ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

TABLE OF CONTENTS

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

1.0 PURPOSE

The purpose of the Environmental, Health & Safety (EH&S) Respiratory Protection Program is to protect Palomar Community College District (PCCD) employees and students from health hazards. Respiratory protection is to be used only if engineering control, substitution, administrative control or a combination of such controls is not feasible or adequate to control a potential or identified inhalation hazard. This program will provide a systematic process for implementation, and fills the requirements of the OSHA Respiratory Protection Rule, 29 CFR 1910.134.

2.0 SCOPE

2.1 This Program applies to all PCCD employees and students who are required to wear respiratory protection during work-related activities and during emergency incidents.
2.2 Employees and students who are approved to wear respirators under voluntary status are covered by applicable portions of this program.
2.3 Contractors are not covered by this program, but must have an adequate program per 29 CFR 1910.134 if their employees may be exposed to airborne hazards.

3.0 RESPONSIBILITIES

3.1 **The EH&S Department** is responsible for:

- Providing assistance and support with program compliance
- Managing and conducting exposure assessments
- Managing and conducting training and fit testing
- Selecting respirators
- Conducting regular evaluations and reviewing regulatory requirement changes for program

3.2 **Departments** are responsible for:

- Providing medical surveillance
- Providing respirators
- Supporting supervisors, employees, students and the EH&S Department with implementation and program compliance
- Partnering with EH&S Department with evaluation of engineering control feasibility for existing and new operations affected by this program

3.3 **Administrators and Supervisors** are responsible for:

- Completing respiratory request forms
- Ensuring that all employees wearing respirators in the workplace (with the exception of employees voluntarily using filtering face pieces, i.e. dust masks) are identified and covered by this program
- Ensuring covered employees receive required medical evaluations
- Ensuring covered employees attend mandatory training
- Providing sufficient surveillance of the work area to ensure employee compliance with all program elements
- Assisting EH&S with regular program evaluations as it relates to the individual's area of responsibility

6.4 **Employees and students** are responsible for:

- Completing assigned training and maintaining awareness of their re-qualification requirements
- Using only approved respirators in workplace
- Undergoing medical evaluations as required under Cal/OSHA Title 8 Section 5144
- Completing fit-testing process before initial respirator use and as required thereafter
- Performing a user seal check each time a tight-fitting respirator is used
- Not wearing a tight-fitting respirator if facial hair (or other conditions) interferes with the sealing surface of the face piece and face
- Cleaning and disinfecting respirators as outlined in this program
- Storing respirator in accordance with established procedures
- Inspecting respirators before each use and during cleaning.
- Reporting conditions that would require respirator replacement before next use
- Ensuring compliance with other applicable parts of the program
- Reporting any working conditions that may require change in respirator selection and use

4.0 PRECAUTIONS / LIMITATIONS

Precautions

- Employees and students must be medically cleared **PRIOR** to training and fit-testing
- Employees and students **SHALL** not use respirators until all mandatory program training requirements are completed

Limitations

None

5.0 PREREQUISITES / INITIAL CONDITIONS

5.1 Prerequisites

VERIFY this document is current by checking PCCD website (www2.palomar.edu), Environmental Health & Safety section (Procedures) tab.

5.2 Initial Conditions

None

6.0 PROCEDURE

6.1 Eligibility Requirements

Individual(s) must be able to comprehend PCCD policies, procedures, signs and announcements.

All EH&S exams, including questions built into courses, will be administered through "Keenan SafeColleges" website. Keenan SafeColleges provides Palomar College employees with a comprehensive, web-based training solution that provides legally-compliant courses developed by content experts on a variety of topics in a multimedia (audio/video) format.

The Environmental and Health modules contain over 30 trainings on developing and maintaining a safe and healthy working and learning environment. In addition to the trainings developed by Keenan, Palomar College can develop and upload its own trainings to the SafeColleges website. Trainings can be assigned to individual employees or specific, appropriate groups of staff and employees. Participation can be designated as either mandatory or optional. The SafeColleges website provides a customizable reporting system to track employees' completion of trainings.

6.2 Respirator Selection

Respirator selection requires correctly matching the respirator with the user, the hazard and concentration of the hazard. In order to select the proper respirator, the program administrator will utilize the following information:

- Hazard Assessment of the job or task
- Nature of the hazard and the physical and chemical properties of air contaminant(s)
- Oxygen concentration
- Concentrations of the contaminant(s)
- Exposure limits, action levels and other established limits for air contaminant(s)
- Shift and task parameters
- Respirator user limitations
- Respirator fit, function and limitations

Additional references: 29 CFR 1910.134, American Conference of Governmental Industrial Hygienist's current Threshold Limit Values publication, American Industrial Hygiene Association's current Emergency Response Planning Guidelines and Workplace Environmental Exposure Levels, chemical manufacturers information, the NIOSH Respirator Selection Logic Guide to Industrial Respiratory Protection, and the latest version of NIOSH's Pocket Guide to Chemical Hazards.

Step 1
Administrators/Supervisors must evaluate their workplace(s) and areas where their employees/students work for existing or potential inhalation hazards. Refer to Safety Data Sheets (SDS) for contaminant information. For assistance with conducting a hazard assessment, contact the Environmental Health & Safety department at (760) 744-1150 x3677.

Step 2
Identify employees and students who are or may be exposed to inhalation hazards. With hazard assessment information, complete a *Respirator Request* form (Attachment 1.) This form may be accessed via the link in this section or on the Environmental Health & Safety Department website. Once the form is completed, click on the submit button at the end of the form to send it to the respirator program administrator.

Note: The Respirator Request/Hazard Assessment form needs to be completed only once per job or task ***unless*** *the job changes in a way to increase airborne hazards or a new chemical inhalation hazard is introduced. The program administrator may request a re-assessment if necessary.*

Step 3
An external industrial hygienist (IH) appointed by the EH&S Department will evaluate the request and contact the supervisor to discuss the assessment. If needed, EH&S will arrange a worksite visit and exposure monitoring.

Step 4
With the information provided and obtained, the EH&S department will determine if the employees and/or students are classified as required respirator users or voluntary respirator users and determine the appropriate type of respiratory protection needed to adequately protect them.

Step 5
The EH&S department will contact the supervisor to initiate the medical evaluation process and set-up training as dictated by the selection process.

Approved Respirator Types

Select the following link to see descriptions and images of different types of NIOSH approved respirators used at PCCD, *Respirator Types.*

6.3 Voluntary Use of Respirator

- *Filtering Face-Piece Respirators (Dust Masks)*
  If the EH&S Department has determined that no respiratory hazard exists but the employee wants to use filtering face-piece respirators, the employee must complete and sign a *Voluntary Respirator Request Use Form* (Appendix 4) and read OSHA 1910.134 Appendix D on page 2 of the form. This form should then be sent to the program administrator who will provide the correct respirators.

