

DEFINITIONS

CERT: Corrections Emergency Response Team.

Fit Test: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator (SCBA) to an individual. (See also Qualitative Fit Test-QLFT and Quantitative Fit Test-QNFT.)

Follow-up Medical Evaluation: Any medical review or procedure that may be required of uniformed staff by a contracted health care professional upon review of a completed Respiratory Medical Questionnaire.

Immediately Dangerous to Life or Health (IDLH): An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

LERT: Local Emergency Response Team.

OSHA (Occupational Safety & Health Administration): The federal agency which oversees work site safety issues for the U. S. Department of Labor.

Oxygen Deficient Atmosphere: An atmosphere with an oxygen content below 19.5% by volume.

NFPA (National Fire Protection Association): An international non-profit organization which provides standards for fire, electrical, and life safety issues.

NIOSH (National Institute for Occupational Safety and Health): The federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. NIOSH is part of the Centers for Disease Control and Prevention (CDC) in the Department of Health and Human Services.

Qualitative Fit Test: A pass/fail fit test to assess the adequacy of the fit of the respirator to the individual. It relies on the individual's response to the test agent.

Quantitative Fit Test: An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory Protection Program Administrator: A Department of Corrections employee of a correctional facility designated by the Facility Superintendent to administer that facility's *Respiratory Protection Program*.

Self-Contained Breathing Apparatus (SCBA): An atmosphere-supplying respirator in which the breathing air source is carried by the user in a tank (air bottle) contained in a backpack harness.

Tight-fitting Face Piece: A respiratory inlet covering that forms a complete seal with the individual's face.

Vermont Occupational Safety & Health Administration (VOSHA): The division of the Vermont Department of Labor which oversees occupational safety issues in Vermont.

PROCEDURAL GUIDELINES

There are times when the breathing atmosphere that staff may encounter in a correctional facility becomes Immediately Dangerous to Life or Health (IDLH). It is during these times that uniformed staff must wear a respirator in order to evacuate others (e.g., inmates, staff, volunteers, etc.). This includes, but is not limited to, during a fire, chemical reaction or spill, or other hazardous materials incident where there is an oxygen-deficient atmosphere.

Respiratory Protection Program

1. The Standard

- a. In accordance with OSHA's respirator standard, 29 CFR 1910.134, the Department must develop and implement a written *Respiratory Protection Program* wherever respirators are required to be worn. In the case of the Vermont Department of Corrections, that respirator will be the Self-Contained Breathing Apparatus (SCBA).
- b. This program will include guidelines on medical evaluation of staff who will require respiratory protection, administration of the program, and fit testing of the respirator used.
- c. All uniformed staff must go through a training process for the SCBA. See below for details.

2. Medical Evaluation

- a. Staff who are required to wear the SCBA must be physically able to do their work while wearing it.
- b. Staff must be medically evaluated and found eligible to wear the SCBA prior to fit testing and having to wear it for the first time in the workplace.
- c. Medical eligibility will be determined by a physician or other qualified health care professional, approved by the Department, to include occupational health nurses, nurse practitioners, and physician assistants.
- d. Medical Questionnaire
 - i. All uniformed staff must complete the OSHA- required medical questionnaire. See *Attachment 1*.
 - ii. Staff will be provided with the time, during working hours, to complete the medical questionnaire in a location that ensures privacy.
 - iii. Questionnaires are confidential. To ensure confidentiality, staff will send their completed medical questionnaire in a sealed and pre-addressed

- envelope directly to an approved health care professional who will evaluate the information.
- iv. A positive response to specific questions in the medical questionnaire requires further medical evaluation. This includes either a) a face-to-face discussion with the health care professional, or b) a medical examination by the health care professional.
- e. Staff who pass the medical evaluation (either the questionnaire or a follow-up medical evaluation) will then be facially fit-tested for use of the SCBA.
- f. Medical Factors and Conditions
 - i. The medical evaluation is designed to identify general medical conditions that place staff who use SCBAs at risk of serious medical consequences.
 - ii. Medical conditions known to compromise a staff person's ability to tolerate the stress of the SCBA include cardiovascular and respiratory diseases, reduced pulmonary function, neurological and musculoskeletal disorders, impaired sensory function, and psychological disorders.
 - iii. Staff who do not pass the medical examination, and who have a medical condition which the medical provider indicates may improve with treatment or other interventions, will be retested within 120 days following the above protocol. During this period the individual will not use the SCBA. To accommodate any medical limitations, the Department may change the staff person's shift and/or post assignment to ensure proper coverage of the facility.
 - iv. The Department reserves the right to require further medical review if in its opinion circumstances warrant such review.
 - v. Any staff person who does not pass the second medical review would have all of the legal and contractual remedies due staff who can no longer medically perform the essential functions of their job.

