

Respiratory Protection Program

PROGRAM REVIEW

This sheet should be completed each time the Respiratory Protection Program is reviewed and/or modified. The Director for Safety & Risk Management is responsible to review and approve this plan annually or more frequently as needed per CFR 29 §1910.134, T8 CCR §1529, §1531, §5144, §5208 and T3 CCR §6739.

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Table of Contents

1.0	Regulatory Authority	1
2.0	Administrative Agency	1
3.0	Purpose	1
4.0	Scope	1
5.0	Policy	2
6.0	Definitions	2
7.0	Responsibilities	4
7.1	Safety & Risk Management (S&RM):	4
7.2	Managers/Supervisors/Deans/Directors/Department Chairs:	5
7.3	Employee:	5
8.0	Employee Medical Monitoring	5
8.1	Medical Evaluation [T8 CCR §5144 (e)]	5
9.0	Voluntary Use – Non-Wildfire Event [T8 CCR §5144 Appendix D]	6
10.0	Voluntary Use – Wildfire Event [Title 8 CCR §5141.1]	7
10.1	Voluntary Use of Filtering Facepiece for Protection from Wildfire Smoke	7
10.2	Mandatory Use of Respirator for Protection from Wildfire Smoke	7
11.0	Training [T8 CCR §5144 (k)]	7
12.0	Respirator Selection [T8 CCR §5144 (d)]	8
13.0	Fit Testing Procedures [T8 CCR §5144 (f)]	9
13.1	Negative Pressure Seal Check	9
13.2	Positive Pressure Seal Check	9
13.3	Qualitative Fit Procedures	9
14.0	Use of Respirators [T8 CCR §5144 (g)]	10
14.1	General Use Limitations	10
14.2	Filtering Facepiece Respirators (formerly known as Dust Masks)	10
14.3	3 Air Purifying Half Mask Respirators	11
14.4	Air Purifying Full Face Mask Respirators	11
14.5	Powered Air Purifying Respirators (PAPR)	12
14.6	6 Filter Identification [T8 CCR §5144 (j)]	13
15.0	Maintenance and Care of Respirators [T8 CCR §5144 (h)]	14
15.1	Inspection for Defects	14
15.2	Field Inspection of Air Purifying Respirators	14
15.3	B Defects Found in Field Inspection	15

15.4	Inspection During Cleaning	. 15
15.5	Storage	. 15
	Recordkeeping [T8 CCR §5144 (m)]	
17.0	Program Evaluation [T8 CCR §5144 (l)]	. 16
APPE	NDICES	. 17

1.0 Regulatory Authority

Cal/OSHA, California Code of Regulations, Title 8, Section 1529, 1531, 5144 and 5208. Cal/OSHA, California Code of Regulations, Title 3, Section 6739 and Code of Federal Regulations, Title 29, Section 1910.134.

2.0 Administrative Agency

California Division of Occupational Safety and Health (DOSH), Department of Industrial Relations (Cal/OSHA)

3.0 Purpose

The purpose of this program is to prevent exposure to hazardous atmospheres. This will be accomplished, as far as is feasible, by elimination of those hazards or exposures through engineering and work practice controls. When control measures are not feasible or inadequate, respiratory protective devices may be required to achieve this goal. When employees and/or students are required to use respiratory protective devices, they will do so in accordance with OSHA standards and other regulatory guidelines. To ensure regulatory compliance and safety, any employee using a respiratory protective device shall comply with the provisions of this Respiratory Protection Program.

4.0 Scope

The requirements of this program apply to university employees and students who use respiratory protective devices.

- **4.1** This program shall apply to all departments and persons that are required to wear respiratory protective equipment because their work activities include the potential exposure to toxic air contaminants that cannot be safely controlled by engineering methods, or by substitution of a less toxic material.
- **4.2** Respiratory protective equipment is required for work in:
 - a. Environments with toxic contaminant and radioactive levels exceeding acceptable limits
 - b. For emergency use situations
- **4.3** The employees at Stanislaus State are not trained in using nor provided supplied air respiratory protective equipment; therefore, work in oxygen deficient atmospheres is not permitted unless proper ventilation controls are implemented.
- **4.4** Only those persons designated by the supervisor and who are engaged in work requiring the use of respiratory protective equipment, and who have been properly fitted and trained shall use such equipment.

5.0 Policy

It is the policy of the Stanislaus State to maintain, insofar as it is reasonably within its control to do so, a campus environment for faculty, staff, students, and the public that will not adversely affect their health and safety nor subject them to avoidable risks of accidental injury or illness. Toward this end, Stanislaus State is committed to providing an appropriate work environment which will be adhered to by all affected parties.

6.0 Definitions

- Aerosol: Particles, solid, or liquid suspended in air.
- **Approved**: Tested and listed as satisfactory by the National Institute for Occupational safety and Health (NIOSH).
- Canister (Air Purifying): A container filled with sorbents and catalysts that remove gases and vapors from air drawn through the unit that is usually connected to the face piece with a hose. The canister may also contain an aerosol (particulate) filter to remove solid and liquid particles.
- Cartridge: A small container filled with air-purifying media, attached directly to the respirator face piece.
- Ceiling Limit: The maximum concentration of an airborne contaminant to which an employee may be exposed at any time.
- Confined Space: An enclosure such as a storage tank, process vessel, boiler, silo, tank car, pipeline, tube, duct, sewer, underground utility vault, tunnel, or pit that has limited means of egress and poor natural ventilation and that may contain hazardous contaminants or be oxygen deficient.
- Contaminant: A harmful, irritating, or nuisance material that is foreign to the normal atmosphere.
- Exhalation Valve: A device that allows exhaled air to leave a respiratory device and prevent outside air from entering through the valve.
- Face Piece: That portion of a respirator that covers the wearer's nose, mouth, eyes in a full face piece. It is designed to make a gas-tight or dust-tight fit with the face and includes the headbands, exhalation valve(s), and connection for an air-purifying device.
- **Filter**: A fibrous medium used in respirators to remove solid or liquid particles from the airstream entering the respiratory enclosure.
- **Fit Check**: A procedure used to check suitable respirator design and size by blocking the intake port(s), the exhaust port(s), and inhaling and exhaling, respectively; this is performed every time the respirator is used.

