



**RESPIRATORY
PROTECTION PROGRAM
May 2016**

A. SCOPE AND APPLICATION

The Respiratory Protection Program is established in accordance with 29 CFR 1910.134 "Respiratory Protection" and describes the program elements necessary to protect employees from the harmful effects of inhaled hazardous substances at all University of Nevada, Las Vegas (UNLV) properties.

B. COMPLIANCE WITH PROGRAM

This program applies to all UNLV employees who wear respirators while performing job tasks.

C. DEFINITIONS

- (1) **Atmosphere-Supplying Respirator** - Respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.
- (2) **Fit Test** – The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.
- (3) **Immediately dangerous to life or health (IDLH)** – An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
- (4) **Maximum Use Concentration (MUC)** – The atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when using a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance.
- (5) **Oxygen Deficient Atmosphere** – An atmosphere with oxygen content below 19.5% by volume.

- (6) **User Seal Check** – An action conducted by the respirator user to determine if the respirator is properly seated on the face.

D. DUTIES AND RESPONSIBILITIES

(1) **Risk Management and Safety (RMS)**

- a. Establish the Respiratory Protection Program for UNLV.
- b. Identify a Respiratory Protection Program Administrator from the RMS staff.
- c. Assist departments, as needed, to perform respiratory hazard assessments and respiratory program evaluations.
- d. Review and approve respiratory program evaluations submitted by departments.
- e. Evaluate engineering and administrative controls considered and/or instituted by departments.
- f. Offer training and fit testing for employees.

(2) **Department Managers and Supervisors**

- a. Implement the Respiratory Protection Program.
- b. Inform RMS of proposed engineering and administrative controls to address airborne contamination.
- c. Perform respiratory hazard evaluations to identify hazards and respiratory protection required.
- d. Perform program evaluations to assess effectiveness of respirator use in their respective areas.
- e. Provide appropriate respirators, filters, and parts at no cost to employees.
- f. Communicate change out schedules as determined by: end of service life indicators (ESLI), filter manufacturer's change out schedule, or the department's own schedule; based on hazardous substances present and concentration.
- g. Allow employees time during normal work hours to complete medical questionnaires, training, and fit test requirements.

- h. Allocate time for cleaning, disinfecting, repairing, and maintaining respirators. Provide adequate respirator storage locations.
- i. Reevaluate respirators and cartridges used when there are changes in the work area or changes in the degree of employee exposure to hazardous conditions.
- j. Implement procedures concerning the cleaning, inspecting, storing, repairing and change out of respirators.

(3) Employee

- a. Complete medical evaluations, “Respiratory Protection Training” and fit test requirements for work being performed and types of respirators used.
- b. Complete additional fit tests if physical changes take place which affect the seal and protection of the current respirator used.
- c. Inspect respirators for cleanliness, defective parts and proper functioning before use and during cleaning. Make necessary repairs as needed.
- d. Turn in unusable respirators to supervisors for replacement.
- e. Clean and disinfect respirators according to the following:
 - i. Exclusive Use – As often as necessary.
 - ii. Multiple Users - Before being used.
- f. Clean respirators using the manufacturer’s instruction or the OSHA protocol (Appendix A).
- g. Store respirators properly to protect from:
 - i. Distortion, damage and dust.
 - ii. Contamination and harmful chemicals.
 - iii. Exposure to sunlight, temperature extremes and excessive moisture.
- h. Perform user seal checks each time the respirator is used.

(4) **Off-Campus Health Care Provider**

- a. Review “Respirator Medical Evaluation Questionnaires.”
- b. Determine if employees are medically cleared for respirator use.
- c. Provide “Respirator Qualification and Recommendations” letters to RMS and the employees evaluated.
- d. Refer employees requiring follow-up examinations to appropriate physicians or licensed health care professionals.
- e. Maintain medical files for all employees evaluated for respirator use.

E. MEDICAL EVALUATIONS

- (1) Employee completes the “Respirator Medical Evaluation Questionnaire” Part A, sections 1 and 2.