NOTE: Confidentiality of Staff Medical Records - At no point will any staff person's medical records, including the medical questionnaire, be viewed by anyone other than the health care professional under contract by the Department for such purposes, unless released by the individual.

3. Administration of the Program

- a. Program Administrator

The Superintendent of each correctional facility will designate a Respiratory Protection Program Administrator, a qualified, appropriately-trained and experienced staff member who is familiar with the Self-Contained Breathing Apparatus. This individual will administer the *Respiratory Protection Program* and its use and maintenance. They will also conduct regular evaluations of the program's effectiveness (numbers of staff tested, number who passed, etc.).
- b. Elements of Program Administration
 - i. Medical evaluation of staff required to use the SCBA. (See *Section 2.*)
 - ii. Fit-testing procedures for tight fit of masks.

This will be conducted in accordance with the manufacturer's specifications and in accordance with instructions in the fit testing kit.

iii. Use of the SCBA in emergency situations.

Staff need to be aware and trained that the SCBA air bottles are considered "30 minute" bottles. The amount of time each staff person will have before finishing the air in the SCBA will vary. Factors that affect the amount of time that a person can breathe include, but are not limited to,

- their physical condition
- their respiratory fitness, and
- their ability to control their breathing.

iv. Ensuring that staff follow the manufacturer's procedures and schedules to clean, disinfect, store, inspect, repair, and maintain the SCBA.

v. Training staff in the proper use of the SCBA, to include putting it on and taking it off.

vi. Conducting regular evaluations of the effectiveness of the program.

vii. Ensuring that the SCBA bottles are in a constant state of readiness. This means that the bottles are inspected and tested annually by a certified technician and refilled after use, whether for training or an actual event.

viii. Record Keeping.

4. Fit Testing

a. Purpose - SCBA masks must fit properly to provide protection. Without a proper facial seal, protection is not guaranteed. Fit-testing ensures proper fit.

i. Facilities will offer various sizes and models of mask to accommodate various face size characteristics of their staff.

ii. Fit testing also provides an opportunity to check on problems with wear on the respirator and provides a training opportunity for instructors and staff alike.

b. Standard

i. Standards require that a tight fitting seal be attained before a staff person is fit-tested or starts to wear an SCBA in the workplace. The Department will not permit respirators with tight-fitting face pieces to be worn by staff who have any condition that interferes with the face-to-face piece seal or valve function, including facial hair.

ii. Staff must achieve this same standard once (1 x) each year after the initial fit testing.

c. Fit Testing Protocol

i. Before the actual fit test, a staff person must be shown how to put on an SCBA. Once the SCBA is on, the fit test may proceed.

ii. Before the fit test, each staff person must be given a description of the fit test and the exercises that they will be performing during the fit test.

iii. Fit testing may be either *qualitative* or *quantitative* (see below) and must be administered using an OSHA-accepted protocol.

iv. The SCBA must be worn for five (5) minutes before the start of the fit test.

v. The SCBA must be the same make and model as that used in the workplace.

d. Qualitative Testing (QLFT)

- i. This fit testing consists of emitting a gas, vapor, or aerosol test agent around the head of the staff person being tested. The tester then determines whether or not the wearer can detect the presence of the test agent. If the presence of the test agent is detected, then the fit is considered to be inadequate. There are four (4) QLFT test agents: Isoamyl Acetate, Saccharin, Bitrex TM, and Stannic Chloride.
- ii. Staff will be pre-tested for sensitivity to the testing agent.
- iii. Separate rooms will be used for the sensitivity and fit testing procedures, and both will be well ventilated.

e. Quantitative Testing (QNFT)

