1. Purpose

1.1 This Service Standard ensures that members engaged with various NSW Rural Fire Service (NSW RFS) operational activities are provided with respiratory protective equipment (RPE) appropriate to their role and tasks, which also satisfies the requirements of the Workplace Health and Safety Act (2011) and relevant Australian and/or International Standards as appropriate.

1.2 This Service Standard and associated Standard Operating Procedures (SOPs) apply to operational environments within which NSW RFS members work.

1.3 This Service Standard and associated SOPs cover the proper acquisition, use, training and maintenance of RPE in the NSW RFS.

1.4 This Service Standard covers RPE as defined by AS/NZS 1715:2009, as well as all RPE support equipment, including but not limited to:

   a. P2 Respirators;
   b. Reusable Respirators;
   c. Compressed Air Breathing Apparatus (CABA);
   d. CABA support equipment;
   e. CABA filling stations.
2 Definitions

2.1 For the purpose of this service standard, the following definitions and acronyms apply:

a. **Flame Resistant**: a term used to describe a material that burns slowly or is self-extinguishing after removal of an external source of ignition.

b. **Incident Ground**: refers to an area of operational activity, e.g. fire grounds, hazard reductions, motor vehicle accidents, structure fires, air bases, assist other agencies, automatic fire alarm, etc.

c. **Immediate Danger to Life and Health (IDLH)**: Refers to hazards or hazardous environments in which an acute exposure to the hazard poses a severe risk of immediate health damage. Examples Include:
   i. **TOES**: Toxic atmospheres, Oxygen deficiency, Elevated temperatures and Smoke – Refers to the identifying factors for high risk environments.
   ii. **HOTS**: Heated atmosphere, Oxygen deficiency, Toxic environments and Smoke.

d. **Personal Protective Equipment (PPE)**: refers to equipment designed to mitigate the risk of injury from physical, thermal and other hazards that may be encountered at an incident (including but not limited to, helmets, goggles, gloves, etc.).

e. **Personal Protective Clothing (PPC)**: refers to protective clothing designed to mitigate the risk of injury from physical, thermal and other hazards that may be encountered at an incident (including but not limited to, jackets, trousers, etc.).

f. **PPE/C**: refers to the combination of personal protective equipment and personal protective clothing, which meets the NSW RFS specifications and that has been approved by the NSW RFS.

g. **RPE**: refers to respiratory protective equipment and is alternately known as respiratory protection devices (RPD). RPE is PPE that is designed to protect the wearer from inhalation of airborne contaminants and other hazardous substances that is certified to AS/NZS 1715:2009.

h. **NSW RFS Approved RPE**: RPE that has been assessed by the NSW RFS and is deemed to meet the NSW RFS technical specifications and relevant International/Australian standards. These RPE items are supported by the NSW RFS for purchasing, issuing and the provision of consumables.

i. **Contaminated RPE**: Refers to respirators, canisters/filters and other RPE equipment that has been worn and not yet cleaned and returned to a serviceable condition, or cannot be returned to a serviceable condition.

j. **Clean shaven**: Where all facial hair of any length, including stubble, is removed where the respirator contacts and seals to ensure a proper fit. This does not include facial hair which does not interfere with the respirator seals.

k. **Fit Test**: A documented procedure undertaken by a certified person, in accordance with Australian Standards, to determine the facial fit of a respirator.

l. **Quantitative Fit Test**: A fail/pass facial fit test based on the capability to taste a known irritant, and suitable for RPE with a protection factor of 10 or less.

m. **Qualitative Fit Test**: A measured facial fit test utilising certified equipment to provide a facial fit score and suitable for all RPE types.

n. **Fit Check**: A self-administered rapid facial fit check, to ensure a proper seal is achieved by a respirator. Fit checks may either be positive or negative pressure, depending on the respirator type.

3 Policy

3.1 Respiratory Protective Equipment (RPE) is considered the ‘last line of defence’ (as stated in the Bush Firefighter Manual) and should always be utilised in conjunction with other controls, such as safe work practices. Priority should always be given to removing members from areas of respiratory risk.

