DRAFT
Respiratory Protection Program

1.0 Introduction

1.1 University of Colorado Facilities Management, has developed this Respiratory Protection Program. In this document, 29 CFR 1910.134 is referred to as the *respiratory protection standard*.

2.0 Scope

2.1 This program applies to staff employed by Facilities Management, who are required to wear respiratory protection. This written Respiratory Protection Program includes policies and procedures for the following functions:

2.1.1 Procedures for selecting respirators for use in the workplace.

2.1.2 Medical evaluations of employees who are required to use respirators.

2.1.3 Fit testing procedures for tight-fitting respirators.

2.1.4 Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.

2.1.5 Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding and maintaining respirators.

2.1.6 Procedures to ensure adequate air quality, quantity and flow of breathing air for atmosphere-supplying respirators.

2.1.7 Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations.

2.1.8 Training of employees in the proper use of respirators, including donning (putting on) and doffing (removing) them, any limitations to their use and their maintenance.

2.1.9 Procedures for regularly evaluating the effectiveness of the Respiratory Protection Program.

3.0 Responsibilities

3.1 University of Colorado Environmental Health & Safety

3.1.1 University of Colorado Environmental Health and Safety (CU EHS), upon the request of Facilities Management; will fit test those employees required to wear respirators while performing specific tasks as part of their work duties as a result of hazardous air contaminants.

3.1.2 CU EHS will consult Facilities Management to prevent atmospheric contamination through the use of accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be selected and placed into service for affected workers.

3.2 Facilities Management Safety Officer

3.2.1 Facilities Management Safety Officer will oversee the Respiratory Protection Program implementation.

3.2.2 The Facilities Safety Officer will require shop supervisors, managers or directors of those employees required to use respirators to ensure compliance.

3.3 Facilities Management Shops:

3.3.1 Work centers with employees required to wear respirators must provide the applicable and suitable equipment (i.e., respirators, cleaning supplies, spare parts, etc.) for the purpose intended. The provision of respirators for voluntary use (no documentation need) by employees will be at the discretion of CU EHS, Facilities Safety Officer and the employees' shop.

3.3.2 Shops with employees using respirators must have personnel responsible for the following:

3.3.2.1 Implementing and overseeing the Respiratory Protection Program within the workplace.

3.3.2.2 Supervising those required to wear respiratory protective equipment.

3.3.2.3 Ensure the proper use of respirators.

3.3.2.4 Assist CU EHS in coordinating fit testing

3.3.2.5 Be available for consultation by employees, as needed.

3.4 Respirator Users

3.4.1 Employees who use respiratory protective equipment (mandatory use and voluntary use) are required to comply with the policies and procedures found in this document.

4.0 Definitions**:** The following definitions are important terms used in the respiratory protection standard and in The Facility Management Respiratory Protection Program

4.1 *Air-purifying respirator*: A respirator with an air purifying filter, cartridge or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

4.2 *Atmosphere-supplying respirator*: A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere including supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.

4.3 *Canister or cartridge*: A container with a filter, sorbent, or catalyst or combination of these items, which removes specific contaminants from the air, passed through the container.

4.4 *Demand respirator*: An atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

4.5 *Emergency situation*: Any occurrences such as, but not limited to, equipment failure, rupture of containers or failure of control equipment resulting in an uncontrolled significant release of an airborne contaminant.

4.6 *Employee exposure*: Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

4.7 *End-of-service-life indicator (ESLI)*: A system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

4.8 *Escape-only respirator*: A respirator intended to be used only for emergency exit.

4.9 *Filter or air purifying element*: A component used in respirators to remove solid or liquid aerosols from the inspired air.

4.10 *Filtering face piece (dust mask)*: A negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium.

4.11 *Fit factor*: A quantitative estimate of the fit of a particular respirator to a specific individual and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

4.12 *Fit test*: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

4.13 *Helmet:* A rigid respiratory inlet covering that also provides head protection against impact and penetration.

4.14 *High efficiency particulate air (HEPA) filter*: A filter that is at least 99.97% efficient in removing mono- disperse particles of 0.3 micrometers, and larger, in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

4.15 *Hood*: A respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

4.16 *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.

4.17 *Loose-fitting face piece*: A respiratory inlet covering that is designed to form a partial seal with the face.

4.18 *Negative pressure respirator (tight fitting)*: A respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

4.19 *NIOSH*: The National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services. This organization tests and certifies respirators and filter media for use in the workplace.

