



**SAN JOSÉ STATE  
UNIVERSITY**

## Respiratory Protection Program

San José State University  
One Washington Square  
San José, California

Facilities Development and Operations Department  
Environmental Health and Safety

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## 1) Purpose and Scope

The purpose of the Respiratory Protection Program is to protect San José State University employees from the hazards of airborne contaminants and to ensure that protective devices are properly selected, fitted, used and maintained properly.

## 2) Standards, Regulations and References

- a) California Code of Regulations,  
Title 8, Subchapter 7. General Industry Safety Orders  
Group 16. Control of Hazardous Substances  
Article 107. Dusts, Fumes, Mists, Vapors and Gases  
Section §5144. Respiratory Protection.
- b) Title 8, Subchapter 4. Construction Safety Orders  
Article 4. Dusts, Fumes, Mists, Vapors, and Gases  
Section §1529. Asbestos.  
Section §1532.1. Lead.

## 3) Roles and Responsibilities

### a) The University

The University is committed to and has a duty to provide a safe and healthful work environment for employees potentially exposed to the hazards associated with airborne contaminants.

### b) Environmental Health and Safety

Environmental Health and Safety will ...

- i) Establish, implement and maintain the Respiratory Protection Program which is designed to eliminate or minimize employee exposure to the hazards of airborne contaminants.
- ii) Perform an employee exposure determination and document the findings.
- iii) Develop and implement campus-wide training requirements and materials. Employee information and training are provided at the time of initial assignment and every year thereafter.
- iv) Maintain a record of training given to employees for 3 years.
- v) Maintain a record of annual medical evaluation statements of Medically Fit for Work Status reports and medical records for the term of employment plus 30 years.
- vi) Maintain a record of annual fit testing until the next fit testing is performed.
- vii) Audit and review the Respiratory Protection Program annually.

### c) Department Management

- i) Each affected Department will ...
- ii) Collaborate with Environmental Health and Safety in the employee exposure determination process.
- iii) Ensuring that all respirator users have received medical approval, training, and fit testing prior to the use of respiratory protective equipment.
- iv) Enforce work practices and methods designed to protect employees, such as selection, use, fitting, maintenance, cleaning and storage of protective devices.

- v) Conduct periodic inspections of respirators to ensure that devices are kept in good condition and maintained in a sanitary manner.

**d) Employees**

Every employee who wears respiratory protective equipment will ...

- i) Receive training, medical evaluation and fit testing every year.
- ii) Perform a pre-use equipment check.
- iii) Perform a user seal check to ensure that an adequate seal is achieved each time the respirator is worn.
- iv) Wear only the respirator for which the individual has been fitted and tested.
- v) Malfunctioning respirators must be reported immediately to supervisory personnel for repair or replacement.

**4) Program Audit**

Environmental Health and Safety will perform a program audit annually and make improvements to the Respiratory Protection Program as conditions change.

**5) Document History and Control**

The San José State University Respiratory Protection Program described herein supersedes all prior program documents.

<i>Rev #</i>	<i>Document Revision History</i>	<i>Author</i>	<i>Reviewer</i>	<i>Date</i>
00	Revision No Change Initial Document	David Krack Director Environmental Health and Safety		July 16, 2012
01				

## The Respiratory Protection Program

The University is committed to and has a duty to provide a safe and healthful work environment for employees and protect them from the hazards of airborne contaminants.

- 1) The Respiratory Protection Program is designed to protect employees from the hazards of airborne contaminants and to provide employees the information that they need to perform their job safely.**

**The Program includes the following key elements:**

- a) Determination of Employee Exposure
- b) Methods of Implementation and Control
  - i) Hazard Recognition and Identification.
  - ii) Engineering Controls Measures.
  - iii) Respiratory Device Selection.
  - iv) Issuance of Devices to Employees
  - v) Medical Evaluation.
  - vi) Face piece Seal Integrity
  - vii) User Seal Checks
  - viii) Cartridge End of Service Life
  - ix) Device Maintenance and Cleaning.
- c) Employee Information and Training
- d) Recordkeeping

## 2) Definitions

- a) **Air-purifying respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
- b) **Assigned protection factor (APF)** means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.
- c) **Canister or cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.
- d) **Employee exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.
- e) **End-of-service-life indicator (ESLI)** means 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.
- f) **Filtering facepiece (dust mask)** means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
- g) **Fit test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

- h) **High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
- i) **Immediately dangerous to life or health (IDLH)** means 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.
- j) **Loose-fitting face piece** means a respiratory inlet covering that is designed to form a partial seal with the face.
- k) **Negative pressure respirator (tight fitting)** means 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.
- l) **Oxygen deficient atmosphere** means an atmosphere with oxygen content below 19.5% by volume.
- m) **Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope or 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 subsection (e).
- n) **Powered air-purifying respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
- o) **Qualitative fit test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
- p) **Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
- q) **Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
- r) **Service life** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.
- s) **Supplied-air respirator (SAR) or airline respirator** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.
- t) **Tight-fitting face piece** means a respiratory inlet covering that forms a complete seal with the face.
- u) **User seal check** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

### 3) Determination of Employee Exposure

An exposure determination was made of the University staff positions by Environmental Health and Safety. It was determined that the following employees may have an occupational exposure to airborne contaminants.