- **Fit Test**: A challenge test used to determine whether the respirator fits properly with a good face seal; OSHA requires employers to make sure their employees wear respirators in a test atmosphere to achieve proper face fit.
- **High-Efficiency Particulate Aerosol (HEPA) Filter**: A filter designed to remove 99.97 percent of a specific type of particulate material from air.
- **IDLH Atmosphere**: An atmosphere immediately dangerous to life or health (IDLH). An IDLH atmosphere poses an immediate hazard to life, such as being oxygen deficient (containing less that 19.5 percent oxygen), contains explosive or flammable atmospheres, and/or concentrations of toxic substances, or produces an irreversible debilitating effect on health.
- **Inhalation Valve**: A device that allows respirable air to enter and prevents exhaled air from leaving the face piece.
- National Institute for Occupational safety and Health (NIOSH): A federal agency that tests, approves, and certifies respiratory protection equipment. (NIOSH deals with many other safety related topics as well).
- **Particulate Matter**: A suspension of fine solid or liquid particles in air, such as asbestos, dust, fog, fume, mist, smoke, or spray. Particulate matter suspended in air is commonly known as an aerosol.
- **Permissible Exposure Limit (PEL)**: Time-weighted average concentration that must not be exceeded during any 8-hour work shift of a 40-hour workweek. Established and enforced by the Occupational safety and Health Administration (OSHA).
- **Pesticide**: For the purpose of this manual, the terms pesticide and pesticide chemical are synonymous with economic poison, as defined under the United States Department of Agriculture's Federal Insecticide, Fungicide, Rodenticide Act (FIFRA).
- **Pneumoconiosis-Producing Dust**: Dust that may produce (when inhaled, deposited, and retained in the lungs) signs, symptoms, and finding of pulmonary disease.
- **Protection Factor (PF)**: With respiratory protective equipment the ratio of the airborne concentration of the contaminant outside the face piece to the concentration inside the face piece. For example: if a half-face respirator has a protection factor of 10, it may be used for protection in atmospheres with a contaminant concentration up to 10 times the permissible exposure limit (PEL).
 - a. **Assigned Protection Factor (APF)**: The minimum anticipated protection provided by a properly functioning respirator or class of respirators to a given percentage of properly fitted and trained users.
 - b. **Workplace Protection Factor (WPF)**: A measure of the protection provided in the workplace by a properly functioning respirator when correctly worn and used.
- **Pulmonary Function Test**: Tests requiring use of an approved spirometer including forced vital capacity (FVC) (the maximum amount of air that can be expired from the lung after full inhalation)

and forced expiratory volume after one second (FEV1) (the amount of air forcible expired in one second after full inhalation).

- Qualitative Fit Test: A test procedure to determine the effectiveness of the seal between the face mask and wearer's face usually performed during the fitting process. This means of testing relies on the subject's sensory response to detect the challenge agent and could allow the user to wear a respirator without truly knowing if there is an adequate fit.
- **Respirator**: A device to protect the wearer from inhalation of harmful airborne contaminants.
- Short Term Exposure Limit (STEL): A 15-minue time-weighted average exposure which is not to be exceeded at any time during a workday even if the 8-hour time-weighted average is below the PEL.
- Test Subject: A person wearing a respirator for fit-testing.
- Threshold Limit Value (TLV): A list published yearly by the American Conference of Governmental Industrial Hygienists that refers to airborne concentrations of substance and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects. Airborne particulate concentrations are generally listed as milligrams per cubic meter of air (mg/m3), and gaseous concentrations are listed as parts per million (ppm) by volume. TLVs can be provided in the following categories: TLV-Time Weighted Average (TLV-TWA), TLV- Short Term Exposure Limit (TLV-STEL), and the TLV-Ceiling (TLV-C).
- Vapor: The gaseous state of a substance that is solid or liquid at ordinary temperature and pressure.

7.0 Responsibilities

7.1 Safety & Risk Management (S&RM):

- a. Develop and implement the Respiratory Protection Program (RPP) in compliance with Title 8, California Code of Regulations.
- b. Review and update the Respiratory Protection Program annually to reflect changes in the workplace conditions set forth by T8 CCR §5144 (c) (1).
- c. Assist supervisors with the coordination of respirator fit tests for employees who utilize respiratory protective equipment.
- d. Assist supervisors with the coordination of equipment inspections.
- e. Aids in reviewing purchases of respiratory protective equipment, when requested.
- f. Provide instruction and training on the need for respiratory protective equipment, the selection criteria, fit, use and maintenance.
- g. Coordinate the Employee Medical Monitoring Program for medical evaluation and clearance prior to employees wearing respirators.
- h. Conduct periodic inquiries to ensure managers and supervisors whose employees use a respirator, document routine inspections for equipment usage, maintenance, and storage.
- i. Maintain the date the employee was fit tested, and the date the employee received respirator training.

CALIFORNIA STATE UNIVERSITY, STANISLAUS

Respiratory Protection Program

- j. Conduct periodic inspections of the workplace to ensure respirators are appropriate for hazards and are being used properly.
- k. Maintain the RPP, including records pertaining to medical evaluation, training and fit testing.

7.2 Managers/Supervisors/Deans/Directors/Department Chairs:

- a. Notify and arrange with S&RM of the need for respiratory protective equipment.
- b. Identify, with assistance from S&RM, those employees who may need respiratory protective equipment, and scheduling them for fit testing and training in the proper use of such equipment.
- c. Arrange with S&RM, the initial, annual and exit Employee Medical Monitoring exams for all employee required to wear respirators while performing assigned duties.
- d. Coordinate respirator fit tests for employees who utilize respiratory protective equipment.
- e. Maintain records indicating the brand and type of respirator used by each employee.
- f. Evaluate new and non-routine operations that may present health and safety hazards, with assistance from S&RM.
- g. Ensure employee compliance with guidelines for work with any hazardous materials and/or hazardous environments.
- h. Evaluate, selects and approves all respiratory protection devices prior to purchase.
- i. Purchase appropriate respirator equipment and cartridges.
- j. Identify RPP Program administrator qualified to oversee respirator use.

7.3 Employee:

- a. Ensure that the assigned respirator is inspected, cleaned, disinfected, repaired, and stored.
- b. Utilize the issued respiratory protective device in accordance with instructions and training provided and in accordance with the standard operating procedures of this program.
- c. Complete the prescribed Employee Medical Evaluation exam and fit testing, prior to wearing a respirator.
- d. Promptly inform his/her supervisor of any personal health problems that may arise which could be aggravated by the use of respiratory protective equipment.
- e. Guard against damage and ensuring the respirator equipment is not modified or otherwise altered in any way other than by changing the cartridge/filters.
- f. Report any observed or suspected malfunctioning respirator to the supervisor.
- g. Use only the specific respiratory protective units for which they have been trained and fit tested
- h. Maintain respirator equipment in good working order and cleanliness; notify supervisor when replacement parts are needed (see Section 14 of this program).

8.0 Employee Medical Monitoring

8.1 Medical Evaluation [T8 CCR §5144 (e)]

Each employee, whose duties require the use of a respirator, will be required to complete an annual medical evaluation, before being fit tested to use a respirator. The evaluation will be completed by a licensed health care professional (PLHCP) and at no cost to the employee.

The medical evaluation will be conducted via a medical questionnaire that is reviewed by a PLHCP. The administration of a medical questionnaire shall be confidential and during the employee's normal working hours.

