



**Learner Assessment Guide  
 Unit Standard 20395  
 Wear and operate breathing apparatus in specialist emergencies  
 (Level 4, Credit 6, Version 1)**

**Level Descriptor**

Level	Process	Employing	Responsibility
<b>4</b>	<b>Carrying out processes that:</b> <ul style="list-style-type: none"> <li>• Require a wide range of scholastic skills</li> <li>• Offer a considerable choice of procedures</li> <li>• Are employed in a variety of familiar and unfamiliar contexts</li> </ul>	<b>Employing:</b> <ul style="list-style-type: none"> <li>• A broad knowledge base incorporating some theoretical concepts</li> <li>• Analytical interpretation of information</li> <li>• Informed judgement</li> <li>• A range of sometimes innovative responses to concrete but often unfamiliar problems</li> </ul>	<b>Applied:</b> <ul style="list-style-type: none"> <li>• In directed activity</li> <li>• Under broad guidance and evaluation</li> <li>• With complete responsibility for the quantity and quality of output</li> <li>• With possible responsibility for the quantity and quality of the output of others</li> </ul>

**Descriptors:**

Credit 6 - will require approximately 60 - 72 hours of learning, practice or experience and assessment for a person with no previous knowledge or experience.

**Elements:**

Version 1 - This document has been prepared based on Version1 of the Unit Standard.

1. Demonstrate knowledge of the human respiratory system, and the procedures to be followed when wearing BA.
2. Perform breathing apparatus control procedures in an emergency operation.
3. Wear BA in emergency operation situations.
4. Manage BA for safe use and survivability in emergency fire and rescue operations.
5. Shut down and re-commission BA and specialist equipment.

**Prerequisites:**

Unit 3272, *Wear and operate breathing apparatus in general emergencies*.

**Assessment Conditions:**

Assessment against this unit standard may take place under real or practical simulated conditions.

Gaining credit for this unit standard will require the successful completion of the approved NZ Fire Service or NZ Defence Force breathing apparatus training course.

**Resources:**

1. BA Set fitted with DSU and Personal Guideline
2. Entry Control Board, BA Main Guide Line
3. Crew to assist
4. Training venue
5. Levels 2-4 PPE

**Special Notes:** Compliance with the providers Health and Safety policy and standard procedures is mandatory.

Assessment against this unit standard may take place under real or simulated conditions.

See Unit Standard Special Notes

**Assessment Brief Instructions:**

The assessor may use pre-course, on course, post course or workplace written or oral assessments as evidence towards gaining the knowledge based components of this unit. The assessor will evaluate the relevance of the evidence against the unit standard. The lists below provide an outline of the assessment components a learner should expect to encounter in achieving this unit.

**This Learner Assessment Guide is simply a guide and does not determine the sufficiency or validity of evidence the assessor will evaluate using assessment best practice criteria.**

**LEARNERS SHOULD ALWAYS REVIEW THE REQUIREMENTS CONTAINED IN THE UNIT STANDARD DOCUMENT PRIOR TO REQUESTING ASSESSMENT.**

**Assessing Element 1: Demonstrate knowledge of the human respiratory system, and the procedures to be followed when wearing BA**

Candidates will explain:

The respiratory process and describe the function that oxygen performs within the body. The body's oxygen needs, including the inhaled and exhaled percentages of oxygen and other gases in air.

**This includes:**

- respiration
- asphyxiation
- stress
- stroke
- exhaustion

The candidate will describe the procedures to be adopted when wearing breathing apparatus.

The candidate must identify the responsibilities of:

- entry control officer (ECO-stage 1)
- breathing apparatus control officer (BACO- stage 2)

The standard tests conducted on breathing apparatus and related specialist equipment. (Refer special note 5 of the unit standard). Tests will include but are not limited to the content and frequency of:

Daily checks

Low pressure tests

High pressure tests

The testing regime required in accordance with manufacturers instructions and/or

Telarc registration

Cylinder testing

The hazards associated with wearing Breathing Apparatus. Hazards may include, but are not limited to, such things as:

- Working in freezing conditions (cold) and the effect this has on the set and wearer
- Working under water and the precautions that will be taken to protect the set and wearer
- What happens when there is set failure

Candidates will explain the procedures to be adopted when wearing breathing apparatus.

Explanations must cover:

- use of main guide lines, personal lines and branch lines
- pre-entry start-up tests
- safety procedures, working in teams, control procedures, communication, use of DSU and actions when a DSU is operating.
- actions in the event of set failure
- search procedures and procedures for working in heat & smoke
- emergency evacuation procedures and actions

Candidate must explain type and frequency of standard tests conducted on breathing apparatus and related specialist equipment. (Refer special note 5 of the unit standard).