- *Tight Fitting Respirators*
  If the EH&S Department has determined that no respiratory hazard exists and the employee wants to voluntarily use a tight fitting-filter-cartridge respirator, the employee must pass an initial medical evaluation (see next section 6.4) complete the *Voluntary Respirator Request Use Form* (Appendix 4) and read Appendix D of 29 CFR 1910.134 (located on page 2 of the form.) This form should be sent to the employee's supervisor for signing and then to the program administrator who will add the user to the program and provide necessary respirators. The supervisor will insure the respirator is cleaned, stored and maintained so that its use does not present a health hazard to the wearer.

6.4 Medical Evaluation

Required respirator users must be medically evaluated annually and found physically able to wear the respirator selected for their use prior to fit-testing and first-time use of the respirator in the workplace. Those designated as voluntary respirator users and who use tight-fitting (elastomeric) must also be medically evaluated prior to using their respirator. The initial step is to complete a mandatory medical questionnaire from OSHA's Respiratory Protection Rule 1910.134. Click on the following link to access the PCCD's *Medical Questionnaire* (Attachment 3). The form can be completed on a computer. Once completed, print and submit it to the designated qualified physician who will act as the Practicing Licensed Health Care Provider (PLHCP). Instructions for submission are located on page 1 of the Medical Questionnaire. Due to confidentiality requirements, only the employee and PLHCP shall be granted access the questionnaire. The EH&S Department will provide any necessary exposure assessment data and respirator type to the PLHCP.

Based on information in the questionnaire, the PLHCP will determine if additional evaluation is needed (i.e. physical visit with PLHCP, pulmonary function tests, etc.).

6.4.1 Reporting Results of Examinations

The PLHCP examining respirator users will forward a written opinion indicating respirator use recommendations to the EH&S Department. The EH&S Department will contact the program administrator/supervisor of the respirator user(s) and initiate training and fit-testing based on the recommendations of the PLHCP. In addition, the examining PLHCP will generate a personal medical report for each person examined and mail a copy to their private residence.

6.4.2 Reevaluation

A reevaluation will be necessary if the respirator user should experience any medical signs or symptoms that are relevant to the user's ability to wear a respirator. In such cases, the user should contact their administrator/supervisor and or EH&S Department immediately to mitigate the problem. A change in workplace conditions might also require a reevaluation (e.g., physical work effort, protective clothing, temperature, etc.).

6.5 Fit Testing

The primary purpose of fit testing is to identify the specific make, model, style and size of respirator best suited for each required respirator user. Fit testing reinforces respirator training by having wearers review the proper methods of donning, doffing and wearing the respirator. Required respirator users must be medically evaluated and approved to wear the type of respirator selected prior to fit testing. The fit test will not be conducted if there is any hair growth (stubble, beard, mustache, etc.) between the skin and the respirator sealing surface.

6.5.1 Qualitative Fit Test

A qualitative fit-test is a pass/fail means of testing that relies on the subject's sensory response to detect a challenge agent.

A qualitative fit-test using low levels of Isoamyl acetate (IAA) will be used as a fit test for all half-mask respirator users equipped with an organic vapor filter. The detection of the leakage by means of smell will be used to determine an unsuccessful qualitative test, while the lack of detection will indicate a successful qualitative test.

6.5.2 Quantitative Fit Test

The quantitative fit test measures the challenge agent leakage into the respirator without dependence on a test subject's voluntary or involuntary response to the challenge agent. This system measures the particle concentration outside the respirator and inside the respirator. A ratio of these two measurements produces a fit factor (ff = outside concentration/inside concentration).

A Portacount™ system will be used as the primary fit test for all respirator users, including half-masks and full-masks. Achievement of an average fit factor of 100 or greater for tight-fitting half face piece respirators and an average of 500 or greater for tight-fitting full face piece respirators indicates a successful quantitative fit test. Acceptable methods of qualitative fit testing may be used as a back-up to the primary method only for negative-pressure air-purifying respirators that must achieve a fit factor of 100 or less.

6.5.3 Fit Testing Procedure

Once initial or refresher training, and medical approval have been completed, the respirator user is eligible to be fit-tested. If the employee has previously been issued an approved respirator, it is preferable to use it for fit-testing.

The employee/student will don the respirator and perform positive and negative user seal checks **without** assistance. If they cannot successfully perform the seal checks, the trainer will give assistance to refit the respirator. The user will then retry donning the respirator and performing seal checks.

While wearing the respirator, a chamber will be secured around their head. Either an IAA soaked paper towel or a test swab will hang from a hook on the top of the chamber. After waiting two minutes for the IAA to stabilize, the fit test exercises should start. All exercises are for one minute duration except Grimace which shall be for 15 seconds.

- *Normal Breathing* - In a normal standing position, without talking, the test subject shall breathe normally for at least one minute.
- *Deep Breathing* - In a normal standing position, without talking, the test subject shall breathe slowly and deeply, taking care so as not to hyperventilate.

- *Turning Head Side to Side* - Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
- *Moving Head Up and Down* - Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
- *Talking* - The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.
- *Grimace* - The test subject shall grimace by smiling or frowning.
- *Bending Over* - The test subject shall bend at the waist as if he/she were to touch his/her toes.
- *Normal Breathing* - Same as the first exercise.

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 uncomfortable, another model of respirator shall be tried.

If the respirator user does not pass the fit test, a reasonable opportunity to select a different respirator and to be retested will be provided. Retesting is also necessary if there are changes in the user's physical condition that could affect respirator fit. Such conditions include, but are not limited to: facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

6.6 *Respirator Use*

Respirators must only be used in a manner consistent with the requirements of this program, employee/student's level training, manufacturer's recommendations and the respirator's NIOSH certification

- Use only the brand, model, and size respirator for which you were fitted. Inspect the respirator and parts prior to donning.
- For tight-fit respirators, perform negative and positive-pressure user seal checks each time the respirator is worn.
- Use the cartridges recommended for the contaminant involved. Contact the program administrator if you are uncertain about which respirator or cartridges are appropriate for a specific contaminant.
- Be aware that a respirator has limitations that govern its ability to protect you.
- Maintain the respirator in a sanitary condition.
- Follow manufacturer's instructions.
- Notify your program administrator/supervisor if you detect increased breathing resistance, an odor or taste, or experience throat irritation.
- Cartridges must be replaced according to established change schedules and end-of-service-life indicators.
- Cartridges must be changed in areas free from airborne contaminants.

Respirators should not be used if they are impaired in any way, i.e. a broken strap, loss of face piece shape, missing parts, etc. The employee/student must leave a respirator use area and contact their program administrator/supervisor, and if needed the EH&S Department, whenever the following occur:

- The user detects contaminant breakthrough (odor, taste and/or irritation effects)
- Dizziness or other distress
- A change in breathing resistance
- Leakage of the face piece
- The respirator becomes damaged
- Cartridges need to be replaced

User Seal Checks

Employees/Students wearing a tight fitting respirator must perform positive and negative pressure seal checks every time the respirator is put on and prior to each entry into a hazardous atmosphere according to 1910.134 Appendix B-1.