8.2 Follow-Up Medical Examination

A follow-up medical examination may be required if an employee gives a positive response to certain questions on the medical questionnaire at no cost to the employee. The medical examination will be completed annually or more frequently if the employee is accidentally exposed to asbestos, hazardous materials or hazardous wastes during the course of work. In addition, an occupational medical examination will be conducted on an employee who:

- a. Works, or may potentially work, with asbestos containing materials and hazardous materials and wastes.
- b. Reports to a supervisor the presence of a health problem that could be aggravated by the use of respiratory protective equipment.
- c. Has previously used respiratory protective equipment but has experienced respiratory, cardiovascular, or gastrointestinal problems that might prove hazardous to their health and safety.
- d. Is referred by S&RM.

8.3 Medical Determination

A written recommendation regarding the employee's ability to use a respirator shall be provided by the PLHCP and contain only the following information:

- a. Any limitations on respirator use.
- b. The need, if any, for follow-up medical evaluations.
- c. A statement that the employee was provided a copy of the recommendation.

9.0 Voluntary Use – Non-Wildfire Event [T8 CCR §5144 Appendix D]

Single use respirators (Filtering Facepiece Respirators) are provided by Stanislaus State at the request of employees for use when contaminants are below the permissible exposure limit or threshold limit value. Prior to permitting voluntary use, the supervisor and employee must establish that use of a respirator will not in itself create a hazard. Employees desiring to use a filtering facepiece respirator must submit to a medical evaluation to determine the employee's ability to wear a respirator. If the supervisor or S&RM determines that voluntary respirator use is permissible, the employee will be provided with the information contained in T8 CCR §5144 Appendix D, Information for Employees Using Respirators When Not Required Under the Standard. (see Appendix D) The employee must sign, date, and return the form to S&RM.

- a. Employees will be required to take the appropriate training and get fit-tested.
- b. Employees must ensure that the respirator is stored, and maintained so that its use does not present a health hazard to the user.

Students who are required to or make the choice to wear a filtering facepiece respirator for any course, must sign, date and return the Acknowledgement for Voluntary Use of University or Self-Provided Respirators. If required, they must follow the same procedures as an employee and submit to a medical examination or produce a respirator medical clearance from their private physician as well as take the appropriate training and get fit-tested.

10.0 Voluntary Use – Wildfire Event [Title 8 CCR §5141.1]

An emergency regulation was adopted on July 29, 2019, to protect employees from small particulate matter ("PM2.5") caused by wildfire smoke.

10.1 Voluntary Use of Filtering Facepiece for Protection from Wildfire Smoke

When the air quality index ("AQI") for PM2.5 is greater than 150, but does not exceed 500, the University will make available filtering facepieces ("N95 mask") for voluntary use to "covered employees". A covered employee is defined as an employee who, for more than one hour per shift, works outside or in a building which is unenclosed or does not provide filtered air. Covered employees are not required to wear a N95 mask but are encouraged to do so.

All employees who are covered under this standard are required to read and adhere to Appendix B of §5141.1 (see Appendix E). No medical evaluation or fit test is required; however, a Wildfire Smoke-specific training is required. An employee must not wear any other type of respirator other than a N95 mask if they are not currently enrolled in the Respiratory Protection Program.

10.2 Mandatory Use of Respirator for Protection from Wildfire Smoke

When the current air quality index for PM2.5 exceeds 500, respirator use is required in accordance with §5144. Respirators will have an assigned protection factor such that the PM2.5 levels inside the respirator correspond to an AQI less than 151.

Any employee who will be required to wear a respirator to protect themselves from particulate matter during a wildfire smoke event must be enrolled into the Respiratory Protection Program prior to wearing a respirator. This includes having a medical evaluation, fit test, and training.

11.0 Training [T8 CCR §5144 (k)]

Training of employees in the use of respirators shall include a complete description of equipment used including its purpose and function and the care, inspection, maintenance, cleaning, and storage of the respiratory protective device(s). Instruction shall be provided in the proper donning of a respirator and the negative and positive pressure fit check procedure. Training shall be provided prior to employee use of respiratory protective equipment, and annually thereafter at no cost to the employee. Training shall include:

• Identification and evaluation of hazards

- Oxygen deficient atmospheres
- Assigned protection factors
- Selection and limitation of respirators
- Qualitative fit testing procedures
- Limitations and the availability of specific cartridges intended for particular hazards
- Proper donning
- Negative and positive pressure fit checks
- Maintenance, cleaning and storage

12.0 Respirator Selection [T8 CCR §5144 (d)]

Air purifying respirators will be selected in coordination between the employee supervisor and a qualified health and safety professional from S&RM at no cost to the employee. The following factors should be considered when selecting and wearing an air purifying respirator:

- a. Improper use of a respirator may result in damage to an individual's health, including certain delayed lung diseases such as silicosis, pneumoniosis, or asbestosis. These diseases may cause death.
- b. Air purifying respirators are <u>not</u> designed to be used in atmosphere:
 - 1. That is immediately dangerous to your life or health.
 - 2. From which you cannot escape without the aid of the respiratory protective equipment.
 - 3. Containing less that 19.5 percent oxygen.
 - 4. With unknown contaminants.

Under the aforementioned conditions, air supplied respiratory protective equipment or self-contained breathing apparatus are needed.

- c. Do not wear an air purifying respirator until you have:
 - 1. Completed the medical examination questionnaire and been approved by the occupational medical provider.
 - 2. Been trained by Stanislaus State S&RM in the use of the respirator.
- d. Do not modify or alter your respirator in any manner, unless specified in the respirator's instruction manual. Use only NIOSH approved components and replacement parts for your specific respirator. Failure to use NIOSH approved components and replacement parts voids the NIOSH approval of the entire respirator, invalidates all manufacturers warranties, and may result in lung disease or exposure to other hazardous or life-threatening conditions.
- e. Inspect all components of your respirator daily for signs of tear, damage, or wear that may reduce the degree of protection provided. Immediately replace any worn or damaged components with NIOSH approved components or remove the respirator from service.

13.0 Fit Testing Procedures [T8 CCR §5144 (f)]

Fit testing shall be conducted by a trained health and safety professional. A contracted health and safety professional may be hired to perform annual fit testing requirements, only under the direction of a supervisor and/or S&RM.

Despite respirator design and manufacturer to give maximum protection, efficiency can be lost if there is an improper fit. Many manufacturers now produce a given model respirator in two or three sizes, permitting proper fit of employees with one brand of respirator. It is imperative that the user know when the respirator fits properly. This can be checked by a number of tests and fitting procedures as outlined below. The negative and positive pressure checks may be conducted with most any cartridge or filter. Use of either the Irritant Smoke Test or the Isoamyl Acetate (IAA) Vapor Test will depend on the types of cartridges in use or available.