#	<i>Department Building Location Responsible Administrator</i>	<i>Job Title of Employees at Risk of Exposure</i>	<i>Nature of Risk</i>	<i>Respiratory Device Selection</i>
1	Facilities Development and Operations Department	Utilities Maintenance & Operations Central Plant Carpenters Painters Electricians HVAC Technicians Plumbers Grounds Keepers	Nuisance Dusts Asbestos Containing Materials Lead Paint Paint Spray Mist Pesticide Spray Mist Landscaping Debris Water Mists	Filtering Face Piece Particulate N95 Half Face Piece Cartridge HEPA & OV Full Face Piece Cartridge HEPA & OV PAPR Loose Fitting HEPA & OV PAPR Tight Fitting HEPA & OV
2	Student Housing Services	Maintenance Plumbing Electrical Paint Custodial Services	Nuisance Dusts Asbestos Containing Materials Lead Paint Paint Spray Mist Pesticide Spray Mist Landscaping Debris Water Mists	Filtering Face Piece Particulate N95 Half Face Piece Cartridge HEPA & OV Full Face Piece Cartridge HEPA & OV PAPR Loose Fitting HEPA & OV PAPR Tight Fitting HEPA & OV
3	UPD – University Police	Officers	Entry into chemical, biological, radiological, and nuclear (CBRN) atmospheres not immediately dangerous to life or health.	Full Face Piece air purifying respirators (APR) with CBRN Cartridge.
4	College of Science	Animal Care Technicians	Animal dander, contaminated bedding.	Filtering Face Piece Particulate N95

### 4) Methods of Implementation and Control

#### a) Hazard Recognition and Identification.

Employees may be potentially exposed to particulate, mists and vapors in their work. An exposure assessment, with the assistance of Environmental Health and Safety, is necessary to recognize and identify the nature of the exposure, its duration and frequency, and the health effects from overexposure.

Atmospheres Immediately Dangerous to Life or Health (IDLH) are not entered by SJSU employees. In a Permit Required Confined Space Entry condition, employees may enter without respiratory protection if the space is capable of being re-classified as a non-permit required confined space with the use of continuous supplied air ventilation and continuous air monitoring.

**b) Engineering Control Measures.**

The control of contaminated air should be accomplished as far as feasible by 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 respiratory devices are used.

**c) Respiratory Device Selection.**

- i) Selection of respiratory protective equipment is performed by Environmental Health and Safety and is based upon the hazard, the protection factor (PF) required, eye protection required and the odor-warning properties of the chemical(s) involved. Only respirators certified by NIOSH and/or MSHA and so labeled are used.
- ii) In order to specify respiratory protection equipment, a reasonable estimate of employee exposures to respiratory hazard(s) and identification of the contaminant must take place. In addition, initial and periodic air sampling may be necessary to quantify the exposures.

**d) Issuance of Devices to Employees**

- i) Employee must first receive written medical authorization to use a respiratory device.
- ii) Respirator fit testing will then be conducted by Environmental Health and Safety.
- iii) Respirators are issued by the University department only after the employee has passed the medical authorization, the respirator fit test and training.
- iv) Employees who perform asbestos and/or lead remediation work may request a tight fitting PAPR in lieu of a negative pressure respirator in accordance with CCR T8 Section §1529 (h) Asbestos - Respiratory Protection and CCR T8 Section §1532.1 (f) Lead - Respiratory Protection.

**e) Medical Evaluation**

- i) The Medical Questionnaire must be completed by each employee and reviewed by a licensed health care professional BEFORE any use or fit testing of a respirator.
- ii) Evaluation options may include utilizing the SJSU Student Health Center or a suitable medical contract service. Based on the employee's medical evaluation, the Physician or other Licensed Health Care Professional (PLHCP) will determine whether an individual is physically capable or has any limitations of performing routine tasks while wearing assigned respiratory equipment. The initial evaluation may require follow-up medical evaluations.
- iii) Additional medical evaluations will be required when:
  - (1) An employee reports medical signs or symptoms that are related to ability to use a respirator;
  - (2) A PLHCP, supervisor, or Environmental Health and Safety determines that an employee needs to be re-evaluated;