1. Positive Pressure User Seal Check

   - Close off exhalation valve with palm
   - Exhale gently
   - A small buildup of positive pressure, with no outward leaks, indicates a good face-piece fit
   - If air leakage is detected, reposition the respirator on the face, readjust the tension of the head bands, or try a different size respirator
   - Repeat the test until a satisfactory seal has been achieved

2. Negative Pressure User Seal Check
   - Cover air inlets with palms or other means; if a disposable, cover the entire filtering surface
   - Gently breathe in so that face-piece collapses slightly
   - Hold breath for 10 seconds
   - If respirator remains slightly collapsed and no inward leaks are felt, the face-piece fits tight enough
   - If air leakage is detected, reposition the respirator on the face, readjust the tension of the head bands, or try a different size respirator
   - Repeat the test until a satisfactory seal has been achieved

6.7 Maintenance and Care of Respirators

To ensure that respirators remain serviceable and delivers effective protection, users must inspect, clean and maintain their respirators. If respirators are not serviceable, contact their program administrator/supervisor.

Cleaning and Disinfecting

- The employee's department shall provide each respirator user with a respirator that is clean, sanitary, and in good working order.

- Periodic disinfecting should be performed as needed. Use appropriate quaternary disinfecting agent(s).

- Each respirator user shall clean and disinfect his/her respirator according to manufacturer's recommendations. This includes:
  1. Disassembly, cleaning and disinfecting, rinsing, drying and reassembly.
  2. Frequency of cleaning is recommended after each use or according to conditions listed below:

  If the respiratory equipment is used exclusively by an individual employee, then it shall be cleaned and disinfected as often as necessary to maintain cleanliness. If the respiratory equipment is used by more than one employee, then it shall be cleaned and disinfected before each use.

  If the respiratory equipment is used for emergencies, training or testing, then the equipment shall be cleaned and disinfected after each use.

Storage

- The respiratory equipment shall be stored in a manner that protects the equipment from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. The respiratory equipment shall be stored in a manner that prevents the deformation of the face piece and the exhalation valve.

- Emergency-use respiratory equipment shall be stored in the following manner:
  1. The respiratory equipment shall be stored in the work area where the equipment is readily accessible. The respiratory equipment shall be stored in compartments or covers that are clearly labeled or marked as containing respiratory equipment.
  2. The respiratory equipment is stored according to any applicable manufacturer's instructions.

Inspection of Respiratory Equipment

- All inspections shall be based on the manufacturer's recommendations.

- Inspections must include a check of respirator function, tightness of connections, and the various parts. These include, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges. Replacement valves and other parts can be obtained from the program administrator.

- Emergency-use respiratory equipment shall be inspected on a monthly basis. It shall be completed in accordance with the manufacturer's recommendations by the EH&S Department.

- Emergency escape-only respiratory equipment shall be inspected before being carried into the workplace for use.

- Self-Contained Breathing Apparatus (SCBA) shall be inspected monthly by the EH&S Department.

- The respiratory equipment inspections shall consist of the following:

  1. A check of the condition of the parts (valves, cartridges, canisters or filters, head straps, face piece, connecting tube, and gaskets), respirator function and signs of deterioration or lack of pliability.
  2. For SCBAs, the air or oxygen cylinders shall have and maintain a minimum of 90% of the recommended pressure level. A check to determine if the regulator and warning devices are also functioning properly shall also be performed on a regular schedule.

Replacement and Repair

- The employee or his/her program administrator/supervisor shall contact the EH&S Department to replace defective or missing valve flaps, gaskets and head straps on air-purifying respirators. The employee shall immediately inform his/her program administrator/supervisor of any repairs to be made to the defective respirator equipment and take the equipment out of service.

- The program administrator/supervisor shall ensure that the defective respiratory equipment is either repaired or replaced. He/she shall also ensure that the defective equipment is not used in the interim.

Cartridge Life (End-of-Service Life) and Change-Out Schedule

If available, the respirator wearer shall use the End-of-Service-Life Indicator (ESLI) to determine when to replace air-purifying elements. If no ESLI is available for the selected air-purifying elements, the EH&S department shall be consulted to determine a change-out schedule to ensure that the air-purifying elements are replaced before the end of their useful service life. The following factors may be utilized to estimate

service life:

1. The relative humidity of the work area. Humidity above 85% can reduce an air-purifying element's estimated service life by approximately 50%.The type of air contaminant. The concentration of the air contaminant. By reducing the amount of contaminant by a factor of ten (10), the service life of an air-purifying element can be increased by a factor of five (5). The breathing demand of the respirator wearer. The harder and faster one breathes due to work stresses, the shorter the air-purifying element's service life. The presence of multiple contaminants. How variable the contaminant's concentration(s) will be.
2. The breakthrough time(s) of the contaminant(s).
3. OSHA's Advisor Genius software.

- If the respirator wearer experiences any odor, taste, or irritation, or experiences excessive breathing resistance, the wearer shall:
  1. Immediately leave the contaminated area.
  2. Change-out the air-purifying element(s) regardless of the ESLI change-out schedule.
  3. Adjust the change-out schedule to shorter times.
  4. Contact the program administrator to update the existing change-out schedule.

- The respirator wearer shall change-out and discard any air-purifying elements that have reached their ESLI, failed during use, become damaged or wet, or become difficult to breathe through. If conditions are causing the air-purifying elements to fail before their ESLI, then the program administrator shall be contacted to determine if the job function requires the use of different type of respirator, i.e. supplied-air respirator, etc.

Respirator Cartridge Change Schedule

All air-purifying respirators used for protection against gases and vapors must have an end-of-service indicator (ESLI) or have a cartridge change schedule that is based on objective information data to ensure that canisters or cartridges are changed before the end of their service life. The following change schedule is determined based on OSHA standards, manufacturer's recommendations, and the ACGIH "rule of thumb".

CONTAMINANT	**CHANGE SCHEDULE**
Acrylonitrile	End of shift
Ammonia	Maximum 8 hours use total (up to 125 ppm)
Benzene	Beginning of shift
Butadiene	Every 1, 2, or 4 hours dependent on concentration (according to 29CFR1910.1051 Table 1), and at beginning of each shift
Formaldehyde	3 hours or end of each shift (whichever comes first)
HCI, SO_2, Chlorine	Maximum one shift
Methylene Chloride	No approved cartridge or canisters – must use supplied air
Nitric Acid	No approved cartridge or canisters – must use supplied air

Organic Vapors	Maximum 8 hours use total (up to 200 ppm)
Vinyl Chloride	End of shift
All Cartridges for Emergency Use	Discard after use
HEPA filers	Restricted breathing or visibly dirty, wet, or compromised
Filtering dust masks	Visibly dirty/contaminated

Breathing Air Quality and Use

- Only compressed breathing air that meets the specifications below shall be used for air-supplying respirators.
  1. Oxygen in concentrations greater than 23.5% by volume shall not be used in compressed air equipment.
  2. Oxygen content in compressed breathing air shall be between 19.5% and 23.5% by volume.
  3. Condensed hydrocarbon content shall be 5 mg/m³ or less.
  4. Carbon monoxide content shall be 10 ppm or less. Carbon dioxide content shall be 1000 ppm or less.
  5. There shall be a lack of noticeable odor in the compressed air.