Qualitative fit testing is limited to protection factors of 10 (i.e., ten times the PEL). Although equipment such as full-face respirators may be able to provide greater protection, this can only be verified to a maximum of 10 by this method. Quantitative fit testing procedures must be employed for verification of higher protection factors.

13.1 Negative Pressure Seal Check

The wearer can perform this test alone in the field. It consists of merely closing off the inlets of the canister, cartridges or filters by covering with the palms of the hands, or placing seals over the canister or cartridge inlets, or by squeezing breathing tubes so that air cannot pass. Inhale gently so the face piece collapses slightly. Hold the breath for ten seconds. If the face piece remains slightly collapsed and inward leakage is not detected, the respirator is assumed tight and the exhalation valve and face piece is not leaking.

13.2 Positive Pressure Seal Check

This test is much like the negative pressure test. It is conducted by closing off the exhalation valve and exhaling into the face piece. The fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage. For some respirators the exhalation valve cover must be removed. Carefully replace it after the test.

13.3 Qualitative Fit Procedures

- a. An employee shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension, and how to assess a comfortable respirator.
- b. An employee shall conduct the negative and positive pressure fit checks until an acceptable fit is obtained with the selected respirator.
- c. Prior to performing the qualitative fit test, the employee shall be given complete instructions as to their part in the test procedures. The employee shall wear the face piece for at least five minutes before performing the fit check.
- d. Respirator restraining straps should not be over tightened for testing. The straps shall be adjusted by the wearer to give a reasonably comfortable fit typical of normal use.

CALIFORNIA STATE UNIVERSITY, STANISLAUS

Respiratory Protection Program

- e. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.
- f. The test subject shall perform a series of head and body movements and talk while an irritant is introduced. See Appendix B for sample movements.
- g. Upon successful completion of the qualitative fit test, an individually assigned respirator will be issued to the employee. Confirmation of successful completion of the fit test will be supported by a completed Respirator Training/Fit Record form. A copy of this form will be distributed to the employee, the employee's supervisor and S&RM as part of the record-keeping process.

14.0 Use of Respirators [T8 CCR §5144 (g)]

This section contains operating instructions and limitations for the types of respiratory equipment that may be routinely used at Stanislaus State.

14.1 General Use Limitations

- a. Facial hair that interferes with face to mask fit is not permitted.
- b. Successful completion of training and fit testing is required.
- c. If an employee exhibits/experiences difficulty in breathing (that is unrelated to respirator functions), during testing or use, the employee shall be referred to a physician to determine fitness to use such equipment while performing assigned duties.

14.2 Filtering Facepiece Respirators (formerly known as Dust Masks)

- a. Availability and types for use:
 - 1. Filtering Facepiece Respirators of various kinds, including disposable types, may be used for protection against low concentrations of certain nuisance dusts.
 - 2. They must have NIOSH approval.

b. Limitations:

- 1. Filtering Facepiece Respirators provide no protection against gases, vapors, or toxic contaminants. Also, they supply no oxygen and therefore they cannot be used in oxygen deficient atmospheres.
- 2. They must not be used for asbestos work.

c. Procedure:

- 1. Put on the mask and adjust it for proper fit. Some masks have adjustable face sealing areas.
- 2. Discard a disposable face filtering device after use. If the face filtering device has a replaceable dust filter, replace the dust filter with a new one when normal breathing becomes difficult or chemical scent breakthrough occurs.

14.3 Air Purifying Half Mask Respirators

- a. Availability and types for use:
 - 1. Half mask respirators are the most widely used types of respirators. Several brands and sizes of these types are available on the market to assure employee comfort and a satisfactory fit.
 - 2. Various types of filters, chemical cartridges, and combination filter cartridges are available for employee protection.

b. Limitations:

- 1. Since this type of respirator does not supply air, it cannot be used in oxygen deficient atmospheres, in Immediately Dangerous to Life and Health (IDLH) atmospheres, or in confined spaces. It can only be used for protection against the contaminants and the concentration limits specified by the manufacturer.
- 2. The wearer should leave an area immediately if the employee smells gas or vapor inside the mask or if the breathing resistance increases.
- 3. No air purifying respirator shall be used against a contaminant which does not display adequate odor or other warning properties.
- 4. The half mask respirator shall not be worn when facial hair extends under the face mask sealing area.

c. Procedure:

- 1. Use the mask approved for use, as indicated on the Respirator/Fit Test Record.
- 2. Hold the mask so the narrow nose cup points upward.
- 3. Grasp both lower mask straps and hook them behind the neck allowing the chin to fit in first.
- 4. Grasp both top straps and hook them behind the head and above the ears making sure of a proper fit on the nose.
- 5. Adjust the straps so the fit is snug but comfortable by pulling both straps simultaneously to the rear and not outward.
- 6. Check for leaks by using the qualitative negative/positive pressure fit check. (See the section on qualitative fit testing.)
- 7. Each user of respiratory protective equipment must inspect, clean, and maintain the respirator after each use. Any parts showing wear must be replaced at this time with parts approved for the specific respirator.

14.4 Air Purifying Full Face Mask Respirators

- a. Availability and types for use:
 - 1. Full face mask respirators provide more protection than half masks because their shape allows a better mask to face seal. They also protect eyes from irritating chemicals or particulate atmospheres.
 - 2. Full face masks may be equipped with the various types of air purifying filters, chemical cartridges, combination filter cartridges, and gas mask canisters, dependent upon the protection required.

b. Limitations:

- 1. Air purifying full face masks have the same limitations for use as half mask respirators.
- 2. Additionally, standard eye glasses interfere with the mask to face seal; therefore, contact your supervisor and/or S&RM for more information on obtaining a proper pair of eyeglasses which insert into the facemask.

c. Procedure:

- 1. Loosen all straps, pull the harness over the head, and place the chin in the chin cup.
- 2. Pull the head harness down on the back of the head.
- 3. Tighten the harness gently, starting with the bottom straps and then the middle and top straps.
- 4. Check the fit by closing off the air hose, or cartridge/canister openings, and using the qualitative negative/positive fit check. See the section on qualitative fit testing.
- 5. Each user of respiratory protective equipment must inspect, clean, and maintain the respirator after each use. Any part showing wear must be replaced at this time with parts approved for the specific respirator.