4.20 *Oxygen deficient atmosphere*: An atmosphere with oxygen content below 19.5% by volume.

4.21 *Physician or other licensed health care professional (PLHCP)*: An individual whose legally permitted scope of practice (i.e., license, registration or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by the respiratory protection standard.

4.22 *Positive pressure respirator*: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

4.23 *Powered air-purifying respirator (PAPR)*: An air-purifying respirator that uses a blower to force ambient air through air-purifying elements to the inlet covering

4.24 *Pressure demand respirator:* A positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

4.25 *Qualitative fit test (QLFT)*: A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to a test agent.

4.26 *Quantitative fit test (QNFT)*: An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

4.27 *Respiratory inlet covering*: The portion of a respirator that forms the protective barrier between the user's respiratory

tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

4.28 *Respiratory protection standard*: Title 29 US Code of Federal Regulations Section 1910.134.

4.29 *Self-contained breathing apparatus (SCBA)*: An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

4.30 *Service life*: The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

4.31 *Supplied-air respirator (SAR) or airline respirator*: An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

4.32 *Tight-fitting face piece*: A respiratory inlet covering that forms a complete seal with the face.

4.33 *User seal check*: An action conducted by the respirator user to determine if the respirator is properly seated to the face.

5.0 Voluntary Respirator Use

5.1 When respiratory protection is not mandated by the need to protect the health of the employee as determined by job site evaluation, provisions may be made for the voluntary or elective use of respirators. Facilities Management shops may provide respirators at the request of employees or permit employees to use their own respirators, if such respirator use will not in itself create a hazard. The decision to use non-mandatory respiratory protection will be made by the employing organization in consultation with Facilities Safety Officer.

5.2 Non-mandatory use of respirators does not carry the same program requirements as mandatory use. The program to be followed for non-mandatory respirators will be designed on a case-by-case basis for each job site and task. At the minimum, if elective respirator use is permissible, the respirator users will be provided with the information contained in Appendix D of the OSHA respiratory protection standard titled “Information for Employees Using Respirators When Not Required under the Standard” as follows.

5.2.1 Voluntary use of a filtering facepiece (i.e. dust mask) does not require medical clearance prior to use.

5.2.2 Voluntary use of a tight-fitting respirator (i.e. full-face or half-face air purifying; or supplied air respirators) does require medical clearance prior to use (see Section 7.0).

5.2.3 The plan administrator will establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is able to use that respirator.

5.2.4 The respirator must be cleaned, stored and maintained so its use does not present a health hazard to the user. If elective use of respirators involves only the use of filtering face pieces (dust masks), this use is not required to be included in the written respiratory protection program. Provisions for the elective use of filtering face pieces will be made on a case-by-case basis.

Appendix D to Sec. 1910.134 (Non-Mandatory) Information for Employees Using Respirators when not required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

6.0 Selection of Respiratory Protective Equipment

6.1 When respirator use is required, respirators, training and medical evaluations must be provided at no cost to the employee. The employing organization is responsible for purchasing respiratory protective equipment. Training will be arranged through consultation with CU EHS and will be conducted by CU EHS staff or other appropriate group. Facilities Management Employee Health Services contractor shall conduct medical evaluations. Other arrangements can be made as necessary.

6.2 All respirators used by employees of Facilities Management must be NIOSH-certified models. All use of selected respirators must be in compliance with the conditions of their NIOSH certification.

6.3 Prior to the selection and use of respirators, CU EHS and Facilities Safety Officer will identify and evaluate the respiratory hazard(s) in each work site for each job. Where the employee exposure cannot be identified or reasonably estimated, CU EHS will consider the atmosphere to be IDLH.

6.4 References such as product labels, safety data sheets (SDS), reference texts and communication with product manufacturers will be used to determine the chemical and physical form of air contaminants. Monitoring equipment and/or personal dose exposure cassettes/badges will be used to quantify the level of employee exposure to air contaminants, where feasible. Where monitoring is not feasible, reference to accepted, published research and consensus standards will be used to estimate exposures. Contaminant identity and exposure levels will be compared to OSHA exposure limits and/or accepted consensus standards to determine the degree of respiratory protection required for each task.

6.5 In addition to employee exposures, workplace and user factors affecting respirator performance and reliability will be considered. Such workplace and user factors include:

6.6 Other personal protective equipment necessary for the job task that may affect the fit of the respirator or the stress experienced by the user.