- (3) Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation; or
  - (4) A change occurs in workplace conditions (e.g., physical work effort, protective clothing or temperature) that may result in a substantial increase in the physiological burden placed on an employee.
- iv) Medical evaluation records will be retained by the Physician or other Licensed Health Care Professional (PLHCP). A Medically Fit for Work Status report will be prepared by the PLHCP and sent to Environmental Health and Safety for recordkeeping.
- f) Face Piece and Seal Integrity.**
- i) Employees using a tight-fitting face piece respirator are fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.
  - ii) Facial Hair: Facial hair prevents a proper face-to-face piece seal. A respirator equipped with a tight fitting face piece must not be worn if facial hair between the sealing periphery of the face piece, or; if the facial hair interferes with the valve function.
  - iii) Facial Features: If facial features such as scars, deep skin creases, prominent cheekbones, severe acne, and the lack of teeth or dentures prevent a respirator from sealing properly the person must not be permitted to wear a tight fitting respirator.
- g) User Seal Checks**
- User seal checks are performed prior to each use for a tight fitting respirator.
- i) 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.
  - ii) 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.
- h) Cartridge End of Service Life**
- i) Cartridges or canisters used for protection against gases or vapors with concentrations AT OR BELOW the permissible exposure limit. Cartridges must be replaced at the end of the work shift, or sooner if odors are detected.
  - ii) Cartridges or canisters used for respiratory protection against gases or vapors with concentrations ABOVE the threshold limit value must be replaced as directed in the cartridge.
  - iii) Mechanical filters (dust pre-filters, HEPA filters, or face piece dust masks as examples) must be replaced whenever noticeable breathing resistance occurs.

## **i) Device Maintenance and Cleaning**

- i) All respirators must be inspected routinely before and after each use.
- ii) After each use, clean, sanitize, and store respirator in a re-sealable plastic bag.
  - (1) Remove the filter elements and/or straps and wash the respirator with mild soap in warm water.
  - (2) A bristle brush can be used to aid in the removal of dirt, or immerse the respirator in a sanitary solution recommended by the manufacturer for at least two minutes.
  - (3) After washing, thoroughly rinse in clean water and drain. Allow to air dry in a clean place.
  - (4) Pre-moistened sanitary wipes may be used to sanitize the respirator.
- iii) Before transferring a respirator from one person to another, the respirator must be cleaned and sanitized by the respirator user and checked by the next person before use.
- iv) Respirators can be permanently damaged if they are not stored properly. Respirators must be kept in a cabinet separate from the work environment, away from sunlight, dust, moisture, extreme temperatures and damaging chemicals.
- v) Only qualified persons must do repairs or replacements of parts.
  - (1) All damaged or faulty components are to be repaired using parts from the same brand of respirator.
  - (2) Use of unapproved parts voids any NIOSH approval and is prohibited.

## **5) Employee Information and Training.**

### **a) Employees who are required to wear Respiratory Protective Devices will receive initial training and annually thereafter in the following topics.**

- i) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
- ii) What the limitations and capabilities of the respirator are;
- iii) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
- iv) How to inspect, put on and remove, use, and check the seals of the respirator;
- v) What the procedures are for maintenance and storage of the respirator;
- vi) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
- vii) The general requirements of CCR T8 Section §5144. Respiratory Protection.

### **b) Refresher training and evaluation.**

Refresher training, including an evaluation of the effectiveness of that training, is conducted to ensure that the operator has the knowledge and skills needed to wear a respirator safely.

Refresher training in relevant topics is provided to the employee annually and when:

- i) Changes in the workplace or the type of respirator render previous training obsolete;

- ii) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
- iii) Any other situation arises in which retraining appears necessary to ensure safe respirator use.

## **6) Recordkeeping**

### **a) Training Records**

- i) Records are completed for each employee upon completion of training. These documents will be kept for at least three years at San José State University, Environmental Health and Safety, Industrial Studies, Room 134 B.

The training records include:

- (1) The dates of the training sessions.
  - (2) The contents or a summary of the training sessions.
  - (3) The names and qualifications of persons conducting the training.
  - (4) The names and job titles of all persons attending the training sessions.
- ii) Employee training records are provided upon request to the employee or the employee's authorized representative within 15 working days. Such requests should be addressed to San José State University, Environmental Health and Safety.

### **b) Medically Able to Use a Respirator and Fit Testing Records**

- i) Records of Medically Able to Use a Respirator reports and medical records from the evaluating PLHCP are retained for the term of employment plus 30 years.
- ii) Records of the Respirator Fit Testing are retained until the next fit test is performed.
- iii) The Fit Test records include:
  - (1) The name or identification of the employee tested;
  - (2) Type of fit test performed;
  - (3) Specific make, model, style, and size of respirator tested;
  - (4) Date of test; and
  - (5) The fit factor and strip chart recording or other recording of the test results for QNFTs.

End