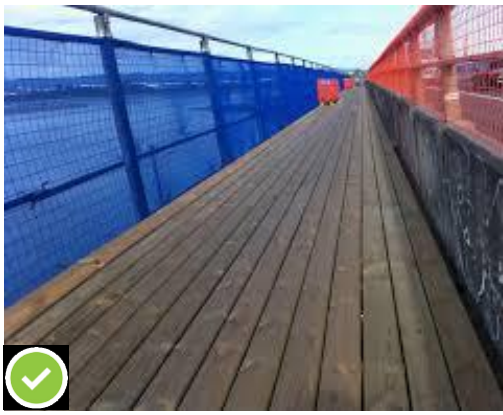


6.9. Falling Items

Other hazard and risks associated with WAH at a Spark worksite includes falling items with a risk of striking and injuring other workers, visitors or member of the public, and falling items damaging plant and property. Where reasonably practicable, working at height activities must isolated from others always by applying the following methods of control:

- Where practicable, do as much work as possible on the ground when assembling and installing plant or equipment above head height, or when using access equipment at a Spark worksite, apply procedural controls that change the way you work is done, so that objects can't fall.
- Install solid fences or other barricades to keep workers, visitor and public out of fall zones and schedule work at certain times (e.g. out of hours to when the amount of people is at a minimum).
- Verbally communicate the hazards and by placing signage within the vicinity of WAH activities that states 'beware of falling items'
- Secure all tools and materials to prevent them from falling on people below. Tools and debris are one of the main falling objects. Keep all access working platforms and MEWP working platforms clean and tidy and free from tools and debris always.
- Use toe boards and guardrails on scaffolds to prevent objects from falling. Alternately, use debris nets /scrim or catch platforms/hoarding/gantries to catch falling objects.
- In high risk areas where there is an obvious overlapping and interface with public or others. Then tools and equipment must be secured and/ or attached where practicable, scaffolds and other TWP must have secured toe board and exteriors adequately covered with scrim / debris netting always.
- Another way to ensure safety of visitors on the worksite is to have an employee in charge of escorting them who is aware of areas that have potential for falling objects. The employee can then try to navigate the guest's route around those hazards.
- When all else fails the last line of defence is personal protective equipment. Anyone who is going to be in an area where to potential for falling object hazards exists needs to wear a hard hat and suitable safety footwear e.g. steel toecap.

Photos of Falling Item Hazard & Risk, and item fall protection systems



6.10. Falls on same level surfaces

Risks associated with WAH at a Spark worksite include workers and visitors falling into **open internal voids such as holes or openings in the floor on a level surface**. These internal voids are typically used as access points to confined spaces, service ducting and inspection chambers for services.

Where a floor access hatch is rarely or no longer used in a Spark asset operation, then the same access point will be permanently secured / boarded over to eliminate the risks of workers or others falling into an open internal void on the same level surface. However, the following systematic approach still applies for any person wanting to gain access through any of the above mentioned internal voids at a Spark worksite.

6.10.1. **Manager / Supervisor**

Before the work starts, carry out a suitable risk assessment and survey of the area. This should help plan the work and identify the type of internal voids to be accessed and decide whether current fixed controls in place are suitable, and if any additional risk controls are required.

The manager/supervisor should set the standard required for robust protection, recognise if an internal void is exposed (even if only for minutes), and confirm with Spark and all workers the agreed safety precautions are in place before work starts.

Once the open void protection has been deployed, the manager/supervisor must agree and apply regular monitoring requirements for maintaining suitable protection for all workers and visitors always.

6.10.2. **Worker**

Where reasonably practicable, Spark will provide suitable guardrails around an open internal void by means of a pull-out guardrail system and swing gate for safe access and suitable WAH control. NB. when in place this system must be deployed always.
Always seek Spark authorisation and advice before removing and accessing any type of internal void cover and protection. Where applicable apply for a permit and carry out a risks assessment as detailed below:

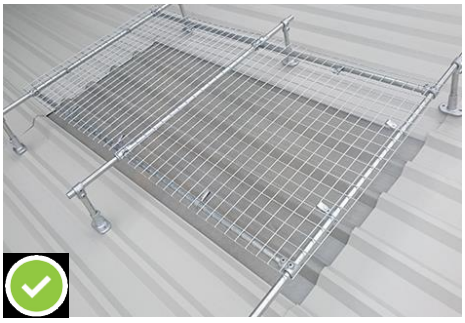
S A F E R take-five check list

Stop:	**Take a few steps back and a take few minutes to look at your task or given situation.**
Assess:	**The internal void situation and identify any potential hazards and risks.**
Find:	**A way of eliminating or minimising the risk by applying suitable control methods.**
Engage:	**Safe systems of work for the task or given situation.**
Review:	**Monitor risk controls and immediate working environment.**

Take on board the above steps to protect yourself and others working close by from falls at the same level surfaces, even for very short durations. Only use harnesses and lanyards for work restraint as a very last resort when working around exposed internal voids.
Consider others working nearby who may not be wearing harnesses. Create a suitable exclusion zone with solid barriers or other where practicable to do so and warning signage always.
Upon completion of works, make sure that coverings on the floor are securely fixed down always.

