Alameda County Fire Department

SAMPLE

Respiratory Protection Program

It is the policy of Alameda County Fire Department to provide safety personnel with self contained breathing apparatus (SCBA) for their use in fighting fires and whenever deemed necessary for protection from Immediately Dangerous to Life and Health (IDLH) atmospheres. (reference O.A.G. 38.001)

Alameda County Fire Department has the responsibility for the establishment and maintenance of a respiratory protection program. The Fire Department's program includes the following sections:

1. Procedures for selecting respirators for use in the workplace;
2. Medical evaluations of employees required to use respirators;
3. Fit testing procedures for tight-fitting respirators;
4. Procedures for proper use of respirators in emergency situations;
5. Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;
6. Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;
7. Training of and education of employees;
8. Procedures for regularly evaluating the effectiveness of the program;
9. Record keeping requirements.

Battalion Chief Vince Davis is the program administrator to oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

1. Procedure for selection of respirators.

General requirements.

- All SCBAs are to be NIOSH-certified respirators. They will be used in compliance with the conditions of certification.

- SCBAs are to be selected so that the respirator is acceptable to, and correctly fits, the user. The following respirator types are to be selected for employee use in IDLH atmospheres that contain combustion by-products such as carbon monoxide, carbon dioxide, sulfur dioxide and hydrogen cyanide found in smoke:
    - A full face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
    - A combination full-face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- A NIOSH approved particulate respirator should be used when an employee may be exposed to body fluids likely to contain TB bacteria that could be aerosolized in particulates 10mm or smaller. The NIOSH-certified respirator shall be used in compliance with the conditions of its certification.

2. Medical evaluation

Using a respirator may place a physiological burden on employees that varies with the conditions in which the respirator is used and the medical status of the employee. Accordingly, this section specifies the minimum requirements for medical evaluation that must be implemented to determine the employee's ability to use a respirator.

A. General. Each employee's ability to use a respirator will be evaluated before the employee is fit tested or required to use the respirator. Each employee will be evaluated by a physician or other licensed health care professional (PLHCP). The medical evaluation shall obtain the information requested by the Respirator Questionnaire.(See appendix)

B. Follow-up medical examination. The Fire Department shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any of the questions among questions 1 through 8 on the ACFD Health Questionnaire. The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

C. Administration of the medical questionnaire and examinations. The medical questionnaire and examinations

shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. Each employee will be provided with an opportunity to discuss the questionnaire and examination results with the PLHCP.

D. Supplemental information for the PLHCP. The following information must be provided to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:
   i. The type and weight of the respirator to be used by the employee;
   ii. The duration and frequency of respirator use (including use for rescue and escape);
   iii. The expected physical work effort;
   iv. Additional protective clothing and equipment to be worn; and
   v. Temperature and humidity extremes that may be encountered.

Each PLHCP is to be provided with a copy of the written respiratory protection program and a copy of this section.

E. Medical determination. In determining the employee's ability to use a respirator, the Fire Department shall obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation shall provide only the following information:
   i. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
   ii. The need, if any, for follow-up medical evaluations; and
   iii. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

F. Additional medical evaluations. At a minimum, the Fire Department shall provide additional medical evaluations that comply with the requirements of this section if:
   i. An employee reports medical signs or symptoms that are related to ability to use a respirator;

ii. A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
iii. Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
iv. A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

3. **Fit testing.** Before any employee uses an SCBA, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. The test will be conducted before initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter. Additional fit testing will also be conducted whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit.
   A. The fit test shall be administered according to the OSHA-accepted qualitative fit testing(QLFT)or quantitative (QNFT) protocol.(See Appendix)
   B. Fit testing shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode.
   C. Fit testing of tight-fitting atmosphere-supplying respirators shall be accomplished by performing the OSHA-accepted qualitative fit testing(QLFT)or quantitative (QNFT) protocol.