6.6.1 The duration and frequency of respirator use and whether it is routine, periodic or emergency use.

6.6.2 Worksite factors such as temperature, humidity and expected physical work effort.

6.6.3 Any physical limitations of the employee or their tolerance to job site stressors that may limit the use of a respirator. These will be assessed during the Medical Evaluation.

6.7 The selection of respirators will be made from a sufficient number of respirator models and sizes so the respirator is acceptable to and correctly fits the user.

6.8 The respirators selected for non-IDLH work sites shall be adequate to protect the health of the employee and ensure compliance with OSHA regulatory requirements under routine and reasonably foreseeable emergency situations. Respirators selected shall be appropriate for the chemical state and physical form of the contaminant(s) present.

6.9 For protection against gases and vapors, the respirator selected shall be:

6.9.1 An atmosphere-supplying respirator; or

6.9.2 An air-purifying respirator, provided that:

6.9.2.1 The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or

6.9.2.2 If there is no ESLI appropriate for the work site conditions, a change-out schedule to be implemented for canisters and cartridges based on objective information or data that will ensure canisters and cartridges are changed before the end of their service life. This information shall be documented in a shop-specific hazard communication program such as a Job Hazard Assessment (JHA).

6.10 For protection against particulates, the respirator selected shall be:

6.10.1 A filtering facepiece (dust mask) with a filter rating of at least 95% to 99.97% rating, in removing monodisperse particles of 0.3 micrometers and larger in diameter, with a P (oil Proof), N (Not resistant to oil) or R (Resistant to oil) prefix depending upon application; or,

6.10.2 An atmosphere-supplying respirator; or,

6.10.3 An air-purifying respirator equipped with a filter certified by NIOSH as a high efficiency particulate air (HEPA) filter, or,

6.10.4 An air-purifying respirator equipped with a filter certified for particulates by NIOSH; or,

6.10.5 For contaminants consisting primarily of particles with diameters of at least 2 micrometers and larger, an air-purifying respirator equipped with a filter certified for particulates by NIOSH.

6.10.5.5 A respiratory hazard evaluation shall be completed for each work site and task prior to a final respirator selection. This evaluation will document the workplace conditions, airborne contaminants, physical factors and other protective equipment needed for the job site. This form will serve as a guide for the evaluator to ensure all necessary elements are considered in the selection of respirators.

7.0 Medical Evaluation

7.1 Due to the nature of respirator use placing a potential physiological burden on the user, a medical evaluation is required for all respiratory protection users to determine their fitness for respirator use. The shop hiring an employee (that is required to wear a respirator due to an occupational exposure) is required to arrange a medical

evaluation through Facilities Management Employee Health Services contractor.

7.2 Facilities Management Employee Health Services contractor will provide a medical evaluation to determine an employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. Facilities Management will discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

7.3 Facilities Management Employee Health Services contractor will perform medical evaluations using a medical questionnaire and/or an initial medical examination that obtains the information required by OSHA's medical questionnaire as follows. This service will be provided at no cost to the employee.

7.3.1 Information provided on the medical questionnaire shall remain confidential. The medical questionnaire will be administered in a manner to ensure the employee understands its content.

7.4 Medical Determination

7.4.1 When Facilities Management Employee Health Services contractor clears an employee to use a respirator the employee's ability to use the prescribed respirator will be documented. The recommendation will provide the following information

7.4.1.1 Limitations, if applicable, on respirator use related to a 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;

7.4.1.2 The need, if any, for follow-up medical evaluations; and,

7.4.1.3 A statement that the employee has been provided a copy of the Medical Clearance Form.

7.4.2 If the assigned respirator is a negative pressure respirator and the medical evaluation reveals a medical condition that may place the employee's health at increased risk if the respirator is used, Facilities Management may provide a powered air-purifying respirator (PAPR), provided the medical evaluation finds the employee can use such a respirator. If a subsequent medical evaluation determines the employee is medically able to use a negative pressure respirator, then the PAPR can be replaced with a negative pressure respirator.

8.0 Respirator Fit Testing:

8.1 Fit testing of respirators will be conducted for all tight fitting face piece types. Facilities Management will ensure fit testing for employees required to use any respirator with a negative or positive pressure tight- fitting face piece. The employee will be fit tested with the same make, model, style and size of respirator that will be used. This section specifies the fit testing procedures and interpretation of results.

8.2 CU EHS will ensure that employees using a tight-fitting face piece respirator pass an appropriate quantitative fit test (QNFT) as outlined in this section.

