

RESPIRATORY PROTECTION PROGRAM

Community Colleges of Spokane
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INDEX

INTRODUCTION	2
PROGRAM REQUIREMENTS	2
PROGRAM ADMINISTRATION	3
STANDARD OPERATING PROCEDURES	5
A. Selection of Respirators	5
B. Respirator Assignment	6
C. Respirator Usage.....	7
D. Fit tests in Respirator Selection	7
E. Respirator Care and Maintenance.....	8
F. Training.....	9
G. Record Keeping.....	10
H. Emergencies	10
I. Program Evaluation.....	10

RESPIRATORY PROTECTION PROGRAM

Community Colleges of Spokane

INTRODUCTION

This document identifies the policies and standard operating procedures of the respiratory protection program of the Community Colleges of Spokane, in compliance with the requirements of WAC 29-62-071, RESPIRATORY PROTECTION.

The Community Colleges of Spokane recognizes that the control of airborne contaminants by effective administrative or engineering control measures is preferable to providing employees with protective equipment and requiring its use. Respiratory protective equipment, as outlined in this program, is required in those areas where administrative or engineering controls are either technically or economically unfeasible.

Where respiratory equipment is necessary to protect the health of a CCS employee, CCS will provide a respirator applicable and suitable for the purpose intended, at no cost to the employee. Use of such equipment is mandatory where necessary to protect employee health.

PROGRAM REQUIREMENTS

Regulations governing the selection and use of respiratory protection as well as the requirements for a minimal acceptable respiratory protection program are outlined in WAC 296-62-07109:

- A. Written standard operating procedures covering a complete respirator program, established and implemented in conformance with items #B-R, below. Procedures will include information necessary for the proper use of respirators, including training of respirator wearers, respirator sealing tests, issuance of respirators, inspection of respirators prior to use, monitoring respirator use, monitoring respiratory hazard, and planning for routine, non-routine, emergency and rescue uses of respirators.
- B. Assignment of responsibility and authority for the respirator program to a single individual, one with sufficient knowledge of respiratory protection to properly supervise the respirator program.
- C. Evaluation of and consideration given to possible physiological and psychological limitations for respirator wearers, with all respiratory user's medical status reviewed annually. Persons with physical disabilities such as, but not limited to, respiratory impairments or claustrophobia when wearing a respirator, shall not be assigned to tasks requiring the use of respirators unless it has been determined by a qualified physician that they are physically able to perform the work and use the equipment.
- D. Use of only approved or accepted respirators (any modification of an approved respirator that is not authorized by the approval agencies voids the respirator's approval).
- E. Selection of respirators on the basis of the hazards to which the worker is exposed. (Refer to WAC 296-62-07113)
- F. Each worker required to wear a respirator shall be given training such that he or she is knowledgeable and proficient with respect to the respirator to be worn. Refresher training shall be given at least annually.
- G. Each respirator wearer fitted in accordance with WAC 296-62-07113. Each wearer of a respirator equipped with a face-piece shall check the seal of the respirator by appropriate means (e.g., as recommended by the manufacturer).
- H. A negative pressure respirator, any self-contained breathing apparatus, or any respirator which is used in an atmosphere immediately dangerous to life or health (IDLH), equipped with a face-piece shall not be worn if facial hair comes between the sealing periphery of the face-piece and the face or if facial hair interferes with valve function.