3.2 Members are to apply the Hierarchy of Controls and be responsible for reducing their exposure to respiratory hazards. This includes limiting exposure time to a respiratory hazard where possible.

3.3 Where it is not practical to remove members from an area that may expose them to a respiratory risk, then
RPE should be used to reduce that risk, in line with the relevant training material and Fire ground SOPs. The RPE worn must align to the level of respiratory hazard and risk, in line with NSW RFS training material.

3.4 Three levels of RPE are provided to NSW RFS members:
   a. Disposable, negative pressure respirators (Disposable P2);
   b. Reusable, negative pressure respirators (Half-face/Full-face respirators);
   c. Compressed Air Breathing Apparatus (CABA).

3.5 Only CABA should be used in IDLH environments by appropriately qualified members. No other form of RPE is to be used for IDLH environments.

3.6 All members should have access to RPE appropriate to the tasks they are undertaking, and be trained accordingly. To ensure all members have access to RPE, all NSW RFS firefighting appliances are to carry disposable and reusable respirators, in line with the number of crew on the appliance.

3.7 The NSW RFS will only issue RPE that is suitable and appropriate for intended use and which is compliant with Australian Standards and NSW RFS specifications. Approved RPE must be worn in accordance with this Service Standard and associated SOPs. NSW RFS Approved RPE is not to be modified or changed in any way. RPE that is not certified to the relevant Australian or International standards must not be worn on any Incident Ground.

3.8 Information on NSW RFS Approved RPE, including care and maintenance, shall be available via the NSW RFS member website (currently One RFS).

3.9 All NSW RFS Approved RPE are available via the NSW RFS procurement system, to enable a reasonable or proper fit. Where a member is unable to determine reasonable or proper fit, Fit Testing shall be available to determine appropriate alternate Approved RPE. NSW RFS Headquarters (Logistics and Equipment) is to ensure that sufficient stock levels and appropriate supply chain is in place for RPE availability to members.

3.10 All RPE is to be worn as per NSW RFS training materials and SOPs related to each relevant activity.

3.11 NSW RFS Headquarters (Training and Doctrine) and Area Commands are responsible for the provision of educational and training materials to members with regards to which NSW RFS Approved RPE is available.

3.12 District Managers and Business unit managers are responsible for supply of NSW RFS Approved RPE for their members; the oversight and monitoring of use of RPE; as well as ensuring that members have access to and are aware of training in the correct use of NSW RFS Approved RPE.

3.13 Individual members are responsible for the regular inspection of NSW RFS Approved RPE, including weekly checks to ensure serviceability. NSW RFS Districts and Area Commands are responsible for the proper maintenance of all RPE, including support and replacement equipment.

3.14 Individual members are responsible for the appropriate use, maintenance, cleaning and storage of NSW RFS Approved RPE as per NSW RFS requirements; to advise Brigade Officers/Supervisor if any defects or damage occurs to RPE so that repairs or replacements can be made. Members must ensure that they do not misuse or damage NSW RFS Approved RPE. Any out of service RPE, due to defects, damage or servicing requirements, must be clearly segregated from in-service RPE. This includes clearly identifying RPE as “Out of Service”.

3.15 All NSW RFS Approved RPE shall be maintained and disposed of in line with relevant training materials and manufacturers guidelines.

3.16 The maximum effectiveness of all types of RPE is only achievable whilst Clean Shaven. Members need to be aware of this requirement, and acknowledge that not being Clean Shaven may result in reduced effectiveness of RPE; in this case higher order controls (such as elimination) should be used to reduce exposure.

3.17 Training on the process of undertaking a Fit Check will be made available for all members for the applicable RPE being used.
3.18 All Members need to conduct a Fit Check each time the respirator is donned.

3.19 Members are to receive guidance on the disposal of contaminated/soiled RPE, including RPE that has been contaminated by hazardous materials.