14.5 Powered Air Purifying Respirators (PAPR)

a. Availability and types for use:

- 1. Unlike the previously described half face mask and full-face mask air purifying respirators, which depends on the wearer's ability to draw air in through the respirator cartridges, PAPRs use a battery powered blower to force air into the face mask under positive pressure.
 - This positive feature provides an extra level of protection.
 - The feature permits the equipment to be used in atmospheres with chemical concentrations exceeding the protection factor limitations of more conventional negative pressure air purifying failure point.
 - This feature can permit the equipment to be used by personnel who, due to disability, are unable to obtain a good fit with negative pressure air purifying respiratory protective equipment.

b. Limitations:

1. Considering that a mechanical device still draws contaminated air through purifying elements and supplies it to the inside of the face mask under positive pressure, these units are subject to similar limitations as negative pressure air purifying respiratory protective equipment; contaminants must possess good warning properties and ambient oxygen concentrations must be adequate to support life.

c. Procedure:

1. Equipment use requirements will vary depending upon individual case circumstances. Factors requiring the choice of this equipment also define its use limitations. S&RM should be contacted to evaluate individual case circumstances.

14.6 Filter Identification [T8 CCR §5144 (j)]

Respirator cartridges consist of a particulate filter, chemical gas and vapor removing, or a combination. The particulate filters are provided in nine classes (three levels of filter efficiency, each with three categories of resistance to filter efficiency of degradation). The three levels of filter efficiency are 95%, 99% and 99.97%. The three categories of resistance to filter efficiency degradation are labeled N, R, and P. Based on this information, a particulate filter marked N95 would designate an N-series filter that is at least 95% efficient.

The selection of N, R, and P series filters depends on the presence or absence of oil particles, as follows:

- If no oil particles are present in the work environment, use a filter of any series (i.e., N, R or P-series).
- If oil particles (e.g., lubricants, cutting fluids, glycerin, etc.) are present in the work area, use an R or P-series filters. The R-series filters should be used only for a single shift (or for 8 hours of continuous or intermittent use) when oil is present. Note: N-series filters cannot be used if oil particles are present.
- If oil particles are present in the work area and the filter is to be used for more than one work shift, use only a P-series filter.

Therefore, prior to performing work and using particulate filters, the work area should be assessed for the presence of oil particles.

Chemical gas and vapor removing cartridges are designed for specific chemical classes (e.g. acid gases, organic vapors, ammonia, etc.) The cartridges and canisters are color-coded as specified in the American National Standards Institute (1973) and are as follows:

CONTAINMENT	CARTRIDGE COLOR
Acid gas	White
Organic vapor	Black
Ammonia gas	Green
Acid gas and organic vapor	Yellow
Particulate	Gray
High-efficiency particulate air Magenta,	Purple
Radioactive material	

Manufacturers mark combination gas and vapor-removing and particulate filter cartridges with appropriate colors for each section. For example, a combination organic vapor/high efficiency particulate cartridge is colored black and magenta. Each manufacturer provides information on their cartridges, usually in the form of a colorful wall chart or pamphlet.

15.0 Maintenance and Care of Respirators [T8 CCR §5144 (h)]

The primary responsibility for maintaining the respirators in proper and clean condition rests with the employee. The maintenance and care of respirators shall include:

- Inspection for defects
- Cleaning and disinfecting
- Repair
- Storage

15.1 Inspection for Defects

Inspections identify damaged or malfunctioning respirators before they are to be used. All respirators are to be inspected before and after each use. Those not used routinely (i.e., emergency respirators) shall be inspected after each use and at least monthly. Respirator inspections shall include the checking of:

- a. Tightness of the connections
- b. Face piece
- c. Valves
- d. Connecting tubes
- e. Canisters, filters, or cartridges

15.2 Field Inspection of Air Purifying Respirators

- a. Examine the face piece for:
 - 1. Excessive dirt
 - 2. Cracks, tears, holes or physical distortion of shape
 - 3. Inflexibility of rubber face piece
 - 4. Cracked or badly scratched lenses in full face pieces
 - 5. Missing mounting clips, badly worn threads, or missing gaskets if required
- b. Examine the head straps or head harness for:
 - 1. Breaks
 - 2. Loss of elasticity
 - 3. Broken or malfunctioning buckles in attachments
 - 4. Excessive wear on attachments
 - 5. Excessive wear on head harness which might permit slippage
- c. Examine the exhalation valve for the following after removing its cover:
 - 1. Foreign material such as detergent residue, dust or human hair
 - 2. Cracks, tears or distortion in the valve material
 - 3. Improper insertion of the valve body in the face piece
 - 4. Missing or defective valve cover
 - 5. Improper installation of the valve in the valve body

- d. Examine the air purifying element for:
 - 1. Incorrect cartridge, canister, or filter for the hazard
 - 2. Incorrect installation, loose connections, missing or work gasket or cross threading in the holder
 - 3. Expired shelf life date on the cartridge or canister
 - 4. Cracks or dents in the outside case of the filter, cartridge, or canister
- e. If the device has a corrugated breathing tube examine it for:
 - 1. Broken or missing end connectors
 - 2. Missing or loose hose clamps
 - 3. Deterioration, determined by stressing the tube and looking for cracks
- f. Examine the harness of the front or back mounted gas mask for:
 - 1. Damage or wear to the canister holder
 - 2. Broken harness straps for fastening

15.3 Defects Found in Field Inspection

If defects are found during any field inspection, two remedies are possible. If the defect is minor, repair and/or adjustment may be made on the spot. If it is major, the device should be removed from service until it can be repaired. A spare unit, that has been properly fit tested, should replace the unit removed from service. Under no circumstances should a defective device remain in the field.

15.4 Inspection During Cleaning

Because respirator cleaning usually involves some disassembly, it presents a good opportunity to examine each respirator thoroughly. Respirators should be inspected after cleaning operations and before reassembly has been accomplished. Respirators whether used routinely or for emergencies, shall be cleaned and disinfected after each use. Respirators should be washed with detergent and warm water using a brush, thoroughly rinsed in clean water, and dried in a clean place. To avoid damaging the rubber and plastic in the respirator face pieces, the cleaning water should not exceed 140 degrees F, but not less than 120 degrees F to insure adequate cleaning. The respirators may be allowed indoors on a clean surface.

15.5 Storage

After inspection, cleaning and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.

- a. Respirators, such as dust respirators, will be placed in plastic bags or other suitable containers in designated areas. Respirators should not be stored in such places as vehicles (trunk) or tool boxes unless they are in carrying cases or cartons.
- b. Respirators should be packed or stored so that the face piece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

16.0 Recordkeeping [T8 CCR §5144 (m)]

Upon successful completion of the qualitative fit test and training, S&RM will maintain the following records:

- a. Medical Evaluation Report maintained beyond employment (30-years for asbestos exposure).
- b. Respiratory Training/Fit Test Record maintained until next fit test is conducted; annually.
- c. Inventory records indicating the brand and type of respirator will be maintained by the department (see Section 7.2).

17.0 Program Evaluation [T8 CCR §5144 (I)]

S&RM will conduct periodic inspections to ensure that the written respiratory protection program is being implemented and that respiratory protective equipment is appropriate to the hazards encountered. S&RM will seek employee consultations during respiratory protection training sessions and work area visits. The program will be evaluated using the Respiratory Protection Program Evaluation (Refer to Appendix C).

