



OP 1.2.7

Operational Protocol for Working on Roofs



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OPERATIONAL PROTOCOL
FOR
WORKING ON ROOFS

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Dictionary

Competency	Skills, knowledge and experience and their application within an occupation to the standard of performance required to complete a function.
Carabiner	A large D-shaped stainless steel device with a spring-loaded and screwed gate that serves as an all-purpose connector.
D/T/Z	District/Team/Zone
Fatigue	Weariness from bodily or mental exertion.
Large Harpoon Descender	A mechanical device, working on the principle of applying friction on a fixed rope, used as an anchor or for controlled descent.
Life Support Equipment	Equipment identified which is essential to the safety of personnel working on roofs.
Precaution	An action taken, in advance, to protect against possible danger, failure, or injury; a safeguard.
Pure Soap	Traditional cake soap containing all natural grease cutters and soil emulsifiers.
Reasonable Height	An elevation determined to be sufficient to damage equipment falling on to a hard surface, generally considered to be over 2.5 metres.
Risk	The exposure to the possibility of such things as economic or financial loss or gain, physical damage, injury or delay, as a consequence of pursuing a particular course of action. The concept of risk has two elements - the likelihood of something happening and the consequences if it does happen. (AS4360).
Risk Assessment	A systematic use of available information to determine how often specific events may occur and the magnitude of their likely consequence. During an emergency situation a risk assessment is conducted dynamically (continuously due to progressive activity).
Rocker (Rope Grab Device)	A device which employs a cam allowing the device to slide freely in one direction (usually the intended direction of movement) and provide a firm grip on the rope when pulled on in the opposite direction.
Roof Safety System (RSS)	A Roof Safety System utilises approved identified equipment by trained competent crews to work safely on roofs.
Safety Advisor (SA)	A person, delegated by and responsible to the IC, responsible through the chain of command for the overall function of health and safety of all at the incident. Under this delegated authority the SA may stop or change an order, action or condition where a person's life is at immediate risk.
Working on Roofs (WOR)	Working on Roofs defines the procedures used by trained and competent personnel to work safely on roofs for operational purposes.

1 Links

- NSW RFS Service Standard 3.1.6 Fire and Other Incident Operations
- Workcover Codes of Practice for Safe Work on Roofs
- NSW RFS Safe Working on Roofs (2010) training workbook
- Working on Roofs aligns with the Resources and Infrastructure Industries Package unit of competency RIIOHS204A Work safely at heights
- Operational Protocols

2 Superseded Procedure

- Safe Working On Roofs SOPs (August 2008)

3 Purpose

- 3.1 RFS members may respond to incidents where working on roofs is required, such as overhaul at a structure fire or assisting other agencies with storm damage. This Protocol details the procedures and equipment required to safely and effectively carry out such work on roofs.

4 Hazards and Precautions

- 4.1 Typical hazards associated with working on a roof may include but are not limited to:
- (a) Falls from edges or falls through weak or unstable structures
 - (b) Weather (wind, rain, hail, lightning, sun, darkness, etc.)
 - (c) Fire, structural collapse or falling building materials
 - (d) Falling objects (chimneys, trees, power poles, power lines, antennas, etc.)
 - (e) Electrical hazards or HazMats
 - (f) Building construction or roofing materials.

5 Personal Protective Equipment

- 5.1 PPE is to be appropriate to the task being undertaken and the prevailing weather conditions. If wearing short sleeves sunscreen should be used.



Helmet with chin strap must be worn by all members at all times when working on or around buildings, regardless of weather conditions.

- 5.2 Clean bush fire gloves must be used to avoid contamination of the ropes.

6 Operational Procedures



WARNING! The equipment used in the Roof Safety System (RSS) Kit is **life support equipment** and must be treated accordingly.

Competency

6.1 Districts that hold RSS equipment must ensure that members maintain WOR competency by practicing roof top work at least once every 12 months (operationally or in training).

Activation

- 6.2** If RFS members are required to work on a roof, a RSS must be used, unless:
- It is an emergency situation for the preservation of life and a risk assessment has been done,
 - Working from a ladder,
 - Working from an elevated platform (e.g. “cherry picker”), or
 - On a roof fitted with appropriate guard rails.
- 6.3** Each Working on Roofs Team (WRT) comprises a minimum of four members, maximum 2 on the one RSS on the roof and minimum 2 on the ground, who must be competent in Working on Roofs (2010).
- 6.4** Members not qualified in Working on Roofs (WOR) may be used as additional support crew.
- 6.5** The decision to activate a WRT must be made by a member competent in WOR in consultation with the OIC, if the OIC is not qualified.
- 6.6** Prior to the deployment of a WRT a risk assessment must be conducted and appropriate safety controls or precautions implemented.
- 6.7** Do not deploy a WRT when it is determined that:
- (a) The task is beyond the competence of the WRT and/or the equipment available.
 - (b) The structure is visibly weak, unstable or suspected to be at risk of collapse,
 - (c) Severe or imminent severe weather conditions pose an unacceptable risk,
 - (d) The electrical supply (including any back up supply) has not been isolated,
 - (e) Repairs can be made without working on the roof,
 - (f) There is no benefit in conducting the activities.
- 6.8** The OIC must ensure that all RSS equipment is inspected for wear or damage prior to and after use.
- 6.9** As a RSS is being deployed a second competent operator must check all knots, anchors, anchor points, slings, protection, harnesses and fittings.
- 6.10** WRT members deployed on a roof must be attached to the safety line prior to leaving the ground.