3.20 Members are to be made aware of the impact of respirators on metabolic, cardiovascular and respiratory load.

3.21 Members who have health conditions which may be exacerbated by the use of RPE should discuss these issues with their District in consultation with Health, Safety and Welfare prior to use. Members should utilise higher order controls and should undertake fire ground roles which consider these circumstances where possible.

3.22 Health screening shall be available to members who identify as having underlying health conditions and in line with new member polices.

3.23 Members need to regularly review their IMSAFER status on the incident ground whilst wearing RPE.

3.24 Up to date information for NSW RFS members to support this Service Standard and SOPs can be found on the NSW RFS Member website (currently One RFS). This includes a full listing of available NSW RFS Approved RPE and their associated Care, Maintenance and Disposal training material.

4 Related documents

- AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment
- AS/NZS 1716:2012 Respiratory protective devices
- AS3848.2-1999 (withdrawn) Filling of portable gas cylinders - Filling of portable cylinders for self-contained underwater breathing apparatus (SCUBA) and non-underwater self-contained breathing apparatus (SCBA) - Safe procedures.

5 Amendments

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<td>Complete review</td>
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<td>Re-format of BA medical examination information into booklet</td>
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<td>Repeals and remakes SS 5.1.9 v2.1</td>
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<td></td>
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<td>Title updated to “Respiratory Protective Equipment”</td>
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<td>Complete review and broadened to include other respirators used by the NSW RFS.</td>
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SOP P5.1.9-1

P2 RESPIRATORS (DISPOSABLE, NEGATIVE PRESSURE RESPIRATORS)

1 Purpose and Definition

1.1 The purpose of this SOP is to cover the usage, training, care and maintenance and disposal of disposable, negative pressure respirators.

1.2 All NSW RFS Approved disposable, negative pressure respirators are a minimum of P2 under AS/NZS1715:2009.

1.3 P2 Disposable respirators are negative pressure, filtration respirators which provide protection from mechanically and thermally generated particulates.

1.4 Disposable P2 respirators also provide a level of protection from micro-organisms and as such can be worn when performing medical assistance tasks. These masks are limited to Risk Groups 1-3 under AS/NZS1715:2009. If unsure, please liaise with the medical persons at the incident for further clarification.

1.5 Use of Disposable P2 respirators will increase the member’s heat rate and respiratory load whilst undertaking physical activity. Members must consider this when managing their hydration, body heat and work rate and maintain regular IMSAFER awareness.

2 Procedure

2.1 Disposable respirators must not be used in IDLH environments.

2.2 P2 respirators should be worn in low-medium smoke environments (thermally generated particulates), unless a higher level of protection is available, as well as medical assistance incidents.

2.3 Only those respirators that are compliant with Australian Standards (AS/NZS1715:2009 – Appendix C, or equivalent), with exhalation valve, are to be used where there is a risk of fire.

2.4 Respirators with unfiltered exhalation valves do not prevent the spread of respiratory particulates from the wearer and should not be used where there is a risk of the wearer exposing others to unfiltered air.

2.5 A variety of shapes and sizes shall be available for members to ensure that properly fitting Approved P2 Respirators are available via the NSW RFS procurement system (SAP Catalogue).

2.6 Adequate numbers of disposable respirators, including shapes and sizes, are to be readily available and stowed on all NSW RFS appliances and be available for any member.

2.7 A surgical mask, or uncertified face covering, is not considered equivalent to a disposable, negative pressure respirator and must not be used where a P2 respirator is required to manage the respiratory hazard.

Care, Maintenance and Disposal

2.8 A new disposable respirator must be provided to members for each shift/day undertaken, or more often if required.

2.9 Disposable respirators must not be cleaned or re-used, even if only lightly soiled.

2.10 Disposable respirators are to be stored in a clean, dry environment, readily accessible to all members.
2.11 Disposable respirators can be disposed of in a closed bin and added to the general waste unless it is considered contaminated from hazardous materials. Respirators which have been contaminated by hazardous materials must be double bagged prior to disposal as part of the general waste.