4. **Use of respirators.** This subsection includes requirements for the prohibition of conditions that may result in facepiece seal leakage, for continuous wearing of respirators in hazardous environments, and procedures for the use of respirators in IDLH atmospheres or in interior structural firefighting situations.
   A. Facepiece seal protection.
      i. Employees with facial hair that comes between the sealing surface of the facepiece and the face or

that interferes with valve function will not be permitted to wear SCBAs.

ii. Any employee who wears corrective glasses will be provided with corrective lenses which mount inside the facepiece without earpiece templates. No eyeglasses will be permitted which have templates that could break the facepiece seal.

iii. For all tight-fitting respirators, employees will be required to perform a user seal check each time they put on the respirator.

B. Continuing respirator effectiveness. Employees are to leave the respirator use area whenever they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or when the compressed air supply is low.

C. Procedures for interior structural firefighting.

i. At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;

ii. At least two employees are located outside the IDLH atmosphere; and

iii. All employees engaged in an IDLH atmosphere while interior structural firefighting use SCBAs.

Note: One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident. Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

5. **Maintenance and care of respirators**. The Fire Department will provide for the cleaning and disinfecting, storage, inspection, and repair of respirators which are used.

A. Cleaning and disinfecting. Each respirator shall be maintained in a condition that is clean, sanitary, and in good working order. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

B. Storage. All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals,

and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

C. Inspection.

i. All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use. Respirator inspections should include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and
- A check of elastomeric parts for pliability and signs of deterioration.
- Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly.

ii. Each respirator is to be certified by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator. This information should be provided on a tag or label that is attached to the storage compartment for the respirator and kept with the respirator, or included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

D. Repairs. Respirators that fail an inspection or are otherwise found to be defective are removed from service. The defectives are discarded or repaired or adjusted in accordance with the following procedures:

i. Repairs or adjustments to respirators are made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

ii. Repairs are made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
iii. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

6. **Breathing air quality and use.** Breathing gases used in SCBAs will meet standards of high purity. Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
   - Oxygen content (v/v) of 19.5-23.5%;
   - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
   - Carbon monoxide (CO) content of 10 ppm or less;
   - Carbon dioxide content of 1,000 ppm or less; and
   - Lack of noticeable odor.

The Fire Department shall ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.

A. Cylinder integrity. Cylinders used to supply breathing air to respirators are to meet the following requirements:
   i. Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178);
   ii. Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and
   iii. The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

B. Compressors. Compressors used to supply breathing air to respirators are constructed and situated so as to:
   i. Prevent entry of contaminated air into the air-supply system.
   ii. Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.

iii. Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.
iv. For compressors that are not oil-lubricated, limit carbon monoxide levels in the breathing air do not exceed 10 ppm.
v. For oil-lubricated compressors, provide a high-temperature or carbon monoxide alarm, or both, monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
vi. Provide breathing air couplings incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.
vii. Use breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

C. Identification of filters, cartridges, and canisters. All filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

7. **Training and information**. Training for employees is comprehensive, understandable, and renewed annually, and more often if necessary. It includes the basic information on respirators in Appendix D. Each employee can demonstrate knowledge of at least the following:
   A. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
   B. What the limitations and capabilities of the respirator are;
   C. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
   D. How to inspect, put on and remove, use, and check the seals of the respirator;
   E. What the procedures are for maintenance and storage of the respirator; and

F. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

Retraining shall be administered annually, and when the following situations occur:

A. Changes in the workplace or the type of respirator render previous training obsolete;
B. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
C. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

8. **Program evaluation.** Evaluations of the workplace are conducted to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly.
   A. Evaluations of the workplace are conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.
   B. Employees required to use respirators are surveyed to assess the employees' views on program effectiveness and to identify any areas in which the program is incomplete. Any such concerns that are identified during this assessment shall be addressed. Factors to be assessed include, but are not limited to:
      - Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
      - Appropriate respirator selection for the hazards to which the employee is exposed;
      - Proper respirator use under the workplace conditions the employee encounters; and
      - Proper respirator maintenance.

9. **Recordkeeping.** Records are organized according to the following:
   A. Medical evaluation. Records of medical evaluations required by this section must be retained and made available in accordance with section 3204 of the State of California Administrative Code, Title 8.

B. Fit testing. This includes:
   i. The name or identification of the employee tested;
   ii. Type of fit test performed;
   iii. Specific make, model, style, and size of respirator tested;
   iv. Date of test; and
   v. The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.