Respiratory Protection Plan

Environmental Health, Safety, and Risk Management Department

Box 6113, SFA Station
Nacogdoches, Texas 75962-6113

Revised: January 2011
**Purpose and Scope**
The purpose of this Respiratory Protection Plan is to protect Stephen F. Austin State University (SFASU) employees from exposure to respiratory hazards in the workplace and to comply with the requirements of OSHA’s Respiratory Protection standard, 29 CFR 1910.134. In order to control occupational diseases associated with such exposures, the Respiratory Protection Plan’s primary objective is to inform employees on how to identify and evaluate respiratory hazards in the workplace, select/use appropriate protective devices for the particular hazard, and maintain and care for the respiratory protection. Whenever possible, engineering controls shall be utilized to provide protection against respiratory hazards. However, when such controls are not feasible, respiratory protection needs to be provided and used.

This Respiratory Protection Plan applies to all SFASU employees who perform tasks that require the use of respirators during normal work operations. Employees participating in the Respiratory Protection Plan do so at no cost to themselves. Each department requiring the use of a respirator is responsible for all training, medical evaluations, and respiratory protective equipment.

**Environmental Health Safety and Risk Management (Safety Department)**
The Safety Department will assist departments in determining when respiratory protection is required, the proper selection of respiratory protection, training requirements, and evaluating the effectiveness of the Respiratory Protection Plan.

**Departmental Supervisor Responsibilities**
Departmental supervisors will be responsible for identifying employees who may require respiratory protection; assure workers receive proper respirators, physicals and fit testing; assuring workers receive respirator training; and identifying when employees may need retesting, new fit testing, etc. The Departmental Supervisor is responsible for scheduling medical evaluations and fit testing in conjunction with a physician or other licensed health care professional. They are responsible for ensuring the required initial training has been conducted before the issuance of the employee’s respirator. All medical forms, fit test results, and respiratory training records will be maintained by the Departmental Supervisor, and copies forwarded to the Safety Departments (Box 6113).

**Employee Program Responsibilities**
Each employee will be responsible for using the respirator in accordance with the guidelines described in SFASU Respirator Protection Plan, informing his/her supervisor if a respirator is damaged or lost, and reporting to his/her supervisor any illness or change in physical condition that may interfere with the safe use of a respirator.
DEFINITIONS

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

Atmosphere—supplying respirator: A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

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

Program Administrator: Designated person (the Body Shop Manager) who is qualified by appropriate training or experience to oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

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

Emergency situation: Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

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

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 longer effective.

Escape-only respirator: A respirator intended to be used only for emergency exits.

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

Filtering face piece (dusk 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.

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.

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

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

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

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

Immediately dangerous to life or health (IDLH): An atmosphere that poses an immediate threat to life, causes irreversible adverse health effects, or impairs an individual’s ability to escape from a dangerous atmosphere.

Loose-fitting face piece: A respirator inlet covering that is designed to form a partial seal with the face.
**Negative pressure respirator (tight fitting):** A respirator in which the air pressure inside the face piece is negative during inhalation with respect to ambient air pressure outside the respirator.

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

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

**Positive pressure respirator:** A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air through air-purifying elements to the inlet covering.

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

**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.

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

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

**Respiratory inlet covering:** That 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 a nose clamp.

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

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

**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.

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

**User seal check:** An action conducted by the respirator user to determine of the respirator is properly seated to the face.
TRAINING REQUIREMENTS
Employees required to use respiratory equipment will be provided basic training in the following subjects annually:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
- What the limitations and capabilities of the respirator are;
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
- How to inspect, don and remove, use and check the seals of the respirator;
- What the procedures are for maintenance and storage of the respirator; and
- How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirators.

The training will be provided prior to requiring the employee to use a respirator in the workplace. Respirator training documentation will be maintained by the Departmental Supervisor and a copy filed in the Safety Department. Please refer to Appendix A for the Respirator Training Documentation Form.