- Cylinders of purchased compressed breathing air:
  1. Cylinders shall be tested and maintained according to 49 CFR 173-178, "Shipping Container Specification Regulations."
  2. The supplier of the cylinder shall provide a certificate indicating that the breathing air has been tested and meets the criteria for Class D breathing air.
  3. Compressed breathing air shall have a moisture level that does not exceed the dew point of -50°F (-45.6°C).

- SCBA cylinders
  1. SCBA cylinders shall be filled by San Marcos City Fire Department
  2. The supplier shall provide certification that the breathing air meets Class D breathing air requirements.

- Oil-less Air Compressors used for breathing air
  1. For compressors that are not oil-lubed, the carbon monoxide level shall be 10 ppm or lower.
  2. All filters shall be labeled stating the last change-out date and the next due date.
  3. Air compressors shall be located away from any source of air contamination.

- Oil-lubed compressors

  1. Shall have carbon monoxide alarms.
  2. Carbon monoxide alarms shall be calibrated per manufacturer's recommendations.
  3. The moisture content shall have a dew point of 10°F (-5.56°C) or below.
  4. Air compressors shall be located away from any source of air contamination.
  5. Breathing air couplings shall be different from non-breathing air couplings.
  6. All sorbents and filters shall be labeled with a tag stating the last change-out date.

Identification of Filters, Cartridges and Canisters

- All filters, cartridges and canisters used shall be NIOSH-approved.

- All labels on the filters, cartridges and canisters shall be labeled and color-coded with the NIOSH approval label.

- During respirator use, labels shall not be defaced, obscured or removed. Information on them shall remain legible. Any marking on the filters, cartridges or canisters by the user is acceptable if the marking does not compromise the integrity of the filter, cartridge or canister. Markings must not obscure information on the label.

7.0 RECORD KEEPING

- The EH&S department shall maintain training records, written medical opinions for required respirator users, fit test records, voluntary use records, SCBA, supplied airline and escape respirator inspection records and grade D breathing air certificates.
- Medical questionnaires completed by required respirator users and follow-up examination records will be maintained by the reviewing PLHCP and PCCD Human Resources department. Not by that person's department or supervisor. These records will be accessible, preserved and maintained for the duration of employment of the employee plus 30 years.
- The supervisor of the employee requesting the respirator will need to keep a copy of the signed "voluntary use agreement" document on file.
- Written medical opinions provided by the PLHCP to PCCD shall be kept by the EH&S department for the duration of employment of the employee plus thirty years.
- Fit-test records shall be maintained at least until the next fit-test is performed.

8.0 TRAINING REQUIREMENTS

All employees and students involved in the program must be properly trained. This includes respirator user's supervisors. They must have adequate training and knowledge to fulfill their responsibilities as outlined in section 9.0.

Training is required initially and annually thereafter for required respirator users. If a new hazard is introduced, additional evaluation and training may be necessary. Voluntary users of elastomeric respirators must take part in the full program. Voluntary users wearing filtering-face piece, NIOSH approved respirators must read and understand Appendix D of OSHA 1910.134 initially.

Refresher training is available for respirator users who have completed the initial training and who frequently wear their respirators.

Initial Training

Initial training is required:

- Before work requiring a respirator is performed and annually thereafter
- When hazards or conditions change,
- If the user has not retained the necessary skills for safe respirator use.

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

Program Administrators/Supervisors can sign employees/students up for training or employees/students can sign-up with program administrator's/supervisor's approval. Training classes are limited to 10 participants with one type of respirator per person or 6 participants with 2 or more types of respirators per person. These classes consist of 1.5-3 hours of instruction, dependent upon number of fit-tests performed. Program Administrators/Supervisors can request a training class by contacting the EH&S Department to schedule training.

Training will cover, at the minimum, the following topics:

- General requirements of the OSHA respiratory protection standard
- Why respirators must be used
- Respiratory Specific Information
- Respiratory Hazards
- Employee exposure
- Health effects
- Proper Selection
- Procedures for inspecting the respirator, donning and removing it, checking the fit and seal, and actually wearing it
- Information regarding the consequences of improper fit, usage, or maintenance
- Limitations and capabilities of the respirator selected, including ESLI and change schedules
- How to use the respirator effectively in emergency situations, including situations when malfunctions occur
- Proper procedures for maintenance and storage
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirator
- Depending on the type, respirators may burden users in several ways. These stressors may include: physiological burden from its weight and breathing resistance, musculoskeletal and cardiopulmonary stress, limitations on hearing, sight, smell and communication.

Refresher Training

Refresher training is also available for employees and students required to use respirators and that have had no changes in their initial hazard assessment and respirator selection. Note: medical evaluation and fit-testing is still required for the refresher training. Contact the EH&S Department to schedule training.

Training content will include information about:

- Why the respirator is necessary
- Proper fit, usage and maintenance, limitations and capabilities
- Use in emergency situations or respirator malfunctions
- How to put on, remove, use and check seals of respirator
- Procedures for maintenance and storage
- Medical signs and symptoms that may limit or prevent use, and general requirements of 29 CFR 1910.134

Supplemental Training

Additional training per manufacturers specifications, equipment information, wearing, using, storing and basic inspection is necessary for those who use atmosphere supplying respirators (SCBAs, supplied air line systems, escape respirators) and Powered Air-Purifying Respirators.

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

9.0 MONITORING

PCCD's Respiratory Protection Program will be evaluated and updated annually or more frequently to coincide with workplace or governing regulation changes. The purpose of this evaluation is to ensure the provisions of the written program are effectively implemented and continue to be effective as outlined in 29 CFR 1910.134 (l). The EH&S Department will manage evaluations. Findings will be reported to the Risk Management. The Risk Management and/or the EH&S Department will submit reports to departments as needed to facilitate and maintain OSHA compliance. Assistance with program implementation will be provided by the EH&S Department.

Evaluations will include, but are not limited to the following:

- Review of written program
- Review of completed Hazard Assessments
- Determination of effectiveness of program elements (Training, Medical Surveillance, Care and use of respirators, Cartridge Change -outs, Fit Testing)
- Academic and non-academic departmental support
- Administrator/Supervisor involvement and understanding of responsibilities
- Employee involvement and understanding of responsibilities

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

10.0 DEFINITIONS

Abrasive Blasting Respirator: A respirator designed to protect the wearer from inhalation of, impact of, and abrasion by materials used or generated in abrasive blasting.

Aerodynamic Diameter: The diameter of a unit density sphere having the same terminal settling velocity as the particle in question.

Aerosol: particles, solid or liquid, suspended in air.

Airline respirator: An atmosphere supporting respirator in which the respirable gas is not designed to be carried by the wearer (formerly called supplied air respirators).

Air-purifying respirator: A respirator in which ambient air is passed through an air purifying element that removes the contaminant(s). Air is passed through the air-purifying element by means of the breathing action or by a blower.

Approved: See certified.

A**ssigned Protection Factor** (APF): The expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users.

Atmosphere-Supplying Respirator: A class of respirators that supply a respirable atmosphere, independent of the workplace atmosphere.

Bioassay: A determination of the concentration of a substance in biological fluids and tissue by analysis of urine, feces, blood, bone, tissue, etc.

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

Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded during any part of the working exposure.