The questionnaire can be accessed at:

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9783

- (2) Employee sends or delivers questionnaire to off-campus health care provider for review.

Note: Off-campus health care provider contact information can be obtained by contacting RMS.

- (3) Employee completes a medical evaluation, if warranted, and any consultations and/or diagnostic procedures to determine fitness for respirator use.
- (4) Department managers and supervisors provide additional information, if requested, to the off-campus medical provider to complete the medical evaluation process. This information may include:
- a. Type and weight of respirator to be used.
 - b. Duration and frequency of respirator use.
 - c. Expected physical work effort.
 - d. Temperature and humidity extremes possible.

- (5) Off-campus medical provider sends RMS the “Respirator Qualification and Recommendations” letter which indicates respirator use status for the employee.
- (6) After receiving initial certifications for respirator use, employee may require additional medical evaluations if:
 - a. A reevaluation is deemed necessary.
 - b. Employee reports medical signs/symptoms which may indicate problems while using respirators.
 - c. Changes occur in the workplace that may increase the physiological burden on the employee.

F. TRAINING

- (1) Respiratory Protection Training will be provided to exposed employees annually and more frequently if there are:
 - a. Changes in the workplace or types of respirators that cause previous training to become obsolete.
 - b. Inadequacies in employee knowledge or use of respirators indicate that employee has not retained the necessary understanding or skill.
 - c. Other situations arise that suggests additional training is necessary to ensure safe respirator use.
- (2) This training is available as an on-line course at the training section of the RMS website and covers the information required by OSHA.
- (3) Respirator training, fit testing, and medical evaluations will be provided at no cost to employee and may be discontinued when the employee is no longer required to wear respirators.

G. FIT TEST PROCEDURES

- (1) Employee will contact RMS to schedule an appointment to receive fit test for the respirators used.
- (2) Employee will also:
 - a. Bring respirators of the same make, model, style and size that they will use.

- b. Complete user seal checks; obtain a good seal and all steps of the fit test.
 - c. Sign fit test report and receive “Respirator Identification” card, if they have passed the test.
- (3) After having passed the fit test, if employees’ determines that the fit is unacceptable, they will be given an opportunity to select other respirators and be retested.

H. WORK PLACE ASSESSMENT

- (1) With assistance from RMS, as needed, department managers and supervisors will perform workplace assessments to determine if respiratory hazards are present and how to protect employees from the hazards, including the use of engineering and administrative controls.
- (2) Assessments determine:
- a. Respiratory hazards in the workplace.
 - b. The identity and chemical state/physical form of hazards present.
 - c. Employee potential exposure to these hazards.
- (3) The following information should be reviewed when completing assessments:
- a. Chemical inventory for your buildings (s) contained in the Chemical Inventory Manager and Electronic Reporting Application (CHIMERA) database.
 - b. Safety Data Sheets (SDS) for the chemicals in your inventory.
 - c. Personal Protective Equipment (PPE) assessments conducted for your employees job tasks.
 - d. RMS inspection reports and other special reports or studies outlining areas of concern.
- (4) Once the assessment has been completed, department managers and supervisors will consult with RMS to:
- a. Determine if the hazards can be mitigated without the use of respiratory protection, and if not possible;

- b. Determine the type of respiratory protection needed to prevent unsafe/unhealthy exposure to chemicals and conditions.
- c. Department managers and supervisors will acquire and issue respirators and filters that are appropriate for the chemical state and physical form of the contaminant.

Respirators selected should ensure protection at, or below, the MUC to protect the health of affected employees.

- d. Arrange for medical evaluations, training and fit testing for affected workers.

I. PROGRAM EVALUATIONS

- (1) Program evaluations will be conducted by managers and supervisors, as necessary, with the respirator users in their respective areas to assess:
 - (a) Employee's views on program effectiveness and problems while using respirators.
 - (b) Issues concerning respirator fit.
 - (c) Appropriate respirators have been selected for the hazards and workplace conditions experienced.
 - (d) Respirators are being maintained properly.
- (2) The worksheet at Appendix B should be used to perform evaluations and document results.
- (3) Send completed evaluations to the Respiratory Protection Program Administrator for review and approval.