RETRAINING
Retraining will occur annually or when the following situations arise:

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

RECORD KEEPING
Written information regarding medical evaluations, fit testing and respiratory training will be maintained by the Departmental Supervisor and a copy filed in the Safety Department. All medical evaluations will be maintained on file for at least the duration of employment plus thirty years (in accordance with 29 CFR 1910.1020). Each department is responsible for maintaining a record of all participating employees in the respirator protection plan in their department. A record of fit tests must be established and retained until the next annual fit test. A written copy of the current program must be retained. Affected employees must be provided access to their records.

PROGRAM EVALUATION
Evaluations will be conducted periodically by the Safety Department to insure that the written Respiratory Protection Plan is properly implemented and employees are using the respirators properly. 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

Program evaluation forms are located in Appendix F.
MEDICAL EVALUATION
Each employee must undergo a medical evaluation to determine if he/she is able to use a respirator prior to the employee being fit tested or required to use the respirator in the workplace. A physician or other licensed health care professional (PLHCP) will perform a medical evaluation. Medical evaluations shall occur every three years.

Prior to utilizing the respiratory equipment, the written medical determination provided by the PLHCP will be on record and the PLHCP shall provide any additional information such as;

- 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.
- The need, if any, for follow-up medical evaluation; and
- A statement that the PLHCP has provided the employee with a copy of the PLHCP’s written recommendation

An additional medical evaluation will be provided if:

- Any employee reports medical signs or symptoms that are related to the ability to use a respirator;
- A PLHCP or Departmental Supervisor is informed that an employee needs to be reevaluated;
- Information from the respiratory protection program, including observations made during the fit testing and program evaluation, indicate a need for employee reevaluation; or
- A change occurs in workplace conditions (i.e., physical work effort, protective clothing, and temperature) that may result in substantial increase in the physiological burden placed on an employee.

FOLLOW-UP MEDICAL EXAMINATION
Follow-up medical examinations including additional medical tests, consultations, or diagnostic procedures may be appropriate if the PLHCP deems them necessary to make any final determinations.

FIT TESTING
Fit Testing is required for the use of air purifying respirator’s (APR) and tight-fitting supplied air respirator’s (SAR) but not for loose-fitting SARs (hooded SARs). The Departmental Supervisor shall establish a record of the fit test administered to an employee including the following information:

- The name or identification of the employee tested;
- Type of fit test performed;
- Specific make, model, style, and size of respirator tested;
- Date of test; and
- The pass/fail results.

The required documentation should be supplied by the individual giving the fit test. Fit testing and refresher training will occur annually.
PROCEDURES FOR SELECTING RESPIRATORS
When selecting the appropriate respirator to be used, one shall evaluate the respiratory hazard(s) to which the worker will be exposed and workplace and user factors that affect respirator performance and reliability. The respirator shall be a National Institute for Occupational Safety and Health (NIOSH) certified respirator and shall be used in compliance with the conditions of its certification. Selection shall be based on a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits the user. The following is a list to aid in respirator selection:
- Characteristics of the hazardous operation
- Work area characteristics
- Material used
- Workers activities
- Nature of the respiratory hazard
- Type of hazard: A contaminate or an oxygen-deficient atmosphere
- Physical and chemical properties of the contaminant
- Physiological effects on the body
- Actual concentration of the contaminant (as determined by sampling or actual knowledge of the concentration)
- Establish Permissible Exposure Limits (PELs) or Threshold Limit Values (TLVs), or other published guidelines
- Immediately dangerous to life and health (IDLH) concentration
- Warning properties of the contaminate

PROTECTION FACTORS
The assigned protection factor (APF) of a respirator reflects the level of protection that a properly functioning respirator would be expected to provide to a population of properly fitted and trained users. For example, an APF of 10 for a respirator means that the user could expect to inhale no more than one tenth of the airborne contaminant present. Various groups such as American National Standards Institute (ANSI), OSHA and NIOSH have proposed factors for the different types of respirators available. Please refer to Appendix D for a table of APFs for various types of respirators.