Certified: Evaluated and listed as permissible by the National Institute for Occupational Safety and Health (NIOSH), the Mine Safety and Health Administration (MSHA), or the Bureau of Mines (BM).

Confined Space: An enclosed space that has the following characteristics: *Its primary function is something other than human occupancy; *It has restricted entry and exit; *It may contain potential or known hazards. Examples of confined spaces include, but are not limited to: tanks, silos, vessels, pits, sewers, pipelines, tank cars, boilers, septic tanks, utility vaults. Tanks and other structures under construction may not be considered confined spaces until completely closed. Restricted entry and exit means physical impediment of the body, e.g.--use of the hands or contortion of the body to enter or exit from the confined space.

Contaminant: A harmful, irritating, or nuisance airborne material.

Continuous flow respirator: An atmosphere-supplying respirator that provides a continuous flow of respirable gas to the respiratory inlet covering.

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

Disposable Respirator: A respirator for which continued use and maintenance is not intended and that is designed to be discarded after excessive resistance, sorbent exhaustion, physical damage, or end-of-service-life renders it unsuitable for use.

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

Examples of this type of respirator are a disposable half-mask respirator or a disposable escape-only self-contained breather apparatus (SCBA).

Dust: An aerosol consisting of mechanically produced solid particles derived from the breaking up of larger particles. Dusts generally have a larger particle size when compared to fumes.

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 user of the approach of the end of adequate respiratory protection.

Escape-only Respirator: A respirator intended only for use during emergency egress from a hazardous atmosphere.

Exhalation Valve - A device that allows exhaled air to leave a respiratory device and prevents outside air from entering through the valve.

Exposure Limit: The maximum allowable concentration of a contaminant in the air to which an individual may be exposed. These may be time-weighted averages, short-term limits, or ceiling limits.

Face piece - That portion of a respirator that covers the wearer's nose, mouth, and/or eyes. Designed to make a gas-tight or dust-tight fit with the face, it includes the headbands, exhalation valve(s), and connections for an air-purifying device.

Filter - A fibrous medium used in respirators to remove solid or liquid particles from the inspired air.

Filtering Face piece (Dust Mask): A negative pressure particulate respirator with a filter as integral part of the face piece or with the entire face piece composed of the filtering medium.

Fit Check: A test conducted by the wearer to determine if the respirator is properly sealed to the face.

Fit Factor: A quantitative measure of the fit of a particular respirator to a particular individual.

Fit Test: The use of a challenge agent to evaluate the fit of a respirator on an individual.

Fume: Solid aerosols formed by condensation of a gas or vapor. Fumes generally have a smaller particle size when compared to dusts.

Gas: A fluid that has neither independent shape nor volume and tends to expand indefinitely at room temperature.

Hazardous Atmosphere: An atmosphere that contains a contaminant(s)
in excess of recognized exposure limit is potentially explosive, or that is oxygen deficient.

Hazard Ratio: A number obtained by dividing the concentration of a contaminant by its exposure limit.

Helmet: A hood that offers head protection against impact and penetration.

High-efficiency Particulate Air (HEPA) Filter: A filter that removes from the air 99.97% or more of the aerosols having a diameter of 0.3 um.

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

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

Immediately Dangerous to Life or Health (IDLH): Any atmosphere that poses an immediate hazard to life or poses immediate irreversible debilitating effects on health.

Inhalation Valve - A device that allows respirable air to enter the face piece and prevents exhaled air from leaving the face piece through the intake opening.

Interior Structural Firefighting: The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage.

Loose-fitting Face piece: A respiratory inlet covering that is designed to form a partial seal with the face, does not cover the neck and shoulders, and may or may not offer head protection against impact and penetration.

Mass Median Aerodynamic Diameter (MMAD): A point in an aerodynamic particle size distribution where half of the mass lies in particles with a diameter less than the MMAD and half in particles with diameters greater than the MMAD.

Mist: An aerosol composed of liquid particles.

Mouthpiece and Nose-clamp Assembly: A respiratory inlet covering that is held in the wearer's mouth and must always be used in conjunction with a nose clamp.

MSHA - Mine Safety and Health Administration - A Federal agency that tests, approves, and certifies respiratory protection equipment.

Negative-pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is negative during inhalation with respect to the ambient air pressure.

NIOSH - National Institute for Occupational Safety and Health - A Federal agency that tests, approves, and certifies respiratory protection equipment.

Occupational Health Professional: An individual whom, by experience and education, is competent at recognizing, evaluating, and controlling health hazards in the workplace.

OSHA - Occupational Safety and Health Administration - The Federal Agency which sets the minimum requirements for respirator use.

Oxygen Deficient Atmosphere: An atmosphere with oxygen content below 19.5% by volume.

Permissible Exposure Limit (PEL): An exposure limit that is published and enforced by OSHA as a legal standard. PEL may be either a time-weighted-average (TWA) exposure limit (8 hour), a 15-minute short term exposure limit (STEL), or a ceiling (C). The PELs are found in Tables Z-1, Z-2, or Z-3 of OSHA regulations 1910.1000.

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, and Rodenticide Act (FIFRA).

PF - Protection Factor - The overall protection afforded by a certain type of respirator as defined by the ratio of the concentration of contaminant outside a face-mask to that inside the equipment under conditions of use. For example: if a half-mask 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.

Physician or other Licensed Health Care Professional (PLHCP): An individual whose legally permitted scope of practice allows him/her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section.

Poor Warning Properties: A substance whose odor, taste, or irritation effects are not detectable or not persistent at concentrations below the exposure limit.

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

Positive-pressure Respirator: A respirator in which the pressure inside the respiratory inlet covering is normally positive with respect to ambient air pressure.

Powered Air-purifying Respirator: An air-purifying respirator that use a blower to force the ambient atmosphere through air purifying elements to the inlet covering, maintaining positive pressure in the face piece.

Pressure-demand Respirator: A positive pressure atmosphere-supplying respiratory that admits respirable gas to the face piece when the positive pressure is reduced inside the face piece by inhalation.

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 (FEV-1), the amount of air forcibly expired in one second after full inhalation.

Qualitative Fit Test: A pass/fail fit test that relies on the subject's sensory response to detect the challenge agent (for example: irritant smoke, banana oil, or saccharin tests).

Quantitative Fit Test: A fit test that uses an instrument to measure the challenge agent inside and outside the respirator quantitatively giving at fit factor number (for example: Portacount™).

Radionuclide: An atom that spontaneously emits particles, gamma, or x-radiation.

Resistance - Opposition of the flow or air, as through a canister, cartridge, or particulate filter.

Respirator: A personal device designed to protect the wearer from the inhalation of hazardous atmospheres.

Respiratory Inlet Covering: That portion of a respirator that connects the wearer's respiratory tract to an air-purifying device or respirable gas source, or both. It may be a face piece, helmet, hood, suit, or mouthpiece/nose-clamp.

Sanitization: The removal of contaminants and the inhibiting of the action of the agents that causes infection or disease.

Self-contained Breathing Apparatus (SCBA): An atmosphere-supplying respirator in which the respirable gas source is designed to be carried by the wearer.

Service Life: The period of time that respirators provide adequate protection to the wearer.