- I. The wearer of a respirator shall not be allowed to wear contact lenses if the risk of eye damage is increased by their use.
- J. If a spectacle, goggle, face shield, or welding helmet must be worn with a face-piece, it shall be worn so as not to adversely affect the seal of the face-piece to the face.
- K. The proper type of respirator for each respiratory hazard is listed in the written standard operating procedures.
- L. Respirators should be inspected by wearers prior to each use to ensure that they are in proper working condition. Any respirator stored for emergency or rescue use shall be inspected at least once a month by a CCS employee specifically assigned to do so.
- M. Use of respirators is periodically monitored by supervisory personnel to ensure that they are worn properly.
- N. Evaluation of respiratory hazards is maintained through appropriate surveillance of work area conditions and degree of employee exposure or stress. Shared responsibility: respirator wearer, supervisor, safety professional.
- O. When appropriate, medical surveillance, including bioassay, shall be carried out to determine if respirator wearers are receiving adequate respiratory protection. A physician shall determine the requirements of the surveillance program.
- P. Respirator maintenance is performed regularly to ensure that each respirator wearer is provided with a respirator that is clean and in good operating condition. Per WAC 296-62-07117, maintenance shall include:
 - washing, sanitizing, rinsing and drying
 - inspection for defects
 - replacement of worn or deteriorated parts
 - repair if necessary, by a qualified individual
 - storage to protect against dust, sunlight, excessive heat, extreme cold, excessive moisture, damaging chemicals and physical damage
- Q. Replacement of parts or repairs shall be done only by persons trained in proper respirator assembly and correction of possible respirator malfunctions and defects. Replacement parts shall be only those designed for the specific respirator being repaired. Reducing or admission valves, regulators, and alarms shall be returned to the manufacturer or to a trained technician for repair or adjustment. Instrumentation for valve, regulator, and alarm adjustments and tests must be approved by the valve, regulator, or alarm manufacturer.
- R. An appraisal of the effectiveness of the respirator program shall be carried out at least annually, with appropriate action taken to correct any defects found in the program.

PROGRAM ADMINISTRATION

The District Environmental Health and Safety (EH&S) coordinator is responsible and has authority for oversight of the CCS respiratory protection program.

A. RESPONSIBILITIES:

ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT

1. Maintain evaluation of respiratory hazards through appropriate surveillance of work area conditions and degree of employee exposure or stress (shared responsibility with respirator wearers and supervisors).
2. Conduct medical questionnaire screening of employees assigned to wear respirators and when applicable, arrange for medical exams.

3. Conduct respirator fit tests for CCS employees assigned to respirator usage.
4. Establish initial training and annual refresher training for both supervisors and respirator wearers.
5. Maintain records relating to respirator fit tests, training, usage, cleaning and maintenance, etc., as required by law.
6. Annually appraise the respirator program's effectiveness.

B. RESPONSIBILITIES: DEPARTMENTAL

Each department where respirator usage is required is responsible for implementation of this respirator program within their own department, including the following items:

1. Purchase respirators, replacement parts, etc.
2. Oversee cleaning, maintenance, storage and repair of departmental respirators.
3. Monitor and enforce respirator use within department.
4. Periodically evaluate departmental need for and use of respirators.
5. Coordinate respirator fit tests and training schedules with staff of the Environmental Health & Safety office.
6. Cover cost of medical review of a staff member by a qualified physician, where need is indicated by employee's completion of medical questionnaire.

C. RESPONSIBILITIES: SUPERVISORS

Supervisors of employees required to use respirators shall be responsible for implementing and enforcing the Respirator Protection Program and shall monitor respirator use by their employees per WAC 296-62-07115 (7). They shall ensure, for each affected employee, that:

1. The correct respirator and cartridge(s) are being used.
2. The respirator is being worn and used properly.
3. Inspection and maintenance of the respirator by the employee is accomplished regularly, per training instructions, to ensure that the respirator is in good working condition.
4. The respirator wearer leaves the hazardous area for any respirator-related cause such as, but not limited to, the following:
 - Failure of the respirator to provide adequate protection
 - Malfunction of the respirator
 - Detection of leakage of air contaminant into the respirator
 - Increase in resistance of respirator to breathing
 - Severe discomfort in wearing the respirator
 - Illness of respirator wearer, including: sensation of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, and chills
5. Evaluation of respiratory hazards is maintained through appropriate surveillance of work area conditions and degree of employee exposure or stress (shared responsibility with respirator wearers and EH&S safety professional).

D. RESPONSIBILITIES: RESPIRATOR WEARERS

Employees assigned to use respirators for specific work assignments shall use the provided respiratory protection in accordance with instructions and training received and must abide by the standard operating procedures of this respiratory protection program. Compliance with these procedures is mandatory for affected employees. Each person issued a respirator for routine, non-routine, emergency, or rescue use shall:

1. Inspect the respirator prior to its use to ensure that it is in good operating condition and shall notify his/her supervisor of any defect. Defective equipment is not to be used.
2. Ensure proper protection (if wearing a respirator equipped with a face-piece) by checking the seal of the face-piece prior to each entry into a hazardous atmosphere, using procedures recommended by the respirator manufacturer or by approved field tests (e.g., following both the negative pressure fit check and the positive pressure fit check).
3. Change cartridges as needed, and as instructed.
4. Clean/ sanitize, and rinse his/her assigned respirator at the end of each week of use (or more often, if needed).
5. Store the respirator in a manner that will protect it against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals, and which will prevent distortion of rubber or other elastomeric parts. Respirators shall not be stored in such places as lockers and toolboxes unless protected from contamination, distortion and damage.
6. Leave the hazardous area for any respirator-related cause such as, but not limited to, the following:
 - Failure of the respirator to provide adequate protection
 - Malfunction of the respirator
 - Detection of leakage of air contaminant into the respirator
 - Increase in resistance of respirator to breathing
 - Severe discomfort in wearing the respirator
 - Illness of respirator wearer, including: sensation of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, and chills
7. Remain alert to changing work area conditions in regard to respiratory hazards and degree of exposure or stress (shared responsibility with supervisor and EH&S safety professional) and respond to any changes noted in an appropriate, safety-focused manner.
8. Immediately bring to the attention of his/her supervisor any concern relating to respirator usage and/or hazard exposure.

STANDARD OPERATING PROCEDURES

A. SELECTION OF RESPIRATORS

General Guidelines

Only approved respirators will be provided for use within this program. Any new respirator purchase or new respirator use (other than those specifically identified in this document) shall be selected on the basis of the specific hazards to which the worker is exposed and must be approved by the Environmental Health and Safety Dept.

Where conditions are such that said contaminants may be in excess of permissible exposure limits, affected employees will be provided with approved respirators selected in accordance with the classification, capabilities and limitations listed in Tables I through IV of WAC 296-62-07113 (tables are provided in the APPENDIX section of this document). Consideration will be given to:

- Characteristics of the hazards involved,
- Capabilities and limitations of the respirators

- Ability of each respirator wearer to obtain a satisfactory fit with a respirator.

Limitations of filters, cartridges, and canisters shall also be considered (reference Table V, WAC 296-62-07113 in APPENDIX section of this document). Selection will include consideration of these factors:

- The biological effect of respiratory hazards:
 - oxygen deficiency (refer to APPENDIX section of this manual, "Definitions")
 - gas and vapor contaminants (asphyxiates, irritants, anesthetics, sensitizers, systemic poisons, carcinogens)
 - particulate contaminants (aerosols, including dust, fog, fume, mist, smoke and spray)
 - combination of gas, vapor and particulate contaminants

Note: These four categories are further classified as 'immediately dangerous to life or health' or 'not immediately dangerous to live or health'.

- The properties of the respiratory hazard (e.g., gas or vapor [inert, acidic, alkaline, organic, organometallic, hydrides]; particulate [dust, spray, fume, mist, fog, smoke]).
- The period of time for which respiratory protection must be provided.
- The physical environment of the hazard area location (e.g., space constrictions; whether or not there is a source of uncontaminated respirable air, etc.).
- The function and physical characteristics of respiratory protective devices, including mode of operation, capabilities and limitations, protective factor, etc.
- The ability of each respirator wearer to obtain a satisfactory fit with a respirator.
- Specific work requirements (e.g., heat, cold, stress, etc.).

The wearer of a respirator shall not be allowed to wear contact lenses if the risk of eye damage is increased by their use. In addition, if a spectacle, goggle, face shield, or welding helmet must be worn with a face-piece. It shall be worn so as not to adversely affect the seal of the face-piece to the face.

Respirators are furnished at no cost to the employee and are issued, whenever possible, to each individual employee for his/her own use. Each employee assigned to respirator use will be fit tested prior to use and at least annually thereafter.

Note: Any addition to or deviation from the respirator usage and assignment must be approved by the Environmental Health and Safety Department.

B. RESPIRATOR ASSIGNMENT

Analysis of possible respiratory hazards at CCS indicates potential exposure of some employees to gas and vapor contaminants, particulate contaminants, and/or a combination of both. Examples include: asbestos, organic vapors, paint mist, pesticides, emergency air contamination, and wood dust. Oxygen deficiency is not considered a potential exposure hazard at CCS.

CCS employees, as identified, will complete the 'Employee Medical Questionnaire, Potential Respirator Users' form annually. If completion of this questionnaire indicates a potential problem with respirator usage in regard to a physical or psychological limitation, the employee shall not be assigned to tasks requiring the use of a respirator unless it has been determined by a qualified physician, as selected by CCS, that he/she is physically able to perform the work and use the respirator equipment.