3 Related forms

› None
SOP P5.1.9-2

REUSABLE RESPIRATORS (REUSABLE, NEGATIVE PRESSURE RESPIRATORS)

1 Purpose and Definition

1.1 The purpose of this SOP is to cover the usage, training, care and maintenance and disposal of reusable, negative pressure respirators, also known as half-face and full-face respirators.

1.2 All NSW RFS Approved reusable, negative pressure respirators are a minimum of P2 under AS/NZS1715:2009.

1.3 All NSW RFS Approved reusable respirators are negative pressure, filtration respirators which provide protection from mechanically and thermally generated particulates as well as organic gasses and vapours as classified by the canisters fitted.

1.4 Reusable respirators also provide a level of protection from micro-organisms and as such can be worn when performing medical assistance tasks. These masks are limited to Risk Groups 1-3 under AS/NZS1715:2009. If unsure, please liaise with the medical persons at the incident for further clarification.

1.5 Reusable Respirators do not provide protection from Carbon Monoxide or elevated air temperatures.

1.6 Use of Reusable Respirators will increase the member’s heat rate and respiratory load whilst undertaking physical activity. Members must consider this when managing their hydration, body heat and work rate and maintain regular IMSAFER awareness.

2 Procedure

2.1 Reusable respirators must not be used in IDLH environments.

2.2 Reusable respirators should be worn in medium smoke environments (thermally generated particulates and Organic gasses and vapours) as classified by the canisters fitted.

2.3 Only approved Reusable Respirators are to be used on the incident ground.

2.4 A variety of sizes shall be available for members to ensure that properly fitting respirators are available via the NSW RFS procurement system (SAP Catalogue).

2.5 Adequate numbers of respirators, including different sizes, are to be readily available and stowed on NSW RFS appliances and be accessible for any member.

Care, Maintenance and Disposal

2.6 Reusable respirator masks must be cleaned and decontaminated after each usage. Canisters/filters are to be disposed of after use.

2.7 All cleaning should align to manufacturer’s recommendations and NSW RFS issued/ endorsed training material.

2.8 Respirators should be stored in clean, dry environments readily accessible to members.

2.9 Canisters/filters should be stored in air tight containers when not in use to reduce oxidation and therefore extend the usage life of these canisters.

2.10 Canisters/filters are to remain unopened until required.
2.11  Used canisters/filters should be disposed of in line with manufacturer’s recommendations. Canisters/filters contaminated by hazardous must be double bagged prior to disposal as part of the general waste.

2.12  Respirators contaminated by hazardous materials must be double bagged whilst in transit for cleaning and decontamination.

3  Related forms
   ▶ None
SOP P5.1.9-3

COMPRESSED AIR BREATHING APPARATUS (CABA) EQUIPMENT

1 Purpose and Definition

1.1 The purpose of this SOP is to cover the usage, training, care and maintenance and disposal of compressed air breathing apparatus (CABA), SCBA (Self Contained Breathing Apparatus) or also known as BA (Breathing Apparatus) in line with AS/NZS 1715:2009.

1.2 This SOP covers CABA equipment, including:
   a. CABA cylinders;
   b. CABA back plates, including pneumatics;
   c. CABA masks;
   d. Equipment associated with CABA sets.

1.3 CABA provides protection from all types of respiratory hazards.

1.4 Use of CABA increases the member’s heat rate and respiratory load whilst undertaking physical activity. Members must consider this when managing their hydration, body heat and work rate and maintain regular IMSAFER awareness.

2 Procedure

2.1 CABA is the only effective RPE for protection from all respiratory hazards present in IDLH environments and is the only RPE approved for use in these environments, including but not limited to:
   a. High Levels of Carbon monoxide/Carbon Dioxide;
   b. Elevated Air Temperatures;
   c. Low Oxygen Levels.

2.2 Only approved CABA should be used on the incident ground.

2.3 A variety of mask sizes are available for members to ensure that properly fitting equipment are available via the NSW RFS procurement system (SAP Catalogue).