Tests must include but are not limited to the

- type and
- frequency for specialist equipment

**Consider the following:**

Daily checks

Low pressure tests

High pressure tests

The testing regime required in accordance with manufacturers instructions and/or Telarc registration. These tests may vary depending on the type of set and it's year of service.

Cylinder testing

This element will normally be assessed using written or oral questions but may include practical demonstration for some performance criteria.

**Assessing Element 2: Perform breathing apparatus control procedures in an emergency operation**

For this element a scenario where BA is used will be established and the candidate will demonstrate each of the performance criteria.

Candidates will establish and manage rapid deployment procedures in accordance with SOP's.

Candidates will manage Stage 1 entry control in accordance with SOP's. This will include:

- selecting a site for the entry control point
- establishing the entry control board
- filling out tallies and fixing them to the entry control board correctly
- ordering and deploying relief teams in a timely manner
- ensuring the availability of rescue teams and deploying these where required
- carrying out emergency procedures where required
- establishing communications between the BACO and/or their commanding officer and/or the wearers
- ordering resources to ensure continuance of BA wearing, sets, recharged cylinders, drinking water etc.
- monitor and manage the search patterns including the use of main guide lines and branch lines.

Candidates will manage Stage 2 BA control in accordance with SOP's. This will include:

Establishing the BA control board

- ordering and deploying relief teams in a timely manner
- ensuring the availability of rescue teams and deploying these where required
- carrying out emergency procedures where required
- establishing communications links with their commanding officer and the Entry Control Officers
- ordering resources to ensure continuance of BA wearing, including sets, recharged cylinders, drinking water etc.

This element will normally be assessed using practical demonstration but may include oral questions for some performance criteria.

### **Assessing Element 3: Wear BA in emergency operation situations**

Candidates will select and don appropriate personal protective clothing for fire fighting situations. Candidates are expected to wear level 2 PPE as required for a structure fire and don and start up a BA set so as to be ready for entry.

It is important to consider how the BA reacts in:

- hot
- cold

Candidates will select and wear appropriate PPE for a hazardous substance incident. This will include the wearing of a:

- level 3 splash suit, and
- level 4 encapsulating suit (where supplied)
- candidates will don these suits so as to be ready for deployment

Where air lines form part of the candidates brigade standard inventory, these will be established so as to provide a prolonged air supply to the candidate while wearing the level 4 suit.

Candidates will establish and follow a BA main guideline. This may include departure from the main guideline by establishing a branch line.

Candidates will conduct search procedures in accordance with SOP's.

This will include planning an area to be searched with the ECO, adopting correct search techniques and establishing and maintaining good communication with their partner[s].

This element will normally be assessed using practical demonstration but may include oral questions for some performance criteria.

### **Assessing Element 4: Manage BA for safe use and survivability in emergency fire and rescue operations**

While working in BA candidates will explain their considerations relating to their surrounding environment. Explanations will include considerations centred on:

- incident development
- structural hazards
- general hazards

Examples include:

- Incident development
  - Fire development and travel
  - Heat layers
  - Smoke and Steam
  - Flashover or backdraught
  - Spill areas of hazardous substances
  - Sensitivity of hazardous substances
- Structural hazards
  - The integrity of the building
  - Stairs, catwalks and platforms
  - Lift shafts, pits and other floor openings
  - Falling debris, water tanks etc
  - Spalling concrete
- General hazards
  - Broken glass
  - Collapsing stacks of stock
  - Hazardous contents
  - Panicking patients
  - Wild animals
  - Energised power supplies
  - Exposed steel constructions

While working in BA candidates will monitor and manage the available air supply. This may include but is not limited to considerations centred on:

- self - personal supply and safe working duration
- crew - The supply and consumption rate of others within their team
- task - The task to be performed

Candidate will demonstrate the procedure to be adopted in the event of entrapment while working in BA. Consideration must be given to

- self
- crew

This element will normally be assessed using practical demonstration but may include written or oral questions for some performance criteria.

### **Assessing Element 5: Shut down and re-commission BA and specialist equipment**

Candidate will demonstrate the shutting down process for BA.

- Changing from pressure to demand mode (where this is an option)
- Undoing all spider harness straps
- Removing the facemask but keeping the neck strap positioned so as to protect the visor
- Closing the main cylinder valve
- Bleeding the residue pressure from the high pressure lines and regulator
- Uplift the set tally from ECO (with the rest of their team)

Candidates will relay all relevant information to the ECO.

- location of areas searched
- location of casualties found
- location of fire
- location of other BA teams
- building features and design layout
- internal conditions
- specific hazards
- travel time to reach objective

Candidates will recommission their BA set and associated equipment ready for redeployment on another wearer.

**Note:** Candidates should not recharge cylinders unless suitably certified to do so.

Candidate will complete the documentation as required by their organisation.

This element will normally be assessed using practical demonstration but may include oral questions and audit of documentation for some performance criteria.