Sorbent: A material that is contained in a cartridge or canister and removes specific gases and vapors from the inhaled air.

Suit: A respiratory inlet covering designed to cover the entire body. This term does not include protective clothing that only provides skin protection.

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.

TLV - Threshold Limit Value - A list published yearly by the American Conference of Governmental Industrial Hygienists as a guide for exposure concentrations that a healthy individual normally can tolerate for eight hours a day, five days a week, without harmful effects. Airborne particulate concentrations are generally listed as milligrams per cubic meter of air (mg/m3). Gaseous concentrations are listed as parts per million (ppm) by volume.

Tight-fitting Face piece: A respiratory inlet covering that is designed to form a complete seal with the face. A half-face piece (includes quarter masks, disposable masks, and masks with elastomeric face pieces) covers the nose and mouth; a full face piece covers the nose, mouth, and eyes.

Time-weighted Average (TWA): The average concentration of a contaminant in air during a specific time period (commonly 8 hours for OSHA compliance).

User Seal Check: An action conducted by the respirator user to determine if the respirator is properly seated to the face.

Vapor: The gaseous phase of matter that normally exists in a liquid or solid state at room temperature.

Voluntary use: Voluntary use is when an employee/student chooses to wear a respirator, even though the use of a respirator is not required by either the employer or by any OSHA standard. *There is no definition for the term "voluntary use" in the OSHA standard; the above definition came from OSHA's "Small Business Entity Guide" page C3.*

11.0 REFERENCES

OSHA Respiratory Protection Standard (29 CFR 1910.134)

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 1

Palomar Community College District
Respirator Request Evaluation Form

1. Name	First:		Last:	2. Email:	
3. Extension:			4.Department:		
5. Employee Classification:					
6. Supervisor	First:		Last:	7. Email:	
8. Hazards/Agents/Products (attach MSDSs)					
9. Activities/Processes					
10. Form of Contaminants (Check all that apply)	☐ Dust ☐ Mist ☐ Smoke ☐ Gas ☐ Fumes ☐ Spray ☐ Aerosol ☐ Vapor				

11. Engineering Controls in Place

☐ Substitution by a less toxic material ☐ Isolation or enclosure of process or operation ☐ General dilution ventilation
☐ Local exhaust, chemical fume hoods, special ventilation systems ☐ Tools or equipment designed to minimize emissions
☐ Other (specify)

12. Frequency of contact with substance

☐ Less than 2 hours per day ☐ Over 4 hours per day ☐ 2-4 hours per day ☐ Other (specify)

13. Physical Demands of Work

☐ Light, like standing ☐ Moderate, like walking ☐ Heavy, like digging ☐ Other (specify)

14. Other PPE or equipment

☐ Safety Goggles ☐ Face Shield ☐ Coveralls ☐ Gloves ☐ Hard Hat ☐ Other (specify)

15. Temperature Extremes

☐ None ☐ High temperature extreme (ex. high heat furnace) ☐ Low temperature extreme (ex. walk-in freezer)

16. Frequency of Use of Respirator

☐ Rarely (specify) ☐ Occasionally (specify) ☐ Daily (specify)

17. Have you previously been assigned a respirator at Palomar College?	

Complete the information below to expedite the purchase of your respirators

Account	Fund (2 digits)	Org/Dept. (6 digits)	Program (5 digits)	Subcls (2 digits)	BY (4 digits)	Project/Grant (7 digits)

Submit

:k the "Submit" button above or send completed form to Derrick Johnson at djohnson1@palomar.edu or extension 3677

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 2

IMPORTANT INFORMATION REGARDING YOUR RESPIRATOR QUESTIONNAIRE AND APPOINTMENT WITH PALOMAR COLLEGE HEALTH SERVICES!!!!

- **If you are under the care of a medical provider for any chronic illness such as heart problems, respiratory problems, diabetes, etc., please call your primary care physician for further information BEFORE your appointment.**
- Complete the Respirator Questionnaire and bring it to your appointment.
- Bring the names and dosages of all medications at the time of your appointment.
- Be sure to take your scheduled meds prior to your appointment.
- Limit coffee and caffeine to one cup within 4 hours of your exam (this helps give you good test results).
- Be prepared to give a urine specimen.
- Bring your eyeglasses or contact lenses.
- Avoid loud noise at least 14 hours before your exam unless you are wearing appropriate hearing protection.

Your assistance with this information is greatly appreciated. Thank you!

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 3

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE

When activities require a respirator, employee/student must fill out a questionnaire as part of the medical evaluation

EMPLOYEE INSTRUCTIONS FOR FILLING OUT THE MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE

Attached is a medical evaluation questionnaire for you to fill out. The OSHA standard requires that any employee who wears a respirator must be medically evaluated to ensure the safety and health of the employee. Your answers to this questionnaire will be kept confidential. Your employer does not have the right to view your answers.

A **physician or licensed health care professional** (**PLHCP**) will review the questionnaire. If you have any questions about the questionnaire or concerns about respirator use and your health, you can call the PLHCP _____ at (_____) -- (_____)

It is essential that you answer every question.
If you need assistance, please contact the PLHCP listed above.

If the PLHCP has any questions for you, s/he must be able to contact you. It is important that you include your home phone number and a time that you can be reached at home.

If you answer "yes" to any of the questions, please include any comments you might think important in helping the doctor evaluate your answers (for example, if you have ever had pneumonia, note how long ago, or if you have high blood pressure, note if you are seeing a physician or taking medication to control it.) You can make notes near the question or on the back of the last page of this questionnaire.

The PLHCP may determine that a physical examination is necessary in order to better assess your ability to use a respirator. If so, your employer is required to provide you with a confidential medical examination at no cost to you.

The PLHCP will send a letter to you and your employer indicating if you are cleared for respirator use.

Thank you for your cooperation.

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

To the employee/student: Can you read English (circle one): Yes No

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 program administrator/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.

Part A. Section 1. (Mandatory) The following information must be provided by every employee/student who has been selected to use any type of respirator (please print).

1. Today's date: _____

2. Last name:_____ First name:_____

3. Age (to nearest year):_____

4. Sex (circle one): Male Female

5. Height: ___ft. ____in.

6. Weight: lbs.___

7. Job title:_____

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include area code): (___)_____

9. The best time to reach you at this number_____

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. ____Disposable respirator N, R, or P (filter-mask, non-cartridge type only).

b. ____Other (for example, half or full-face piece, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you ever worn a respirator in the past: Yes No If "yes," what type(s):
_____
_____
_____
_____
_____

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee/student who has been selected to use any type of respirator (please circle "yes" or "no").