- i. If a staff member is unable to secure a tight fit through the QLFT method, they may use QNFT testing.
- ii. This test numerically measures the amount of leakage into the respirator. This testing can be done by 1) generating a test aerosol as the test atmosphere, 2) using ambient aerosol as the test agent, or 3) using controlled negative pressure (CNP) to measure the volumetric leak rate.
- iii. Appropriate instrumentation is needed to quantify respirator fit, which is done by a trained, contracted vendor.

f. Retesting

Staff may be required to retest if there is any reported or observed change in their physical condition that could affect respirator fit; e.g., facial bone changes due to injury or medical procedure, dental work that may impact the seal, cosmetic surgery, obvious change in body weight.

5. Maintenance and Care of the SCBA

a. Requirements

- i. OSHA standards require that employers provide staff with clean respirators that are sanitary and in good working order.
- ii. Each Program Administrator will ensure:
 - Proper cleaning and disinfecting
 - Proper storage
 - Regular inspection
 - Proper repair methods.

b. Cleaning and Disinfecting

- i. Regular cleaning ensures a proper fit of all equipment, particularly the face mask.
- ii. Sanitized equipment gives the staff member confidence in its usefulness and effectiveness.
- iii. Staff will clean SCBA equipment in accordance with the manufacturer's specifications.

c. Storage

- i. Respirators must be stored so that they are protected from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.
- ii. Storage must ensure that ample space is provided so that components do not get deformed or misshapen.
- iii. Storage must also ensure that the equipment is immediately accessible to the work area and clearly marked as SCBAs.

d. Inspection

- i. Emergency equipment must be inspected on a monthly basis and after each use.
- ii. Inspection must consist of the overall function of the respirator; tightness of connections; and condition of the face piece, head straps, valves, connecting tubes, cartridges, canisters, and filters.
- iii. SCBAs must have air and oxygen cylinders in a fully charged state and must be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.
- iv. The regulator and warning devices must be inspected to ensure that they function properly.
- v. OSHA standards require that the SCBA inspection be documented by date, the name of the inspector and their signature, the findings of the inspection, any recommended remedial action, and the serial number or ID number of the respirator.
- vi. These records must be maintained in the storage compartment or in monthly inspection reports that may be either written or electronic.

e. Repair

- i. Respirators that fail to pass inspection must be removed from service and discarded, repaired, or adjusted.
- ii. Repairs and adjustments must be done by trained personnel, using only parts that are NIOSH and/or NFPS-approved by the manufacturer. These repairs will be conducted by the manufacturer or a technician trained by the manufacturer.

6. Record Keeping

- a. OSHA requires an employer to establish and retain written information regarding medical evaluations, fit testing, and other aspects of the *Respiratory Protection Program*.
- b. Files that contain any medical information are confidential. Records concerning fit testing and training will be maintained as are other training records.

TRAINING

1. New Hires

Prior to assuming a duty assignment, all newly hired uniformed staff who participate in the Vermont Correctional Academy will successfully demonstrate competency in this area as defined by this directive, as a prerequisite to graduating from the Academy.

2. Ongoing Staff Testing

All uniformed staff will be tested annually according to the provisions of this directive, to include medical evaluation, fit testing, and appropriate use and maintenance of the SCBA. Successful completion of training on this core competency, according to a curriculum developed by the Department, is required for staff to work any post in a correctional facility. Any individual who fails to complete the requirements for this core competency will be reviewed on an individual basis.

Fire Safety Instructors will be trained to deliver SCBA training for the Academy and their local work site. Performance objectives and standards for this training will be based on this directive and OSHA's respirator standard, 29 CFR 1910.134.

QUALITY ASSURANCE

Quality assurance will be maintained through a review of annual training records. Additionally, the Director of Security Operations and Audits will, through the use of established auditing procedures, monitor compliance with this directive.

ATTACHMENT 1 – SAMPLE

RESPIRATORY RELEASE PROTECTION MEDICAL FORM

(From OSHA 29 CFR Part 1910.134)

For SCBA use only. CERT/LERT Team members must also complete Section 3.

The following information in both Sections 1 and 2 must be provided by every staff person who has been selected to use any type of respirator. This is a 5-page questionnaire. You must answer all questions.