Potential physical or psychological limitations to respirator usage include, but are not limited to, those listed below:

- asthma
- epileptic seizures
- high blood pressure
- anemia or hemophilia

- documented heart problems or artery disease
- chronic bronchitis, emphysema, or other respiratory impairments
- claustrophobic tendencies
- hernia
- poor hearing

C. RESPIRATOR USAGE

Respirators shall not be worn when conditions prevent a seal of the respirator to the wearer, including, but not limited to, the following:

- a) Hair (stubble, moustache, sideburns, beards, low hairline, bangs) which passes between the face of the wearer and the sealing surface of the face-piece of the respirator, or facial hair which interferes with the function of a respirator valve(s).
- b) A negative pressure respirator, any self-contained breathing apparatus, or any respirator equipped with a face-piece, which is used in an atmosphere immediately dangerous to life or health (IDLH), shall not be worn if facial hair comes between the sealing periphery of the face-piece and the face or if facial hair interferes with valve function.
- c) A spectacle that has temple bars or straps which pass between the sealing surface of a respirator full face-piece and the wearer's face shall not be used.
- d) A head covering which passes between the sealing surface of a respirator face-piece and the wearer's face shall not be used.
- e) The wearing of a spectacle, a goggle, a face-shield, a welding helmet or other eye and face protective device that interferes with the seal of a respirator to the wearer shall not be allowed.
- f) If scars, hollow temples, excessively protruding cheekbones, deep creases in facial skin, the absence of teeth or dentures, or unusual facial configurations prevent a seal of a respirator face-piece to a wearer's face, the person shall not be permitted to wear the respirator.
- g) If missing teeth or dentures prevent a seal of a respirator mouthpiece in a person's mouth, the person shall not be allowed to wear a respirator equipped with a mouthpiece.
- h) If a person has a nose of a shape or size that prevents the closing of the nose by the nose clamp of a mouthpiece/nose-clamp type of respirator, the person shall not be permitted to wear this type of respirator.

Voluntary Use

Respirator use is encouraged even when exposure to contaminants are below the exposure limits. CCS will provide respirators and dust masks to employees (or allow employees to use their own) for voluntary use as long as it is kept clean and used properly. The use of the respirator cannot create a hazard in itself and must be certified to protect against the contaminant of concern. Employees should not wear respirators into atmospheres containing contaminants for which the respirator is not designed to protect against.

D. FIT TESTS IN RESPIRATOR SELECTION

A qualitative or quantitative respirator-fitting test shall be used to determine the ability of each individual respirator wearer to obtain a satisfactory fit with a negative-pressure respirator. The results of qualitative or quantitative respirator fitting-tests shall be used to select specific types, makes, and models of negative-pressure respirators for use by individual respirator wearers. A respirator-fitting test shall be carried out for each wearer of a negative-pressure respirator equipped with a face-piece. Respirator fit tests are not required for positive-pressure respirators, for mouthpiece respirators, or for dust masks.

Qualitative Fit Tests

At CCS, a qualitative respirator fitting test, following the qualitative fitting test protocol as outlined in the APPENDIX section of this manual, will be given to employees assigned to use negative pressure air purifying respirators, to ensure each person has a style and size of respirator that provides the individual with a satisfactory fit. Fit tests will occur at the time of the initial job/respirator assignment and annually thereafter. All fit tests will be documented.

In addition, because the sealing of the respirator may be affected, a qualitative fit test will be repeated prior to the need for respirator usage when the test subject has:

- A weight change of 20 pounds or more
- Significant facial scarring in the area of the face-piece seal
- Significant dental changes (e.g., multiple extractions without prosthesis) or acquisition of dentures
- Re-constructive or cosmetic surgery
- Any other condition that may interfere with face-piece sealing

Note: Respirators shall not be worn when conditions prevent a good face seal. The major limiting factor in how well a respirator will protect the wearer is often the adequacy of the seal between the face and the face-piece. If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit.

When a qualitative respirator fit test has been used in respirator selection, a person shall be allowed to use only the specific make(s) and model(s) of respirator(s) for which the person obtained a satisfactory fit, and the respirator protection factor listed under "qualitative test" in Table V (refer to APPENDIX section of this document) shall apply. Under no circumstances shall a person be allowed to use any respirator for which the results of the qualitative respirator fit test indicate that the person is unable to obtain a satisfactory fit.