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:	Yes	No
b. Diabetes (sugar disease):	Yes	No
c. Allergic reactions that interfere with your breathing:	Yes	No
d. Claustrophobia (fear of closed-in places):	Yes	No
e. Trouble smelling odors:	Yes	No
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
l. Any other lung problem that you've been told about:	Yes	No
4. Do you ***currently*** have any of the following symptoms of 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
l. Wheezing that interferes with your job:	Yes	No
m. Chest pain when you breathe deeply:	Yes	No
n. Any other symptoms that may be related to lung problems:	Yes	No

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

5. Have you ***ever had*** any of the following cardiovascular or heart problems?		
a. Heart attack:	Yes	No
b. Stroke:	Yes	No
c. Angina:	Yes	No
d. Heart failure:	Yes	No
e. Swelling in your legs or feet (not caused by walking):	Yes	No
f. Heart arrhythmia (heart beating irregularly):	Yes	No
g. High blood pressure:	Yes	No
h. Any other heart problem that you've 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 a beat:	Yes	No
e. Heartburn or indigestion that is not related to eating:	Yes	No
f. Any other symptoms 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	No
d. Seizures:	Yes	No
8. If you've used a respirator, have you ***ever had*** any of the following problems?		
(If you've never used a respirator, check the following space and go to question 9:)		
a. Eye irritation:	Yes	No
b. Skin allergies or rashes:	Yes	No
c. Anxiety:	Yes	No
d. General weakness or fatigue:	Yes	No
e. 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

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

Questions 10 to 15 below must be answered by every employee/student who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees/students 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 or 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 fully moving your head side to side:	Yes	No
g. Difficulty bending at your knees:	Yes	No
h. Difficulty squatting to the ground:	Yes	No
i. 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

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

Part B: Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. Describe the work you'll be doing while you're using your respirator:

_____

_____

_____

2. Will you be using any of the following items with your respirator?

a. HEPA Filters (pink, red):	Yes	No
b. Canisters (for example, gas masks):	Yes	No
c. Cartridges:	Yes	No

3. How often are you expected to use the respirator
(circle "yes" or "no" for all answers that apply to you)?:

a. Escape only (no rescue):	Yes	No
b. Emergency rescue only:	Yes	No
c. Less than 5 hours *per week*:	Yes	No
d. Less than 2 hours *per day:*	Yes	No
e. 2 to 4 hours *per day:*	Yes	No
f. Over 4 hours *per day:*	Yes	No

4. During the period you are using the respirator, is your work effort:

a. Light : [e.g., sitting while typing or writing; performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.] Yes No

If "yes," how long does this period last during the average shift:_____ hrs._____mins.

b. Moderate : [e.g., sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, or assembling a moderate load (about 35 lbs.) at trunk level; walking; pushing a wheelbarrow with heavy load (about 100 lbs.) on a level surface.] Yes No

If "yes," how long does this period last during the average shift:_____hrs._____mins.

c. Heavy : [e.g., lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8º grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).] Yes No

If "yes," how long does this period last during the average shift:_____hrs._____mins.

5. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes No

If "yes," describe this protective clothing and/or equipment:

_____

_____

_____

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

6. Describe any special or hazardous conditions you might encounter when you're using your respirator (e.g., confined spaces, life-threatening gases):

_____
_____
_____

7. List the hazardous substances that you work with while wearing a respirator:

_____
_____
_____

8. Describe any special responsibilities you'll have while using your respirator that may affect the safety and well-being of others (e.g. rescue, security):

_____
_____
_____

9. Have you ever worked with any of the materials, or under any of the conditions, listed below

a. Asbestos:	Yes	No
b. Silica (e.g. in sandblasting):	Yes	No
c. Beryllium:	Yes	No
d. Tungsten/cobalt:	Yes	No
e. Aluminum:	Yes	No
f. Coal (for example, mining):	Yes	No
g. Iron:	Yes	No
h. Dusty environments:	Yes	No
i. Tin:	Yes	No
j. Solvents (e.g. paints, lacquers)	Yes	No
k. Any other hazardous exposures:	Yes	No

If “yes” describe these exposures:_____
_____
_____

10. At home have you been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or had skin contact with hazardous chemicals: If "yes," name the chemicals if you know them:

_____
_____
_____

11. List any second jobs or side businesses you have:

_____
_____

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

MEDICAL EVALUATION QUESTIONNAIRE FOR RESPIRATOR USE continued

12. Have you been in the military services?	Yes	No
If "yes," were you exposed to biological or chemical agents (either in training or combat):	Yes	No
13. Have you ever worked on a HAZMAT team?	Yes	No
14. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen:	Yes	No
If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions:	Yes	No

15. List your previous occupations:

_____

16. List your current and previous hobbies:

_____

17. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)::	Yes	No

If "yes," name the medications if you know them:_____

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance:_____
Estimated maximum exposure level per shift:_____
Duration of exposure per shift:_____
Name of the second toxic substance:_____
Estimated maximum exposure level per shift:_____
Duration of exposure per shift:_____
Name of the third toxic substance:_____
Estimated maximum exposure level per shift:_____
Duration of exposure per shift:_____
The name of any other toxic substances that you'll be exposed to while using your respirator:

_____
_____
_____

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 4

Respiratory Protection Program Voluntary Respirator Use Agreement

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

You should do the following:

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

Employee Information (Please print clearly)

Employee Name (Last, First) Department/ Shop: _____

Respirator Type: _____

Filtering Face piece (disposable dust mask) _____Other: _____

I have read and understood the information provided above regarding voluntary respirator use.

_____ _____

Employee Signature **Date**

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 5

Issuance/Fit Test Documentation

Date:_____

Employee Name:_____

Job Title: _____

Circle one answer for the following questions:

Type of Test: **Qualitative Smoke**

Other: _____
(please specify)

Manufacturer of Respirator:

- ☐ **Honeywell – North 7700 Series Premium Silicone Half Mask**
- ☐ **Honeywell – RU6500 Series Full Facepiece**
- ☐ **Honeywell – North 7600 Series Full Facepiece with welding attachment**
- ☐ **3M Particulate Respirator 8271, P95**

Size of Respirator: **Small** **Medium** **Large**

Results of Test: **Pass** _____ **Fail** _____

Date of Equipment Issuance: _____

_____ _____
Test Operator Signature **Employee Signature**

_____
Employee Name (Print)

_____ _____
Test Operator (print) **Program Administrator**

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

ATTACHMENT 6

Medical Examination

For Respirator Use and Asbestos Surveillance

NAME | PERSONNEL ID | DATE

1 AGE | 2 HEIGHT | 3 WEIGHT | 4 B/P <160/100 | 5 PULSE <100

Level 1 Disposable, Escape Respirators

6 VISUAL ACUITY

		UNCORRECTED	CORRECTED
Distant vision	Binocular		
	Right		
	Left		
Near Vision	Binocular		
	Right		
	Left		

7 COLOR VISION

8 URINALYSIS

METHOD	COLOR	BLOOD	S.G.	pH	ALBUMEN	GLUCOSE

9 COMMENTS/MEDICATIONS

Level 2 / Level 4 Half, Full-Face Respirators and Asbestos Exams

10 AUDIOMETRY In Hz

		Left				Right			
Hearing in Db	500	1000	2000	3000	4000	6000			
Hearing Aid – if needed	500	1000	2000	3000	4000	6000			

11 SPIROMETRY ASSESSMENT

	Measured Values %	Interpretation
Maximum $FEV_{1.0}$		Normal ❑
Maximum FVC		Obstruction ❑ MILD ❑ MODERATE ❑ SEVERE ❑
		Restriction ❑ ❑ ❑