- 6.11 Other specialist tasks such as the use of a chain saw must be subject to a separate risk assessment and only be conducted by personnel holding the relevant additional competency.
- 6.12 The OIC must monitor fatigue and rotate operators.
- 6.13 A Safety Advisor, if appointed, must be competent in WOR (2010)

Equipment

- 6.14 Districts must ensure that RSS equipment (refer to Appendix 1) is sourced from the NSW RFS Approved Equipment List and is appropriately tagged. No equipment is to be purchased, replaced or supplemented from unauthorised suppliers.
- 6.15 Only approved RSS equipment can be used for WOR activities.
- 6.16 RSS equipment must only be used for the purposes for which it is intended.
- 6.17 Any damaged or defective equipment must be immediately removed from service and clearly tagged for replacement.
- 6.18 Where misuse of equipment is identified, it must be immediately removed from service and clearly tagged for replacement.



WARNING! Any metal RSS devices that have been dropped from a reasonable height onto a hard surface are considered to be defective and must be removed from service.



WARNING! Do not use any sealants for repair work as these adversely affect RSS equipment.

- 6.19 RSS equipment must be kept in a secure, dry and clean storage area with no risk of exposure to contaminants, insect or rodent attack.
- 6.20 All RSS equipment must be thoroughly cleaned (washed with warm water containing only natural soap) if required after use. Chemical detergents must not be used.
- 6.21 Districts must establish and maintain the RSS Equipment Register, with each item on a separate page, to record:
 - (a) The Serial No and/or ID No of each item,
 - (b) Rope lengths,
 - (c) An expiry/replacement date for each item. If no recommended expiry date is nominated, all items must be replaced after 10 years,
 - (d) All usage of the equipment,
 - (e) Any defects or damage found.

7 Operational Guidance

Repairing Damaged Roofs

- 7.1** NSW RFS members will only make temporary repairs, so the underlying approach should be to “Make it safe, and move on”.
- 7.2** The crew need to assist as many households as possible to minimise any further damage, protecting the buildings and occupants from exposure to the elements.
- 7.3** Permanent repairs will be carried out by tradesmen at a later time.
- 7.4** Simple repairs can usually be made using the following materials and tools, which are usually available in larger operations:
- Tarpaulins
 - Plastic sheets (often in large rolls)
 - Gaffer tape
 - Hammers
 - Nails
 - Tie-downs
 - Ropes
 - Sand bags.
- 7.5** Tarpaulins or large plastic sheeting must be securely tied off to anchors such as trees, stable fences, house support pylons or may be weighed down with sand bags.
- 7.6** Damaged roof tiles or slate may be made good by replacing with spares, if available.
- 7.7** Small areas of damage can be covered with plastic sheet either secured with gaffer tape or weighed down with sand bags.
- 7.8** Cracks may be repaired with gaffer tape.
- 7.9** Dislodged sheeting may be moved back into place and refixed using a hammer and roofing nails, provided the supports are still in reasonable condition.
- Note: To be effective tarps must be either over the ridge or anchored under the lower edge of existing roof coverings.*
- 7.10** If using sandbags on a roof, ensure that they are secured and can't slip off.

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Working on Roofs Procedural Checklist

Competency

- Are all members of the Working on Roofs Team (WRT) competent?

Activation

- Is an approved Roof Safety System (RSS) being used?
- Are there a minimum of four WRT members, max 2 on the one RSS and min 2 on the ground?
- Is the decision to activate a WRT made by a member competent in WOR?
- Has a risk assessment been conducted and safety controls implemented?
 - Is the task is beyond the competence of the WRT and/or the equipment available?
 - Is the structure visibly weak, unstable or suspected to be at risk of collapse?
 - Is severe or imminent severe weather forecast?
 - Is the electrical supply (including any back up supply) isolated?
 - Can repairs be made without working on the roof?
 - Is there a benefit in conducting the activities?
- Has all RSS equipment been inspected for wear or damage?
- Has a second competent operator checked all knots, anchors, anchor points, slings, protection, harnesses and fittings?
- Are WRT members attached to the safety line prior to leaving the ground?
- Has a separate risk assessment been conducted for other specialist tasks (e.g. chain saw operation)?
- Is fatigue being monitored?
- If required, has a Safety Advisor been appointed?

Post Incident

- Has all RSS equipment been thoroughly cleaned after use?
- Has the RSS Equipment Register been completed?

APPENDIX 1 – Approved RSS Equipment Kit List

Number of Items	Item Description
1	Laminated List of Kit Contents
2	4 Point Full Body Harness
2	Rocker Rope Grab Device
1	12mm Triangular Stainless Steel Quick Link - 5,500kg
1	11mm x 50 metre Static Kernmantle Rope – Metal swaging ID Band one end
1	11mm x 25 metre Static Kernmantle Rope – Metal swaging ID Band one end
6	Carabiner - Large Stainless Steel D with Screwed Gate - 3500 kg
2	50mm x 2 metre Tube Tape - 1000kg
2	Large Harpoon Descender
1	Medium Green Rope Bag
1	Small Yellow Rope Bag
1	400 gram Throw Bag
1	50 metre Brickies Fluoro Cord and Reel
1	Small gear Roll
2	Pairs Bush Firefighting Gloves (clean)
1	Tarpaulin

APPENDIX 2 – RSS Equipment Register



Working on Roofs Equipment Kit

RSS Equipment Register

_____ District/Team/Zone

Register Number _____

Equipment Item		Rope Length		Serial No:	
			District/Team/Zone	ID No:	
		Brigade	Date in Service:		Expiry Date:

Date	Inspected	Damaged or Defective – tagged & removed from service	Used	Task or Incident	Cleaned	Comment	Name	Signature