You may complete this questionnaire during normal working hours or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

SECTION 1. Mandatory (Please print.)

1. Today's date: _____
2. Your name: _____
3. Your mailing address: _____
4. Your date of birth: _____
5. Your age: _____
6. Sex (*circle one*): Male/ Female
7. Social Security #: _____ / _____ / _____
8. Your height: _____ ft. _____ in.
9. Your weight: _____ lbs.
10. Your job title: _____
11. A phone number where you can be reached by the health care professional who reviews this questionnaire: _____
12. The best time to phone you at this number:

13. Has your employer told you how to contact the health care professional who will review this questionnaire? (*circle one*): Yes/ No
14. Have you ever worn a respirator? (*circle one*): Yes/ No
If "yes" what type(s): _____

NOTE:

- The type of respirator you will use is *Self-Contained Breathing Apparatus (SCBA)*.
- You will *not* be using HEPA filters, canisters, or cartridges with your respirator.
- You are expected to use the respirator for Escape or Emergency Rescue only.
- You will *not* be wearing protective clothing and/or equipment (other than the respirator) when you are using your respirator.
- When using the respirator your work effort will be heavy (above 350 kcal per hour) for up to 30 minutes.
- During most incidents, and seasonally, you will be working under hot and/or humid conditions.
- The toxic substances to which you may be exposed are unknown.
- In your present job you will not work at high altitudes above 5,000 feet.

SECTION 2. Mandatory - (Please circle Yes or No.)

1. Do you currently smoke tobacco or have you smoked tobacco in the last month?
Yes/ No
2. Have you ever had any of the following conditions?
 - a. Seizures (fits): Yes/ No
 - b. Diabetes (blood sugar): Yes/ No
 - c. Allergic reactions that interfere with your breathing: Yes/ No
 - d. Claustrophobia (fear of closed places): Yes/ No
 - e. Trouble smelling odors: Yes/ No
3. Have you ever had any of the following pulmonary or lung problems?
 - a. Asbestosis: Yes/ No
 - b. Asthma: Yes/ No
 - c. Chronic bronchitis: Yes/ No
 - d. Emphysema: Yes/ No
 - e. Pneumonia: Yes/ No
 - f. Tuberculosis: Yes/ No
 - g. Silicosis: Yes/ No
 - h. Pneumothorax (collapsed lung): Yes/ No
 - i. Lung cancer: Yes/ No
 - j. Broken ribs: Yes/ No
 - k. Any chest injuries or surgeries: Yes/ No
 - l. Any other lung problems that you've been told about: Yes/ No
4. Do you currently have any of the following pulmonary or lung illnesses?
 - a. Shortness of breath: Yes/ No
 - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/ No

- c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/ No
 - d. Have to stop when walking at your own pace while on level ground: Yes/ No
 - e. Shortness of breath when washing or dressing yourself: Yes/ No
 - f. Shortness of breath that interferes with your job: Yes/ No
 - g. Coughing that produces phlegm (thick sputum): Yes/ No
 - h. Coughing that wakes you up early in the morning: Yes/ No
 - i. Coughing that occurs mostly when you are lying down: Yes/ No
 - j. Coughing up blood in the last month: Yes/ No
 - k. Wheezing: Yes/ No
 - l. Wheezing that interferes with your job: Yes/ No
 - m. Chest pain when you breathe deeply: Yes/ No
 - n. Any other symptoms that you think may be related to lung problems: Yes/ No
- List: _____
5. Have you ever had any of the following cardiovascular or heart problems?
- a. Heart attack: Yes/ No
 - b. Stroke: Yes/ No
 - c. Angina: Yes/ No
 - d. Heart failure: Yes/ No
 - e. Swelling in your legs or feet (*not* caused by walking): Yes/ No
 - f. Heart arrhythmia (heart beating irregularly): Yes/ No
 - g. High blood pressure: Yes/ No
 - h. Any other heart problem that you've been told about? Yes/ No
6. Have you ever had any of the following cardiovascular or heart symptoms?
- a. Frequent pain or tightness in your chest: Yes/ No
 - b. Pain or tightness in your chest during physical activity: Yes/ No
 - c. Pain or tightness in your chest that interferes with your job: Yes/ No
 - d. In the past two (2) years have you noticed your heart skipping or missing a beat: Yes/ No
 - e. Heartburn or indigestion that is *not* related to heart or circulation problems: Yes/ No
 - f. Any other symptoms that you think may be related to heart or circulation problems: Yes/ No
7. Do you currently take medications for any of the following problems?
- a. Breathing or lung problems: Yes/ No
 - b. Heart trouble: Yes/ No
 - c. Blood pressure: Yes/ No
 - d. Seizures: Yes/ No
8. If you've used a respirator, have you ever had any of the following problems? (*If you've never used a respirator, check a. and go on to question number 9.*)
- a. Never used a respirator: _____
 - b. Eye irritation: Yes/ No
 - c. Skin allergies or rashes: Yes/ No
 - d. Anxiety: Yes/ No
 - e. General weakness or fatigue: Yes/ No
 - f. Any other problem that interferes with your use of a respirator: Yes/ No
9. Have you ever lost vision in either eye (temporarily or permanently)? Yes/ No
10. Do you currently have any of the following vision problems?