8.3 The respirator user shall be fit tested prior to initial use of the respirator, and at least annually thereafter.

8.3.1 CU EHS shall contact respirator users for initial and annual fit test scheduling.

8.4 Respirator users shall receive training prior to, and during fit testing. Upon completion of a fit test, users shall receive written certification of successful fit test.

8.5 Additional testing:

8.5.1 Facilities Management should request additional fit testing whenever the employee's supervisor or Facilities

Safety Officer visual observations of changes in the employee's physical condition, which could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, and medical procedures affecting lung capacity or an obvious change in body weight.

8.5.2 If after passing fit test, the employee subsequently notifies CU EHS, Facilities Safety Officer, or their supervisor the fit of the respirator is unacceptable; the employee will be given a reasonable opportunity to select a different respirator and be re-tested.

9.0 Respirator Use

9.1 Face Seal Protection: respirators with tight fitting face pieces shall not be worn by employees having:

9.1.1 Facial hair between the sealing surface of the face piece and the face or that interferes with valve function; or,

9.1.2 Any condition that interferes with the face-to-face piece seal or valve function.

9.2 Employees who wear corrective glasses or goggles or other personal protective equipment, shall wear such equipment in a manner that does not interfere with the seal of the facepiece.

9.2.1 If necessary, corrective lenses shall be incorporated into the respirator with an approved spectacle kit, specific to the chosen respirator.

9.3 For tight-fitting respirators, users shall perform a user seal check each time they put on the respirator using the procedures in OSHA's Appendix B-1 or other appropriate procedures recommended by the respirator manufacturer that are as effective as those in Appendix B-1.

Appendix B-1 to Sec. 1910.134: User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix or the respirator manufacturers recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

Positive pressure check: Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators, this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

Negative pressure check: Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

Manufacturer's Recommended User Seal Check Procedures: **The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided the employer demonstrates the manufacturer's procedures are equally effective.**

9.4 Continuing Respirator Effectiveness

9.4.1 Supervisors are responsible for respirator user oversight and monitoring. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the respirator shall

be reevaluated for effectiveness.

9.4.2 Employees shall leave the respirator use area whenever it is necessary to perform the following operations:

9.4.2.1 To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use;

9.4.2.2 If they detect vapor or gas breakthrough, changes in breathing resistance or leakage of the face piece; or,

9.4.2.3 To replace the respirator or the filter, cartridge or canister elements.

9.4.3 If vapor or gas breakthrough is detected, there are changes in breathing resistance and/or leakage of the face piece is detected; the respirator shall be removed in a safe area and replaced or repaired prior to reuse.

10.0 Maintenance and Care of Respirators

10.1 Cleaning and Disinfecting: Respirator users shall be supplied with a respirator that is clean, sanitary and in good working order. Respirators must are cleaned and disinfected using the procedures in OSHA's Appendix B-2, or procedures recommended by the respirator manufacturer, provided such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:

10.1.1 Respirators issued for the exclusive use of an employee will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

10.1.2 Respirators issued to more than one employee will be cleaned and disinfected before being worn by different individuals.

10.1.3 Respirators maintained for emergency use will be cleaned and disinfected after each use.

10.1.4 Respirators used in fit testing and training will be cleaned and disinfected after each use.

Respirator Cleaning Procedures

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees

Procedures for Cleaning Respirators

A. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses or any components recommended by the manufacturer. Discard or repair any defective parts.
B. Wash components in warm (43 degree C [110 degree F] maximum) water with mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
C. Rinse components thoroughly in clean, warm (43 degree C [110 degree F] maximum), preferably running water. Drain.
D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
    - Hypochlorite solution (50 PPM of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 degrees C (110 degrees F); or,
      Aqueous solution of iodine (50 PPM iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 degrees C (110 degrees F); or,
    - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
E. Rinse components thoroughly in clean, warm (43 degrees C [110 degrees F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
F. Components should be hand-dried with a clean lint-free cloth or air-dried.
G. Reassemble face piece, replacing filters, cartridges and canisters where necessary.
H. Test the respirator to ensure all components work properly.

10.2 Storage of Respirators: Respirators shall be stored as follows:

10.2.1 All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals; and they will be packed or stored to prevent deformation of the face piece and exhalation valve.