2.4 All CABA use must align with CABA training policy and be worn in line with relevant training material and SOPs.

2.5 All members utilising CABA in IDLH environments need to be Clean Shaven to ensure maximum effectiveness.

2.6 Any member undertaking work in an IDLH environment must be:
   a. Reasonably fit for the tasks they are undertaking, including relevant and current medical examination;
   b. Be current and certified in relevant training.

2.7 Members certified in the use of CABA shall be individually issued appropriate PPE/C in line with NSW Training Materials, and to be worn as per with Service Standard 5.1.5.

2.8 All CABA equipment, and appropriate records, are to be maintained in the NSW RFS asset management system (currently SAP EAM).
2.9 Districts must maintain records of the following:
   a. Cylinder initial manufacture date, and all subsequent hydrostatic testing and disposal dates;
   b. Back plate, pneumatics and mask initial manufacture dates, inspections and servicing;
   c. Cylinder filling, including air quality testing;
   d. Cylinder and back plate location and usage logs;
   e. CABA certified members, including training and usage logs.

2.10 Each CABA certified member is to maintain a log of their usage, in line with NSW RFS training requirements.

2.11 Each NSW RFS Approved CABA set is to include:
   a. CABA back plate, with pneumatics;
   b. CABA cylinder;
   c. CABA mask;
   d. Distress Signal Unit (DSU) as defined under NFPA 1982;
   e. Intrinsically safe CABA torch;
   f. Personal Line;
   g. Individual Tally Tag.

2.12 CABA support equipment, includes but not limited to:
   a. Spare Cylinders;
   b. Stage 1 or Stage 2 Breathing Apparatus Control Officer (BACO) Boards and tabard;
   c. Cleaning equipment.

2.13 All members certified as current in the use of CABA are to have their qualifications recorded within the NSW RFS corporate system (currently SAP HR).

2.14 All brigades and appliances equipped with CABA are to be recorded using NSW RFS asset management system (currently SAP EAM).

2.15 Only appliances which are able to safely meet the requirements for village firefighting are to carry CABA/CABA equipment. However, other appliances may carry CABA support equipment to assist other appliances.

2.16 Where an appliance/brigade is allocated CABA:
   a. A minimum of two (2) sets and One (1) spare cylinder per set is required;
   b. The brigade must be allocated and carry adequate support equipment to undertake the operational usage of CABA, on all CABA carrying appliances.

2.17 CABA should be allocated to brigades that have the operational requirements, capability and capacity to use it safely and effectively.

2.18 The District Manager shall be responsible for ensuring that brigades allocated CABA are equipped, capable and have the capacity to use it safely and effectively.

2.19 Brigades allocated CABA are to have access to adequate spare CABA cylinders and equipment to maintain operational capability.

2.20 Only members who are trained and qualified in the effective use of CABA, including maintenance and cleaning procedures may utilise or access CABA equipment.

2.21 Members must undertake a Fit Check each time the respirator is worn in line with NSW RFS training.
Care, Maintenance and Disposal

2.22 In accordance with Australian Standards and manufacturer's requirements, NSW RFS CABA equipment shall be:
   a. Inspected weekly for functionality;
   b. In date for hydrostatic testing;
   c. Inspected annually by a qualified and approved technician;
   d. Reconditioned as per manufacturer's requirements;
   e. Within overall service life.

2.23 CABA equipment shall be removed from service on the detection of a fault, and segregated from in-service equipment.

2.24 CABA equipment must be cleaned and decontaminated after each usage.

2.25 All cleaning should align to manufacturer's recommendations and NSW RFS issued/endorsed training material, and shall be undertaken in appropriate PPE.

2.26 CABA equipment, which has been contaminated by hazardous materials, must be double bagged whilst in transit for cleaning and decontamination.

2.27 Where incidents or injuries occur which may be the result of damaged, faulty or contaminated CABA equipment, including back plates and cylinders, the equipment is to be quarantined and investigated by a trained technician and Health and Safety are notified. Equipment, including associated support equipment, may not be re-used till such time as an investigation is complete.

2.28 Appliances lockers, which store CABA equipment should be kept clean, dry and readily accessible to qualified members. Where CABA equipment is not stored on an appliance, such as a brigade station, it must also be kept clean and dry.