PROPER USE & CARE FOR RESPIRATORS
Donning Face Masks
- Position the adjustable straps (fully extended) to the outside of the mask.
- Place hands between the straps and the mask, with the straps laying in the back of the hands.
- Place mask on the face, inserting chin first, working the mask up on the face.
- Raise hands away from the mask continue movement around the sides of the face until the straps are in place.
- Adjust the straps until the mask fits tightly on the face (this is done by pulling the straps straight back towards the ears), the bottom straps should be adjusted first.
- Test the mask by holding the end of the air tube against the palm of the hand, inhale, if a leak is noted, readjust the straps.
FACEPIECE SEAL PROTECTION
Tight-fitting face piece respirators shall not be worn by employees whom have the following:
- Facial hair that comes between the sealing surface of the face piece and the face, or that interferes with valve function; or
- Any condition that interferes with the face-to-face piece seal or valve function.

Equipment such as corrective glass, goggles, or other personal protective equipment shall be worn in a manner that does not interfere with the seal of the face piece to the face of the user. For all tight-fitting respirators, employee shall perform a user seal check each time they put on the respirator using the procedures outlined in Appendix B.

CONTINUING RESPIRATOR EFFECTIVENESS
Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the supervisor and employee shall reevaluate the continued effectiveness or the respirator. Employees shall leave the respirator use area:
- To wash their faces and respirator face pieces as necessary to prevent eye and skin irritation associated with respirator use; or
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece; or
- To replace the respirator or the filter, cartridge, or canister elements.

If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, the employee must replace or repair the respirator before returning to the work area.

CLEANING & DISINFECTING RESPIRATORS
Each respirator issued shall be clean, sanitary, and in good working order. Respirators shall be frequently cleaned and disinfected. Shared respirators shall be thoroughly cleaned and disinfected between users. Emergency use respirators shall be cleaned and disinfected after each use.

Please refer to Appendix C for proper instructions on cleaning and disinfecting of respirators.

STORAGE
Respirators need to be stored properly to prolong their life and maintain their effectiveness.
- Protect respirators from dust, sunlight, extreme cold, excessive moisture, and chemicals
- Store respirators with the face piece and exhalation valve resting in normal position
- Routinely used respirators may be placed in plastic bags
INSPECTION OF RESPIRATORS
All respirators shall be inspected routinely for function, tightness of connections, and the condition of various parts.

Check parts for pliability and signs of deterioration. Respirators that fail inspection or are otherwise found to be defective are removed from service, and are discarded or repaired.

REPAIRS
Repairs or adjustments to respirators shall be made only by appropriately trained individuals and shall use only manufacturer’s NIOSH-approved parts designed for the respirator. Manufacture’s recommendations and specifications shall be followed for repairs that involve reducing, admission valves, or regulators. Alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

AIR PURIFYING RESPIRATORS (APR) AND REQUIREMENTS
Air purifying respirators remove specific contaminants from the air by passing the air through a filter, cartridge, or canister. Air purifying respirators are limited in the protection they provide, so it is necessary to understand their limitations, how to select the correct type, and how to use them.

The following limitations must be considered when using an air purifying respirator:
- Cannot be used in IDLH atmospheres (except escape gas masks);
- Cannot be used in atmospheres less then 19.5% oxygen;
- Cannot be used when contaminant concentrations are unknown or when established maximum levels have been exceeded;
- Proper cartridge must be selected for the contaminant;
- Relative humidity might reduce the effectiveness of the sorbent;
- Cartridges/canisters should only be used for chemicals having adequate warning properties (odor, taste, or irritant effects are detectable below the TLV or PEL) or the cartridge/canister has an approved end-of-service-life indicator;
- Cartridges/canisters are specific to the brand of respirators (e.g. 3M cartridges must be used with a 3M mask).