Photos of gaps/holes/window lights- guardrail systems and void covers






7. Definitions of Key Terms & Acronyms

Refer to the table below for the definitions of key terms used in the document:

Term	Definition
Anchor	Certified point of attachment for lifelines, lanyards or deceleration devices.
Fall	A fall by a person from one level to another.
Fall Arrest System	An assembly of components joined together so that when the assembly is connected to a fixed support (e.g. anchorage point or anchorage system), it can arrest a person's fall as outlined in AS NZS 1891.
Fall Hazard	A circumstance that exposes a worker performing Spark work or other person near the activities, to a risk of a fall that is likely to cause injury to the worker or other person.
Fall Protection	A method of minimizing the possibility of falling.
Fall Arrest Harness	An assembly of interconnected shoulder and leg straps, with or without a body belt, and used where there is a likelihood of free or restrained fall.
Guardrail System	An assembly of components joined together to provide a barrier to prevent a worker from falling from the edge of the surface.
Lanyard	Flexible line of rope, wire rope, or strap (including a personal energy absorber) which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
Mast / Tower	Structures designed to support antennas (also known as aerials) for telecommunications and broadcasting. Towers or masts can be constructed from various materials like wood, steel, concrete and aluminium.
MEWP (Mobile Elevating Work Platform)	Hydraulic or electrical controlled devices used to elevate personnel or materials; including: scissor lifts, articulated boom lifts, individual personnel lifts, self-propelled lifts, manual "push-around" lifts, elevating rolling work platforms, self-propelled elevating work platforms, boom-type elevating work platforms, and vehicle-mounted aerial devices.
Scaff tag / Aculog tags	A plastic information tag on scaffolding, created to improve scaffolding safety standards and maintain the quality and integrity of scaffolds. Improve the visibility, security and durability of scaffold safety status signs. Ensure monitoring both at the workface and at the site office.
Scaffolding	Any structure or framework of a temporary nature, used or intended to be used, for the support or protection of workers for carrying out their work or for the support of materials used about any such work.
Static Line	A rope, wire stop, or rail secured between two points and possibly at various points along its length to support anchor lines, fall arresters or other fall protection devices. Minimum breaking strength shall be 44kN.
Toe Board	A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent falls of materials.
Total Restraint System	A control on a person's movement by means of a combination of a full body harness, a line and a line anchorage which will physically prevent the person from reaching a position at which there is a risk of a free or limited free fall.
Working at Heights	Work at height is any place, including a place at, above or below ground level, where a person could be injured if they fell from that place.
Work positioning system	A system that enables a person to work supported in a harness under tension in a way that a fall is prevented. The harness arrangement should not allow a fall of more than 600mm.

PCBU	Person who controls a business or undertaking
WAH	Working at Height
PM	Project Manager
MEWP	Mobile Elevated Work Platform
kN	Kilonewton is the measurement of mass and force
SOP	Standard Operating Procedure
SWMS	Safe Work Method Statement
JSA	Job Safety Analysis
TA	Task Analysis
SWI	Safe Work Instruments – to define terms, prescribe matters and make other provision in relation to any activity or thing. Lists standard, control of substances and competency requirements.
ACOP/COP	Approved Code of Practice – developed by Worksafe and approved by the minister under the HASAW Act 2015 and offers practical guidance to everyone engaged in hazardous work.
PPE	Personal Protective Equipment – means anything used or worn by a person (including clothing) to minimise risks to the person's health and safety
NOC	Network Operations Centre at Spark
VOC	Verification of Competency

8. Rescue Plans

Rescue Plan: Work at Height - MEWP

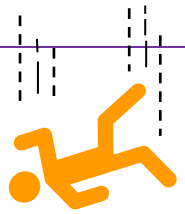
The following plan is to be completed as part of the Spark MEWP safe system of work (where applicable)

ENSURE GROUND KEY AVAILABLE **The ground key should be left in the base unit at all times, or at least should be quickly available at ground level if not in base unit.**	
State location of ground key:	

APPOINT A GROUND RESCUE PERSON While the MEWP manoeuvre is taking place, at least one designated ground rescue person should be appointed who knows the rescue procedure and has been familiarised with the MEWP being used.	
Name of designated person/s:	

CONSIDER HOW TO RAISE THE ALARM A system needs to be in place to identify that an operator may have become trapped, particularly for operators working close to an overhead structure.	
State how the alarm will be raised:	

DECIDE WHO SHOULD TAKE ON THE RESCUE AND HOW The operator should try to rescue themselves by retracing the steps they took in reverse order. If visibility and understanding of situation from the ground are good, ground staff should start a rescue using ground controls in the following order: 1. Auxiliary power at first which gives the slowest and most controlled manoeuvre of the boom until it is obvious that the basket / platform is clear of any obstructions at height. 2. Powered decent. Once clear of obstructions, it is then recommended to switch to powered decent to maximise the speed of recovery. 3. Another MEWP. If all normal and auxiliary lowering functions have failed.	
State how the rescue will be done if different from above:	



Rescue Plan: Work at Height - Fall Arrest

The following plan is to be completed as part of the Work at Height safe system of work (where applicable)

PRE-START RISK ASSESSMENT **Ask yourself - have all other options been considered before using a fall arrest system and harness? Carry out a risk assessment - try to look for a safer work method that doesn't require a rescue plan e.g. working in a fall restraint.**	
Name of person/s carrying out this assessment:	

RESCUE OPTIONS Detail what equipment is required to ensure a fast rescue to minimise suspension trauma, e.g. rescue kit winch, rescue ladder, crane man basket, MEWP, etc.	
Type of rescue equipment to be used:	
Location / storage of rescue equipment:	

ON SITE WAH LOCATION A specific working at height location is required in the event of recovering a worker suspended in a harness.	
Site location, e.g. building, structure type, location reference:	

COMMUNICATION You need to establish what communication system will be used between the suspended worker and supervisor / rescue team, e.g. direct voice communication, mobile phone, whistle, two-way radio.	
Type of communication to be used:	

RESCUE TEAM MEMBERS

You need to establish a team and who is doing what - during the rescue as part of a daily pre-start meeting. List your team members below and their specific actions in the recovery.

NAME	PHONE NO.	ACTION