2.29 Maintenance of CABA equipment must be undertaken in line with the manufacturer’s recommendations and NSW RFS training materials by an appropriately qualified technician.

2.30 Decommissioning/Disposal of all CABA equipment shall be undertaken as per Manufacturer’s guidelines and NSW RFS procedures. CABA equipment must be returned to the supplier for disposal at end of life.

2.31 No CABA equipment beyond the stated manufacturer’s life shall be used or sold.

2.32 CABA cylinders are to be used annually to prevent stale air/contamination.

2.33 Full cylinders are to be fitted with dust caps to prevent ingress of debris into the cylinder thread.

2.34 Empty cylinders, or cylinder under the minimum required pressure are to be marked “MT” until filled.

3 Related forms

– None
SOP P5.1.9-4

COMPRESSED AIR BREATHING APPARATUS (CABA) FILLING STATIONS

1 Purpose and Definition

1.1 This SOP covers the care, maintenance and disposal of NSW RFS operated CABA filling stations, as well as CABA filling stations/ equipment used to fill NSW RFS CABA cylinders.

1.2 CABA filling stations include:
   a. Air compressors;
   b. CABA cylinder filling equipment, including armoured filling cabinets;
   c. In-line air quality measurement systems;
   d. Storage cylinders/Cylinder bank;
   e. Metering systems;
   f. Air chillers;
   g. CABA cylinder storage;
   h. CABA filling station rooms.

2 Procedure

2.1 Only NSW RFS approved CABA filling equipment shall be used to fill NSW RFS CABA cylinders.

2.2 Non NSW RFS owned CABA filling equipment may be used to fill NSW RFS CABA cylinders, however they must adhere to the same requirements as NSW RFS owned equipment.

2.3 Modification or upgrade of CABA filling stations shall align to NSW RFS specifications and the manufactures recommendations. CABA filling station status shall be captured via the NSW RFS asset management system.

2.4 All compressors used to fill NSW RFS CABA cylinders must have an in date air quality check, every three months. The results of the check are to be accessible to anyone using the compressor.

2.5 All filling equipment used to fill NSW RFS CABA cylinders must be up to date for:
   a. Servicing, including filter replacement;
   b. Three monthly air quality check/ reports;
   c. Regular hydrostatic testing.

2.6 Records of servicing, CABA cylinder filling and transfer must be kept and auditable, and maintained using the NSW RFS asset management system (SAP EAM)

2.7 CABA filling stations must be appropriately secured, to ensure that access is only available for appropriately trained or authorised members.

2.8 All CABA filling stations must clearly identify and segregate empty/used cylinders, full cylinders and cylinders which are being cooled.

2.9 CABA filling compressors must be segregated from areas which may pose a contamination risk, such as cleaning areas. Filling stations shall also be protected from environmental elements.

2.10 Each NSW RFS CABA filling station shall require a regular risk assessment as per NSW RFS procedures, as available on the NSW RFS member website (currently One RFS).
2.11 Only members who are suitably trained and qualified in the correct use of CABA filling stations are to fill NSW RFS CABA cylinders.

2.12 Training is to be provided by appropriately qualified personnel and undertaken in line with manufacturer’s requirements and NSW RFS training policy.

**Care, Maintenance and Decommissioning**

2.13 CABA filling stations must be kept clean, free from excessive dust, exhaust and moisture.

2.14 All CABA filling stations must be maintained in line with the manufacturer’s recommendations and serviced annually by an appropriately qualified and approved technician.

2.15 CABA filling station Compressor intakes must be located in an area away from other air borne hazards, such as smoke, dust or other pollutants.

2.16 Contaminated CABA equipment must be decontaminated away from the CABA filling station.

2.17 Decommissioning/Disposal of all CABA filling station equipment shall be undertaken as per Manufacturer’s guidelines and NSW RFS procedures. CABA filling station equipment must be returned to the supplier for disposal and end of life.

2.18 No CABA equipment beyond the stated manufacturer’s life shall be used or sold.

**3 Related forms**

- None