J. FILTERS

- (1) Only National Institute of Occupational Safety and Health (NIOSH) certified filters, cartridges and canisters should be used.
- (2) Filter, cartridge or canister NIOSH approved labels should not be removed, defaced or obscured.
- (3) Respirators are checked by employees for appropriate filters before use.
- (4) Respirators and/or filters should be replaced when:

- a. Re-entering areas requiring their use.
- b. Detecting a vapor or gas break through.
- c. When experiencing a change in breathing resistance/leakage during use.

K. IDLH ATMOSPHERES

- (1) IDLH locations require monitoring, special equipment and procedures.
- (2) Before entering potential IDLH locations, contact RMS for instructions and the identification of proper equipment to be used.

L. EMERGENCY USE RESPIRATORS/SCBA's

- (1) Inspect monthly and before/after each use.
- (2) Document inspections by showing:
 - a. Name of person performing the inspection.
 - b. Findings identified during the inspection.
 - c. Required remedial action and serial number (or other identifying means) of the respirator inspected.
- (3) Retain documentation of the inspection until the next inspection has been completed and documented.
- (4) Defective respirators are removed from service until repaired or replaced.
- (5) Repairs will only be accomplished by individuals trained for this purpose using manufacturer's recommendations and approved NIOSH parts.
- (6) Respirators will be cleaned and disinfected after each use.
- (7) Respirators will be kept accessible in the work area.
- (8) Users of SCBA's will ensure that checks, inspections and filling of cylinders are completed as specified by the manufacturer.

M. BREATHING AIR QUALITY

- (1) Owners and users of atmosphere-supplying respirators (supplied – air and SCBA) should ensure the following:

- a. Respirators are only used with breathing gases of high purity.
 - b. The specifications listed in OSHA Standard 1910.134 (i) are included in purchase requests when obtaining replacement breathing air/oxygen.
 - c. Certificates of analysis from suppliers are reviewed to ensure that breathing air provided is approved and meets specifications.
 - d. Compressed oxygen is not used in respirators that have previously used compressed air.
- (2) Cylinders shall be NIOSH approved breathing-gas containers that are tested, marked and maintained in accordance with the appropriate NIOSH and Department of Transportation (DOT) Standards.

N. NON MANDATORY RESPIRATOR USE

- (1) Employees may elect to use respirators though not required for job tasks assigned.
- (2) Requirements for respirator users in this category include:
 - a. Receiving a copy of OSHA Appendix D (provided as Appendix C to this document).
 - b. Completing a “Respirator Medical Evaluation Questionnaire” and submitting it to the off-campus health care provider for review.
 - c. Obtaining a copy of the “Respirator Qualification and Recommendations” letter which indicates respirator use status for the employee.
- (3) Supervisors will ensure that procedures are established for the proper use, care, cleaning and storage of these respirators.

O. ADDITIONAL INFORMATION

- (1) Appendix A – “Respiratory Cleaning Procedures” (OSHA Appendix B-2)
- (2) Appendix B – “Program Evaluation Worksheet”
- (3) Appendix C - “Information for Employees Using Respirators When not required Under Standard” (OSHA Appendix D)

UNLV - Appendix A Respirator Cleaning Procedures (OSHA Appendix B-2)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B- 2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

I. Procedures for Cleaning Respirators

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

**UNLV - Appendix B
Respirator Program
Evaluation Worksheet**



**RESPIRATOR PROGRAM
EVALUATION WORKSHEET**

User/Location Information

Employee Name: _____ Date of Review: _____

Department: _____

Respirator Used: _____

Evaluation Criteria

Issues Concerning Fit:

Problems during Use:

Appropriate Respirators for Hazards Encountered:

Condition of Respirators/Filters:

Overall Program Effectiveness (Employee Viewpoint):

(Signature – Person Doing Review)

(Job Title – Person Doing Review)

UNLV - Appendix C Information for Employees Respirators Not Required (OSHA Appendix D)

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

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

You should do the following:

1. Read and 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.