Classes of Air Purifying Respirators
- Disposable Dust Respirators
  - Made of cloth or paper
  - NIOSH/MSHA approved dust respirators provide protection against nuisance dusts (i.e. N-95)
  - Difficult to fit test and to obtain a good face piece-to-face seal
- Half Mask Respirator
  - Uses one or two cartridges
  - Approved for vapors, dusts, fumes, mists, gases, and combinations thereof
- Full-face Mask Respirator
  - Provides more protection than half mask respirators (e.g. eye protection and a higher protection factor)
  - Approved for same contaminants as half mask respirators, but higher concentrations
- **Powered Respirators**
  - Have no breathing resistance
  - Can be used with half masks, full-face masks, and helmets

**AIR PURIFYING ELEMENT CONSIDERATIONS**

Air purifying elements must be properly selected, stored, maintained, and replaced in order to provide adequate protection to the user.

- **Canister**
  - Remove vapors and gases from the air
  - Have a large sorbent volume and provide protection against higher concentrations of vapors and gases
  - A component of gas mask

- **Cartridges**
  - Contain less sorbent than a canister
  - Lifetime is short

- **Cartridge selection**
  - Cartridges are color-coded to indicate the contaminants which they protect against (See Appendix E)
  - The cartridge selected must be made by the same manufacturer and be compatible with the respirator in use
  - If a worker is exposed to two or more chemicals and a combination cartridge is not available, then a supply air respirator should be used.

- **Cartridge/Canister must be replaced if any of the following conditions occur:**
  - Cartridge/canister develops an uncomfortably high temperature (due to chemical absorption reaction)
  - Wearer detects an odor or taste, or feels eye or throat irritation
  - Shelf-life date is expired
  - The end-of-service-life indicator changes color (if applicable)
  - Cartridge/canister become wet or is grossly contaminated
  - Physical damage is noticed
  - It is recommended to replace the cartridge/canister at the end of each day, especially if the respirator is not stored properly (clean and bagged to prevent exposure to humidity and chemical vapors)

- **Cartridge/canister must be replaced a minimum of two weeks after use even if none of the above conditions occur. This is based on the objective data on observation of cartridge life.**

- **Filters (HEPA Cartridges, dust pads, or disposable dust respirators) must be replaced if the following conditions occur:**
  - Breathing becomes difficult
  - Filter or dust respirators become physically damaged (tears, holes, etc.)
  - Filter or dust respirator is visibly dirty
  - Filter or dust respirator becomes wet
  - The inside of the dust respirator becomes contaminated

- **In addition:**
  - Air purifying respirator should be fit tested
  - Air purifying respirators should be cleaned, inspected, and stored properly (See Appendix C for cleaning procedures)
  - Disposable dust respirators should be disposed of after use
  - All cartridges and dust pads must be disposed of within two weeks
APPENDIX A:

Respirator Protection Plan
Training Documentation Form

Stephen F. Austin State University

Employee: ____________________________________________

Division: __________________________________________

Employee Job Title: __________________________________

Training Topics

➢ Why respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
➢ Limitations and capabilities of the respirator
➢ Use in emergency situations, including situations in which the respirator malfunctions
➢ How to inspect, don and remove, use, and check the seals of the respirator
➢ Maintenance and storage procedures for respirators
➢ Recognition of medical signs and symptoms that may limit or prevent the effective use of the respirators.

Additional Training Guides: ____________________________

________________________________________________________

Training Conducted By: ___________________________ Date: __________

Employee Signature: ___________________________ Date: __________
APPENDIX B:

USER SEAL CHECK PROCEDURES

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is **achieved each time the respirator is worn**. User seal checks are not substitutes for qualitative or quantitative fit tests.