PHYSICAL EXAM — N – Normal, A – Abnormal, N/A – Not Applicable — Tester

12 HANDS/SKIN (N ❑ A ❑)
Hair
Skin Color/Texture (lesions, scars)
Nails

13 HEAD/EYES (N ❑ A ❑)
Configuration
Lids
Conjunctival/Sclera
Pupils/Equal/Light Reaction
Fundi
EOM

14 EARS/NOSE/THROAT/MOUTH (N ❑ A ❑)
Pinna/Canals/TM
Nasal Septum/Mucosa
Teeth/Gums
Tongue/Palate

15 NECK/NODES (N ❑ A ❑)
ROM
Thyroid
Neck Nodes
Inguinal/Axillary Nodes

16 CHEST/LUNGS (N ❑ A ❑)
Shape/Symmetry
Percussion
Auscultation

17 CARDIOVASCULAR (N ❑ A ❑)
Carotids
Neck Veins
Pulses
Apex Impulse
Heart Sounds (murmurs)
Heart Size

18 GASTROINTESTINAL (N ❑ A ❑)
Liver
Spleen
Masses
Tenderness
Scars
Sounds

19 GENITO/URINARY (N ❑ A ❑ N/A ❑)
Hernia (SCBA)

20 NERVOUS SYSTEM (N ❑ A ❑)
CN
Motor
Sensory
Cerebellar
Reflexes

21 MUSCULOSKELETAL/EXTREMITIES (N ❑ A ❑)
Spinal Alignment
Extremities (edema/varicosities)
Joints
ROM

Level 3 SCBA, Air Line

22 STAMINA ASSESSMENT

METHOD	RESULTS	HOW LONG PERFORMED
Jog		
Other		

23 X-RAY (ASBESTOS) Indicate View(s)

P/A	OBLIQUES

24 BLOOD (ASBESTOS): CBC/Chem 12 Panel

25 EKG

26 RESPIRATOR USE EVALUATION

The above-named individual is, in my opinion, physically and, mentally able to use respiratory protective equipment according to:

- ❑ No Limitations
- ❑ **Level 1** ❑ Corrective Lenses for Respirator Use
- ❑ **Level 2** ❑ Some Limitations/Restrictions
- ❑ **Level 3** ❑ Emergency Use Only
- ❑ **Level 4** ❑ No Use Permitted*

27 ABNORMAL FINDINGS AND LIMITATIONS OR RESTRICTIONS

28 HEALTH CARE PROFESSIONAL SIGNATURE | DATE

TYPE OR PRINT NAME OF EXAMINER | STATE LICENSURE

PHYSICIAN REVIEWING | STATE LICENSURE

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ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

Key for Medical Examination for Respirator Use and Asbestos Surveillance

ALL LEVELS
(Dust Mist, Half/Full Face, SCBA, Bubble Hood)

4 B/P

Uncontrolled hypertension should be considered a disqualifying condition. Individuals with systolic or diastolic blood pressure ≥160/100 may be denied. Blood pressure >180/110 shall be denied.

5 PULSE

Pulse rates of >100 beats per minute may be disqualifying; further evaluation may be necessary.

6 VISUAL ACUITY

When binocular distance or individual distance vision is not at least 20/40 in the better eye, respirator glasses may be indicated. Employee provides prescription; SCE provides lenses and inserting kit.

9 COMMENTS/MEDICATIONS

Include smoking, history of diabetes,hypertension, cardiac disease, etc. The likelihood of medications interfering with job requirements should be evaluated. In some cases, alternate medication or treatment may require referral to personal physician for possible change in medicine so that there is less potential for job impairment.

10 AUDIOMETRY

Hearing shall be adequate to ensure communication and response to instructions and alarms. If auditory loss in the better ear is greater than 40 Db at any frequency from 500 to 2,000 Hz, with or without a hearing aid, verification of a functional work history may suffice. If in OSHA Hearing Conservation Program, measure to a minimum of 6,000 Hz. If voluntary, no base line required.

11 SPIROMETRY

Three acceptable FVC maneuvers are required. Normal results will allow use without limitation. Restriction is not required for mild to moderate impairment, subject to physician discretion. Severe pulmonary impairment disqualifies respirator use. Individuals administering pulmonary function tests are to have completed a recognized training course in spirometry.

RESPIRATORY IMPAIRMENT			
Normal Function PASS	Mild POSSIBLE	Moderate RESTRICTION	Severe DENIAL
FVC>80% $FEV_{1.0}$/FVC>75%	60–79% 60–74%	51–59% 41–59%	<50% <40%

12 SKIN

Observe skin for breaks or disease which might be exacerbated by protective clothing or humidity.

14 EARS/NOSE/THROAT

Perforated tympanic membranes require consideration of the environmental conditions of the job. Inhalation or absorption of toxic materials or vapors through the perforation is a remote possibility.

LEVEL THREE Evaluation (SCBA)

22 STAMINA ASSESSMENT

Stamina assessment is required for SCBA users; Air-Supplied respirators subject to physician discretion. Two-step testing or other aerobic activity to simulate cardiac demands of job is acceptable. *Record results in Section 22.*

Additional Information

23 CHEST X-RAY

For asbestos workers, a 14" × 17" posterior-anterior and right and left anterior oblique is administered with initial and termination exams. Interpretation by a NIOSH certified B-Reader is to be recorded on a Form CSD-NIOSH (M)2.8. Frequency is every THREE years for those <40 years of age and <10 years since first exposure; ANNUALLY for ≥40 years of age or ≥10 years since first exposure. Oblique x-rays to be every THREE years. *Record views in Section 23.*

24 BLOOD

Particularly for Insulators, a CBC or chemistry profile (chem 12) is at physician discretion. Administer with Asbestos Initial and Termination exams. Blood work for diabetics as needed.

25 EKG

Routinely performed for ≥45 years, or if positive cardiac history, or at physician discretion. Not necessary for Asbestos Termination exams.

26 RESPIRATOR USE EVALUATION

Defer approvals pending lab work. Denial evaluations are to be reviewed by a physician. *Delineate restrictions in Section 26.*

Level I – Dust Mist
Level II – Half/Full Face
Level III – SCBA
Level IV – Bubble Hood

ENVIRONMENTAL, HEALTH & SAFETY RESPIRATORY PROTECTION PROGRAM

SUMMARY OF CHANGES

Author: ____Jason Bennett_____ Phone: ____x3677_____ Location:____MO-102_____

Date of Revision	Description of Change/Comments	Reviewer(s)	Step, Section, Attachment or Page
December 19, 2016	Added "Issuance/Fit Test Documentation" ;edited for grammar	Sadie Gropen	Pg. 29; all
July 17, 2017	Updated "Respiratory Request Evaluation Form" and edited misc. items.	Sadie Gropen	All
July 02, 2021	Updated links to match the website. Eliminated the non-approved respirator section. Table of contents.	Derrick Johnson	1, 4,5

Document Reviewers:	Name:
Supervisor, Environmental Health & Safety	Derrick Johnson
Approvers:	
Assistant Superintendent/Vice President of Finance & Administrative Services Final Approval:	Ambur Borth