APPENDICES

Appendix A – Respirator Medical Evaluation Questionnaire (Example)

Appendix B - Supplemental Procedures for Fit Testing

Appendix C – Program Evaluation (Example)

Appendix D - Voluntary Use of Respirator Information

Appendix E – Employee Protection from Wildfire Smoke

Appendix A – Respirator Medical Evaluation Questionnaire (Example)

MEDICAL EVALUATION QUESTIONNAIRE TITLE 3 CCR § 6739 [Q] (MANDATORY)

To the employee: Can you read (circle): Yes / No (This question to be asked orally be employer. If yes, employee may continue with answering for. If no, employer must provide a confidential reader, in the primarily understood language of the employee.)

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

Section 1. (Mandatory, no variance in this format allowed) Every employee who has been selected to use any type of respirator must provide the following information (please print):

1.	Today's date:/						
2.	Your name:						
3.	Your age:						
4.	Sex: (circle one): Male / Female						
5.	Your height: ft in.						
6.	Your weight:lbs.						
7.	Your job title:						
8.	How can you be reached by the health care professional who reviews this questionnaire?						
9.	If by phone, the best time to call in Morning / Afternoon / Evening / Night at:						
	(include the area code):						
10.	10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes / No						
11.	Check the type of respirator you will use (you can check more than one category):						
	 a. N, R, or P disposable respirator (filter-mask, non-cartridge type only) b. Half-face respirator (particulate or vapor filtering or both) c. Full-face respirator (particulate or vapor filtering or both) d. Powdered air purifying respirator (PAPR) 						

e. Self-contained breathing apparatus (SCBA)

- f. Supplied air respirator (SAR)
- g. Other
- 12. Have you worn a respirator (circle one): Yes / No

If "yes," what type(s):

- a. N, R, or P disposable respirator (filter-mask, non-cartridge type only)
- b. Half-face respirator (particulate or vapor filtering or both)
- c. Full-face respirator (particulate or vapor filtering or both)
- d. Powdered air purifying respirator (PAPR)
- e. Self-contained breathing apparatus (SCBA)
- f. Supplied air respirator (SAR)
- g. Other

Section 2. (Mandatory) Every employee who has been selected to use any type of respirator must answer questions 1 through 8 below (please circle "yes" or "no" or "Do not know" where applicable).

- 1. Do you currently smoke tobacco or have you smoked tobacco in the last month: Yes / No
- 2. Have you ever had any of the following conditions?
 - a. Seizures (fits): Yes / No
 - b. Allergic reactions that interfere with your breathing: Yes / No
 - c. Claustrophobia (fear of closed-in places): Yes / No
 - d. Trouble smelling odors: Yes / No / Do Not Know
 - e. Diabetes (sugar disease): Yes / No / Do Not Know
- 3. Have you ever had any of the following pulmonary or lung problems?
 - a. Asbestosis: Yes / No
 - b. Asthma: Yes / No
 - c. Chronic bronchitis: Yes / No
 - d. Emphysema: Yes / No
 - e. Pneumonia: Yes / No
 - f. Tuberculosis: Yes / No
 - g. Silicosis: Yes / No
 - h. Pneumothorax (collapsed lung): Yes / No
 - i. Lung cancer: Yes / No
 - j. Broken ribs: Yes / No
 - k. Any chest injuries or surgeries: Yes / No
 - 1. Any other lung problem that you have been told about: Yes / No

- 4. Do you currently have any of the symptoms or pulmonary or lung illness?
 - a. Shortness of breath: Yes / No
 - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes / No
 - c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes / No
 - d. Have to stop for breath when walking at your own pace on level ground: Yes / No
 - e. Shortness of breath when washing or dressing yourself: Yes / No
 - f. Shortness of breath that interferes with your job: Yes / No
 - g. Coughing that produces phlegm (thick sputum): Yes / No
 - h. Coughing that wakes you early in the morning: Yes / No
 - i. Coughing that occurs mostly when you are lying down: Yes / No
 - j. Coughing up blood in the last month: Yes / No
 - k. Wheezing: Yes / No
 - 1. Wheezing that interferes with your job: Yes/ No
 - m. Chest pain when you breathe deeply: Yes / No
 - n. Any other symptoms that you think may be related to lung problems: Yes / No
- 5. Have you ever had any of the following cardiovascular or heart problems?
 - a. Heart attack: Yes / No
 - b. Stroke: Yes / No
 - c. Angina (pain in chest): Yes / No
 - d. Heart failure: Yes / No
 - e. Swelling in your legs or feet (not caused by walking): Yes / No
 - f. Irregular heart beat (an arrhythmia): Yes / No / Do Not Know
 - g. High blood pressure: Yes / No / Do Not Know
 - h. Any other heart problem that you have been told about: Yes / No
- 6. Have you ever had any of the following cardiovascular or heart symptoms?
 - a. Frequent pain or tightness in your chest: Yes / No
 - b. Pain or tightness in your chest during physical activity: Yes / No
 - c. Pain or tightness in your chest that interferes with your job: Yes / No
 - d. In the past two years, have you noticed your heart skipping or missing beat: Yes / No
 - e. Heartburn or indigestion that is not related to eating: Yes / No
 - f. Any other symptom that you think may be related to heart or circulation problems: Yes / No
- 7. Do you currently take medication for any of the following problems?
 - a. Breathing or lung problems: Yes / No
 - b. Heart trouble: Yes / No

c. Blood Pressure: Yes / Nod. Seizures (fits): Yes / No

8. If you have used a respirator, have you ever had any of the following problems? (If you have never used a respirator, check the following space and go to question 9):

Never Used a Respirator:

- a. Eye irritation: Yes / No
- b. Skin allergies or rashes: Yes / No
- c. Anxiety: Yes / No
- d. General weakness or fatigue: Yes / No
- e. Breathing difficulty: Yes / No
- f. Any other problem that interferes with your use of a respirator: Yes / No
- 9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes / No

Questions 10-15 must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employee who have been selected to use other types of respirators, answering these questions is voluntary.

- 10. Have you ever lost vision in either eye (temporarily or permanently): Yes / No
- 11. Do you currently have any of the following vision problems?
 - a. Wear contact lenses: Yes / No
 - b. Wear glasses: Yes / No
 - c. Color blind: Yes / No
 - d. Any other eye or vision problem: Yes / No
- 12. Have you ever had an injury to your ears, including a broken ear drum: Yes / No
- 13. Do you currently have any of the following hearing problems?
 - a. Difficulty hearing: Yes / No
 - b. Wear a hearing aid: Yes / No
 - c. Any other hearing or ear problem: Yes / No
- 14. Have you ever had a back injury: Yes / No
- 15. Do you currently have any of the following musculoskeletal problems?
 - a. Weakness in any of your arms, hands, legs, or feet: Yes / No
 - b. Back pain: Yes / No
 - c. Difficulty fully moving your arms and legs: Yes / No
 - d. Pain and stiffness when you lean forward or backward at the waist: Yes / No

- e. Difficulty fully moving your head up or down: Yes / No
- f. Difficulty full moving you head side to side: Yes / No
- g. Difficulty bending at your knees: Yes / No
- h. Difficulty squatting to the ground: Yes / No
- i. Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs.: Yes / No
- j. Any other muscle or skeletal problem that interferes with using a respirator: Yes / No

At the discretion of the PLHCP, if further information is required to ascertain the employee's health status and suitability for wearing respiratory protection, the PLHCP may include and require the questionnaire found in Title 8, California Code of Regulations, Section 5144, Appendix C, Part B, Questions 1-19.