- a. Wear contact lenses: Yes/ No
 - b. Wear glasses: Yes/ No
 - c. Color blind: Yes/ No
 - d. Any other eye or vision problems: Yes/ No
11. Have you ever had any injuries to your ears, including a broken eardrum? Yes/ No
12. Do you currently have any of the following hearing problems?
- a. Difficulty hearing: Yes/ No
 - b. Wear a hearing aid: Yes/ No
 - c. Any other hearing or ear problems: Yes/ No
13. Have you ever had a back injury? Yes/ No
14. Do you currently have any of the following musculoskeletal problems?
- a. Weakness in any of your arms, hands, legs, or feet: Yes/ No
 - b. Back pain: Yes/ No
 - c. Difficulty in moving your arms or legs: Yes/ No
 - d. Pain or stiffness when you lean forward or backward at the waist: Yes/ No
 - e. Difficulty moving your head up or down: Yes/ No
 - f. Difficulty moving your head side to side: Yes/ No
 - g. Difficulty bending at your knees: Yes/ No
 - h. Difficulty squatting to the ground: Yes/ No
 - i. Difficulty climbing a flight of stairs or ladder carrying more than 25 pounds: Yes/ No
 - j. Any other muscle or skeletal problem that interferes with you using a respirator: Yes/ No

List: _____

15. At home or at work, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals? Yes/ No If yes, list these chemicals: _____
16. Have you ever worked with any of the materials or the conditions listed below?
- a. Asbestos: Yes/ No
 - b. Silica (e.g., sandblasting): Yes/ No
 - c. Tungsten/ Cobalt (e.g., grinding or welding this material): Yes/ No
 - d. Beryllium: Yes/ No
 - e. Aluminum: Yes/ No
 - f. Coal (e.g., mining): Yes/ No
 - g. Iron: Yes/ No
 - h. Tin: Yes/ No
 - i. Dusty environments: Yes/ No
 - j. Any other hazardous exposures: Yes/ No
 - k. If "yes", describe these exposures:

17. List any second jobs or side businesses you have:

18. List your previous occupations:

19. List your current and previous hobbies:

20. Have you been in the military services? Yes/ No.

If "yes", were you exposed to chemical or biological agents? Yes/ No

21. Have you ever worked on a Hazmat Team? Yes/ No

22. Other than medications for breathing or lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason, including over-the-counter medications? Yes/ No

If yes, list the medications:

23. Describe any special or hazardous conditions you might encounter when you are using your respirator; for example, confined spaces, life-threatening gases.

24. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire? Yes/ No

SECTION 3. CERT/LERT Team members only.

In addition to the conditions you might encounter while using SCBA (see Section 2, question 23), are there other special or hazardous conditions that you may be exposed to? (Please circle.) Yes/ No

If yes, please list these:

Note- These additional factors apply only when engaged in tactical operations or training.

- The type of respirator you will be using is a canister filtering gas mask.
- You are expected to wear a canister filtering gas mask for the duration of the tactical operation, ordinarily up to 2 hours, under heavy work effort conditions.
- You will be wearing protective clothing and equipment designed for responding to disturbances.