10.2.2 In addition to the storage requirements stated above, emergency respirators will be:

10.2.2.1 Kept accessible to the work area;

10.2.2.2 Stored in compartments or in covers that are clearly marked as containing emergency respirators; and,

10.2.2.3 Stored in accordance with any applicable manufacturer instructions.

10.3 Respirator Inspection: Respirators will be inspected as follows:

10.3.1 All respirators used in routine situations will be inspected before each use and during cleaning;

10.3.2 All respirators maintained for use in emergency situations will be inspected at least monthly and in accordance with the manufacturer's recommendations, and will be checked for proper function before and after each use; and,

10.3.3 Emergency escape-only respirators will be inspected before being carried into the workplace for use.

10.3.4 Respirator inspections will include the following:

10.3.4.1 A check of respirator function, tightness of connections and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube and cartridges, canisters or filters; and,

10.3.4.2 A check of elastomeric parts for pliability and signs of deterioration.

10.3.5 In addition to the aforementioned requirements, self-contained breathing apparatus will be inspected monthly. Air and oxygen cylinders will be maintained in a fully charged state and will be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.

10.3.5.1 Refer to the SCBA manufacturer specifications for inspection items.

10.3.6 The following additional procedures will be performed for respirators maintained for emergency use:

10.3.6.1 The respirator will 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; and,

10.3.6.2 This information will be provided on a tag or label that is attached to the storage compartment for the respirator.

10.4 Respirator Repairs: Respirators that fail an inspection or are otherwise found to be defective will be removed from service, and will be discarded or repaired or adjusted in accordance with the following procedures:

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

10.4.2 Repairs will be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and,

10.5 Identification of Filters, Cartridges and Canisters

10.5.1 All filters, cartridges and canisters used in the workplace shall be labeled and color- coded with the NIOSH approved label. Labels must not be removed and shall remain legible at all times.

11.0 Training

11.1 Training will be provided to respirator users such that each employee will be able to demonstrate knowledge of at least the following:

11.1.1 Why the respirator is necessary and how improper fit, usage or maintenance can compromise the protective effect of the respirator;

11.1.2 Limitations and capabilities of the respirator;

11.1.3 Respirator use in emergency situations, including situations in which the respirator malfunctions;

11.1.4 How to inspect, don and doff, and check the seals of the respirator;

11.1.5 Procedures for maintenance and storage of the respirator;

11.1.6 Recognizing medical signs and symptoms that may limit or prevent the effective use of respirators; and,

11.1.7 General requirements of the respiratory protection standard.

11.2 The training will be conducted in a manner that is understandable to the employee.

11.3 Training will be provided prior to requiring the employee to use a respirator in the workplace.

11.4 Re-training will be administered annually, and when the following situations occur:

11.4.1 Changes in the workplace or the type of respirator render previous training obsolete;

11.4.2 Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or,

11.4.3 Any other situation arises in which re-training appears necessary to ensure safe respirator use.

11.5 The basic advisory information on respirators, will be provided in written or oral format to employees who wear respirators when such use is not mandatory.

12.0 Program Evaluation

12.1 At the direction of managers and assistant directors, shops will conduct evaluations of the workplace to ensure the Respiratory Protection Program and the work site-specific programs are being properly implemented. During the evaluations, supervisors will consult employees to ensure they are using the respirators properly.

12.2 Evaluations of the workplace will be conducted as necessary to ensure the provisions of the program is being effectively implemented and continues to be effective. Employees required to use respirators will be regularly consulted to assess the employees' views on program effectiveness and to identify any problems. Any problems identified during this assessment will be corrected. Factors to be assessed include, but are not limited to:

12.2.1 Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

12.2.2 Appropriate respirator selection for the hazards the employee is exposed;

12.2.3 Proper respirator use under the workplace conditions the employee encounters; and,

12.2.4 Proper respirator maintenance.

13.0 Recordkeeping

13.1 Medical evaluation records required by this section will be retained by Facilities Management and made available in accordance with 29 CFR 1910.1020.

13.2 Fit testing records will be established and maintained by CU EHS for qualitative and quantitative fit tests administered to employees including:

13.2.1 The name or identification of the employee tested;

13.2.2 Type of fit test performed;

13.2.3 Specific make, model, style and size of respirator tested;

13.2.4 Date of test and,

13.2.5 The pass/fail results for QLFTs.

13.3 Fit test records will be retained for respirator users until the next fit test is administered.

13.4 Written materials, which are required to be retained under the respiratory protection standard, will be made available upon request to affected employees and to the authorities