EMPLOYEE STATEMENT OF MEDICAL CO	NDITION
(Print Employee Name)	
engaged in hazardous exposure situations. I Unde	Fornia Code of Regulations to the best of my which would interfere with wearing a respirator while erstand that heart disease, high blood pressure, lung tire a specific medical evaluation by a physician before
(Employee Signature)	(Date)
REPORT OF MEDICAL EVALUATION	
above has been given an examination by me and	alifornia Code of Regulations. The employee listed at this time there is no medical contraindication to the low working in hazardous exposure environments.
Other Comments:	
(Printed Physician's Name)	
(Physician's Signature)	(Date)

Appendix B - Supplemental Procedures for Fit Testing

The employee shall perform the following exercises, in the give order:

- 1. <u>Normal breathing</u>. In the normal standing position, without talking, the employee shall breathe normally for at least one minute.
- 2. <u>Deep breathing</u>. In the normal standing position, the employee shall breathe slowly and deeply for one minute, taking caution so as not to hyperventilate.
- 3. <u>Turning head side to side</u>. Standing in place, the employee shall slowly turn head from side to side between the extreme positions on each side. The head shall be held at each extreme position momentarily so the employee can inhale at each side. Complete this exercise for one minute.
- 4. Moving head up and down. Standing in place, the employee shall slowly move head up and down. The employee shall be instructed to inhale in the up position (i.e. when looking toward the ceiling). Complete this exercise for one minute.
- 5. Reading or Talking. The employee shall read or talk out loud so as to be heard clearly by the test monitor. The employee can count backward from 100 or read the *Rainbow Passage*. The Rainbow Passage was developed by OSHA to allow the employee to test his/her respirator while speaking. The movement of the mouth and jaw while talking can break the seal, so it's an important test. The Rainbow passage includes all of the facial movements brought on while speaking. The Rainbow Passage should be type-written and handed to the employee to read. "When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."
- 6. <u>Bending over</u>. The employee shall bend at the waist as if the employee were to touch their toes. Complete this exercise for one minute.

Appendix C – Program Evaluation (Example)

Respiratory Prote	ection Program Evaluation
PERSON COMPLETING EVALUATION:	DATE:

Introduction: A Respiratory Protection Program (RPP) should provide employees with protection against airborne contaminants they may encounter during work activities. A program evaluation is designed to identify areas needing improvement. A Self-Evaluation should be completed annually.

annually.			
	YES	NO	N/A
PROGRAM ADMINISTRATOR			
An on-site Program Administrator has been designated to oversee the program.			
This person has sufficient knowledge or experience to oversee the RPP			
PROGRAM INCLUDES			
Procedures for appropriate respirator selection;			
Requirements for training (including documentation) of respirator users;			
Procedures for fitting and issuance of respirators;			
Requirements for ensuring the proper use of respirators both in routine and in emergency situations;			
Procedures and schedules for cleaning, storage, and maintenance of respirators;			
Procedures for medical evaluations;			
Procedures for assessing employee exposures while using respirators;			
Procedures for use in IDLH atmospheres;			
Procedures to ensure air quality, quantity, and flow of breathing air for Air- supplying respirators.			
A record or inventory of respirators issued by each office/division is maintained.			
A list of employees who are cleared and fitted for wearing respirators is maintained.			
RESPIRATOR SELECTION			
ONLY NIOSH certified respirators are used.			
Only respirators approved by Program Administrator are purchased			
Respirators / cartridges approved for specific uses (chemical, asbestos, lead, dust etc) have been evaluated			
TRAINING			
Hazards of operations using respirators and OSHA requirements;			
Limitations of respirator types and selection;			
Inspection, donning, and fit-check procedures;			
Cleaning, maintenance, and storage procedures;			
FIT TESTING			
Fit-testing is done following the Appendix B protocol by the Program			
Administrator or someone knowledgeable in fit-testing procedures.			
A fit-factor of 100 for a half-face and of 1000 for a full-face respirator is needed to pass a fit test.			

Fit-testing is accomplished only when nothing interferes with the face to face piece			
seal.			
Respirators used for fit-testing are sanitized.			
USE OF RESPIRATORS	YES	NO	N/A
When an employee's choice of respirator or fit changes, the old respirator is turned in and a new respirator is issued.			
Lens kits are available and provided to personnel who wear glasses.			
For air-purified respirators either end of service-life indicators are used or a change schedule is implemented.			
Air sampling is performed to validate effectiveness of respiratory protection and change-out schedules for routine operations.			
CLEANING / STORAGE/ MAINTENANCE			
Respirators are stored in a manner so as to protect them from dust, sunlight, heat, and deformation.			
Respirators for use by more than one person are cleaned and disinfected after use.			
Malfunctioning respirators are repaired by the user for normal wear items.			
Regulators and air-supply systems are repaired by manufacturer trained personnel.			
Inspection of respirators is required before and after each use.			
MEDICAL MONITORING			
Employees using respirators beyond dust masks have been medically cleared to wear one.			
Personnel receive medical evaluation or examination annually.			
The Program Administrator reviews medical clearances to note changes in medical restrictions which may be attributed to work activities. Where needed the			
administrator consults with the physician to clarify limiting conditions.			
Exposure monitoring are performed if such changes occur.			
Results are expressed clearly and adequate information is provided.			
Are explanations concerning the results adequate?			
Recommendations for corrective actions are provided.			
EXPOSURE ASSESSMENT			
Exposure activities requiring respirators have been assessed.			
Specific activities have been identified as needing exposure monitoring.			
Alternate procedures, controls, and chemicals have been considered where RPP is used.			
IDLH			
Emergency use respirators are inspected and recorded monthly.			
"Emergency use" breathing gas containers are inspected monthly for gas pressure. At 90% of full pressure, the unit is taken out of service.			
RECORD KEEPING			
Equipment inspection records exist for issued respirators.			
Equipment inspection records exist for community equipment.			
Results of air monitoring and fit-testing are received by your office.			
Records are kept of the fit test and the issuance of respirators to individuals for their exclusive use.			