*Face piece Positive and/or Negative Pressure Checks*

**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 the 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.
APPENDIX C:

RESPIRATOR CLEANING PROCEDURES

- Remove filters, cartridges, and canisters. Disassemble face piece by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair defective parts.
- Wash components in warm (43 degree C, 110 degrees F maximum) water with a 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.
- Rinse components thoroughly in clean, warm, preferably running water. Drain.
- 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 F) or;
  - Other commercially available cleaners of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- Components should be hand-dried with a clean lint-free cloth or air-dried
- Reassemble face piece, replacing filters, cartridges, and canisters where necessary
- Test the respirator to ensure that all components work properly
## APPENDIX D:

**RESPIRATOR PROTECTION FACTORS**

**ASSIGNED PROTECTION FACTORS**

<table>
<thead>
<tr>
<th>Respirator Class &amp; Type</th>
<th>OSHA (Cadmium Std.)</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air Purifying</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filtering Face piece</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Half-Mask</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Full-Face piece</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Powered Air Purifying</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Half-Mask</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Full-Face piece</td>
<td>250</td>
<td>50</td>
</tr>
<tr>
<td>Loose Fitting Face piece</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Hood or Helmet</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td><strong>Supplied Air</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Half-Mask-Demand</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Half-Mask-Continuous</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Half-Mask-Pressure Demand</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Full-Face piece Demand</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Full-Face piece Continuous Flow</td>
<td>250</td>
<td>50</td>
</tr>
<tr>
<td>Full-Face piece Pressure Demand</td>
<td>1000</td>
<td>2000</td>
</tr>
<tr>
<td>Loose Fitting Face piece</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Hood or Helmet</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td><strong>Self Contained Breathing Apparatus (SCBA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Pressure Demand</td>
<td>&gt;1000</td>
<td>10,000</td>
</tr>
</tbody>
</table>
## APPENDIX E:

### AIR PURIFYING CARTRIDGE COLOR CODES

<table>
<thead>
<tr>
<th>Contaminants To Be Protected Against</th>
<th>Colors Assigned And/Or Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid Gases</td>
<td>White</td>
</tr>
<tr>
<td><strong>Hydrocyanic Acid Gas</strong></td>
<td>White with ½ inch green stripe completely around the canister near the bottom</td>
</tr>
<tr>
<td>Chlorine Gas</td>
<td>White with ½ inch yellow stripe completely around the canister near the bottom</td>
</tr>
<tr>
<td>Organic Vapors</td>
<td><strong>Black</strong></td>
</tr>
<tr>
<td>Ammonia Gas</td>
<td><strong>Green</strong></td>
</tr>
<tr>
<td><strong>Acid Gases &amp; Ammonia Gas</strong></td>
<td>Green with ½ inch white stripe completely around the canister near the bottom</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td><strong>Blue</strong></td>
</tr>
<tr>
<td>Acid Gas &amp; Organic Vapors</td>
<td>Yellow</td>
</tr>
<tr>
<td><strong>Hydrocyanic Acid Gas &amp; Chloropicrin Vapor</strong></td>
<td>Yellow with ½ inch blue stripe completely around the canister near the bottom</td>
</tr>
<tr>
<td>Acid Gases, Organic Vapors, Ammonia Gases</td>
<td>Brown</td>
</tr>
<tr>
<td>Radioactive Materials, Except Tritium &amp; Noble Gases</td>
<td><strong>Purple(Magenta)</strong></td>
</tr>
<tr>
<td>Pesticides</td>
<td>Organic vapor canister plus a filter</td>
</tr>
<tr>
<td><strong>Particulates (Dusts, Fumes, Mists, Fogs, Smoke) in Combination with any of the above gases or vapors</strong></td>
<td>Canister color for contaminant, as designated above, with ½ inch gray stripe completely around the canister near the top</td>
</tr>
</tbody>
</table>

**Note:** Orange should be use as a complete body or stripe color to represent gases not included in this table.
APPENDIX F:
PLAN EVALUATION FORM

Respirator User Name: ______________________________

Date: __________

Respirator fit assessment: Good_______ Fair _______ Bad _______

If Fair/Bad, a new respirator shall be chosen for the user to ensure proper fit.

New Respirator
Size/type: ______________________________________________________

Respirator appropriate for hazards encountered? _______ Yes _______ No

Name of new hazards encountered __________________________________________

Name of new respirator chosen for new hazardous environment:

_______________________________________________________________

Respirator maintenance schedule: _______________________________________

Seal check complete: _______ Yes

Respirator user comments: _____________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________