Reviewed by:	Date:	
Reviewed by:	Date:	

Appendix D - Voluntary Use of Respirator Information

CALIFORNIA STATE UNIVERSITY STANISLAUS Respiratory Protection Program

Acknowledgement for Voluntary Use of University or Self-Provided Respirators (Appendix D to Title 8 Section 5144)

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 elect to wear a respirator to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If the University provides respirators for your voluntary use, or you provide your own respirator, you need to take certain precautions to be surethat the respirator itself does not present a hazard.

You should do the following:

- Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
- 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.
- Do not wear your respirator into atmospheres containing contaminants for which your
 respirator is not designated 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.
- Keep track of your respirator so that you do not mistakenly use someone else's respirator, or allow someone else to use yours.

If you wish to voluntarily use a University or self-provided respirator, please fill out your name, sign & date below; and return a copy of this form to S&RM at MSR290.

Name		Signed	
	(print)	-	
Department		Telephone #	
Date			
Date			

Note: Voluntary users of respirators are encouraged to confirm they are medically fit for respirator use by reviewing the proposed use and conditions with a personal health care provider; utilizing the additional forms provided.

Appendix E – Employee Protection from Wildfire Smoke

Cal/OSHA Appendix B to Section 5141.1: (Mandatory) Protection from Wildfire Smoke Information to Be Provided to Employees

Note: This Cal/OSHA standard is only applicable when the current Air Quality Index (AQI) for small particulate matter (PM2.5) exceeds 150 and only covers employees who work outside or in non-filtered buildings and vehicles for more than one hour per shift.

1. The health effects of wildfire smoke

Although there are many hazardous chemicals in wildfire smoke, the main harmful pollutant for people who are not very close to the fire is "particulate matter," the tiny particles suspended in the air. The smallest, and usually the most harmful, particulate matter is called PM2.5 because it has a diameter of 2.5 micrometers or smaller. Particulate matter can irritate the lungs and cause persistent coughing, phlegm, wheezing, or difficulty breathing. Particulate matter can also cause more serious problems, such as reduced lung function, bronchitis, worsening of asthma, heart failure, and early death. People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects.

2. The right to obtain medical treatment without fear of reprisal

Employers must have effective provisions made in advance for prompt medical treatment of employees in the event of serious injury or illness caused by wildfire smoke exposure.

3. How to obtain the current Air Quality Index for PM2.5

Various government agencies monitor the air at locations throughout California and report the current Air Quality Index (AQI) for those places. The AQI is a measurement of how polluted the air is. An AQI over 100 is unhealthy for sensitive people and an AQI over 150 is unhealthy for everyone. Although there are AQIs for several pollutants, Cal/OSHA's regulation about wildfire smoke only uses the AQI for PM2.5. The easiest way to find the current and forecasted AQI for PM2.5 is to go to www.airNow.gov and enter the zip code of the place where you will be working. The current AQI is also available from the U.S. Forest Service at https://tools.airfire.org or a local air district, which can be located at www.airb.ca.gov/capcoa/dismap.htm. Employees who do not have access to the internet can contact their employer for the current AQI. The EPA website www.enviroflash.info can transmit daily and forecasted AQIs by text or email for particular cities or zip codes.

4. The requirements in Cal/OSHA's regulation about wildlife smoke

If employees may be exposed to wildfire smoke, and the current AQI for PM2.5 at the worksite is 150 or more, Cal/OSHA requires employers to take several actions:

- Find out what the current AQI is at the location.
- Provide training to employees.
- Lower employee exposures.

• Provide respirators and encourage their use.

5. The employer's communication system

Employers must establish a two-way communication system to alert employees when the air quality is harmful and what protective measures are available to employees. Employers must also have a system that encourages employees to inform their employers if they notice the air quality is getting worse, or if they are suffering from any symptoms due to the air quality, without fear of reprisal. The University will communicate with the campus community when the AQI for PM2.5 exceeds 150 in the following ways:

- Email communication to managers;
- An All Announcement to the entire campus community; and
- When feasible, sandwich boards will be placed around campus.

6. The employer's methods to protect employees from wildfire smoke

Each employer must act to protect employees from PM2.5 in wildfire smoke. Examples of protective methods include relocating work in enclosed structures or vehicles where the air is filtered; changes in procedures such as moving workers to a place with a lower AQI, reducing worktime in areas with unfiltered air, increasing rest time and frequency, providing a rest area with filtered air, and reducing the physical intensity of the work to help lower the breathing rate and heart rate. The University's control system is to provide covered employees with N95 masks while they are working outside or in unfiltered, unenclosed buildings or vehicles.

7. The importance, limitations, and benefits of using a respirator when exposed to wildfire smoke

When the current AQI for PM2.5 is over 150, employers must provide their workers with proper respirators for voluntary use. If the AQI is over 500, respirator use is mandatory. Respirators can be an effective way to protect employee health by reducing exposure to wildfire smoke when they are properly selected and work. Respirator use can be beneficial even when the AQI for PM2.5 is less than 150, to provide additional comfort and protection. A respirator should be used properly and kept clean. The following precautions must be taken:

- 1. Choose respirators certified for the use to protect against the contaminant of concern. NIOSH, the National Institute of Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will list what the respirator is designed for (particulates, for example). Surgical masks or items worn over the nose and mouth such as scarves, T-shirts, and bandannas will not provide protection against smoke. A N95 filtering facepiece respirator, shown in the image below, is the minimum level of protection for wildfire smoke.
- 2. Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
- 3. Do not wear a respirator into atmospheres containing contaminants for which the respirator is not designed. A respirator designed to filter particles will not protect employees against gases or vapor, and it will not supply oxygen.
- 4. Employees should keep track of their respirator so that they do not mistakenly use someone

else's respirator.

5. Employees who have a heart or lung problem should ask their doctor before using a respirator.

8. How to properly put on, use, and maintain the respirators provided by the employer

To get the most protection from a respirator, there must be a tight seal around the face. A respirator will provide much less protection if facial hair interferes with the seal. The proper way to put on a respirator can depend on the type and model of the respirator. For those who use an N95 or other filtering facepiece respirator, a mask that is made of filter material:

- 1. Place the mask over the nose an under the chin, with one strap placed below the ears and one strap above.
- 2. Pinch the metal part (if there is one) of the respirator over the top of the nose so it fits securely.



Drawing Showing Proper Fitting of a Filtering Facepiece Respirator (shaving is not required for voluntary respirator use)

Regardless of the type of respirator, check how well it seals to the face by following the manufacturer's instructions for user seal checks. Adjust the respirator if air leaks between the seal and the face. The more air leaks under the seal, the less protection the user receives. Replace the respirator filter if it gets damaged, soiled, or difficult to breathe through. If you have symptoms such as difficulty breathing, dizziness, or nausea, go to an area with cleaner air, take off the respirator, and get medical help.