Qualitative fitting tests shall be repeated at least annually.

Fit Test Records

A summary of all qualitative fit test results shall be maintained in the CCS Environmental Health and Safety office for at least the duration of each employee's employment with this institution and a minimum of three years thereafter. This summary shall include:

- Name of test subject
- Date of testing
- Name of test conductor
- Respirator(s) selected (manufacturer, model, size, and approval #).
- Testing agent used

E. RESPIRATOR CARE AND MAINTENANCE

Respirator inspection, cleaning and maintenance shall be conducted on a regular basis to ensure that the respirator wearer at all times is provided with a respirator which is clean, sanitized and in proper working condition. The inspection will determine whether the respirator needs replacement of parts, repairs, or to be discarded.

Each wearer of a respirator equipped with a face-piece shall check the seal of the respirator by appropriate means (e.g., as recommended by the manufacturer).

Permanently Assigned Respirators: Each worker assigned to use a respirator shall maintain and routinely inspect his/her respirator before and after each use to assure that it is in good operating condition. At the end of each week (or more often if needed) the respirator shall be completely cleaned and disinfected, then reassembled and inspected.

Supplied air respirators and 5-minute emergency escape respirator system: Inspection shall occur at least monthly or as needed. This function will be accomplished by the Environmental Health and Safety Department.

F. TRAINING

Supervisors of respirator wearers, the person issuing respirators, and the respirator wearers shall be given adequate training by a qualified person(s) to ensure the proper use of respirators and to ensure that the correct respirator is issued for each application in accordance with written standard operating procedures (as outlined in this manual).

Written training records shall be maintained, including the names of the persons trained and the dates when training occurred.

- Supervisor Training

The supervisor (person who has the responsibility of overseeing the work activities of one or more persons who must wear respirators) shall receive adequate training to ensure the proper use of respirators.

Note: Respirators will be issued only according to the guidelines outlined in this document. It is the responsibility of the supervisor to assure that his/her employees who wear respirators follow these guidelines and use the correct respirator and cartridges for each application, in accord with these guidelines and the training provided by the Environmental Health and Safety Department.

- Respirator Wearers

To ensure the proper and safe use of a respirator, the minimum training of each respirator wearer shall include the following elements:

- a) The reasons for the need of respiratory protection (e.g., mode of entry of contaminants into the body).
- b) The nature, extent and effects of respiratory hazards to which the person may be exposed.
- c) An explanation of why engineering controls are not being applied or are not adequate and of what effort is being made to reduce or eliminate the need for respirators.
- d) An explanation of why a particular type of respirator has been selected for a specific respiratory hazard.
- e) An explanation of the operation, and the capabilities and limitations, of the respirator selected, including its protection factors.
- f) Instruction (including practice demonstrations) and opportunity to handle the respirator, e.g., how to properly inspect, don, check the fit of, check the seals, wear, and remove the respirator. This instruction shall include, for air-purifying respirators:
 - How to adjust the respirator so that its respiratory-inlet covering is properly fitted on the wearer, with a minimum of discomfort.
 - Opportunity for the wearer to wear the respirator in a safe atmosphere for an adequate period of time to ensure the wearer is familiar with the operational characteristics of the respirator.
 - Opportunity for the wearer to wear the respirator in a test atmosphere to demonstrate that the respirator provides protection to the wearer. A test atmosphere is any atmosphere in which the wearer can carry out activities simulating work movements and respirator leakage or an atmosphere in which respirator malfunction can be detected by the wearer.
 - How to perform a negative and positive pressure fit check.

- g) An explanation of proper maintenance and storage of the respirator.
- h) How to properly clean and sanitize the respirator.
- i) Instructions in how to recognize and cope with emergency situations.
- j) Provided with manufacturer's literature specific to the respirator he/she is assigned.
- k) Instructions as needed for special respirator use.
- l) Regulations concerning respirator use.
- m) An explanation and overview of the 'Respiratory Protection Program' of the Community Colleges of Spokane.
 - Retraining

Each respirator wearer shall be retrained as necessary to assure effective respirator use. Refresher training shall be given at least annually, and shall include the provisions of WAC 296-62-07115 (2) (c) (vii) through (xi) (A) (III).

G. RECORDKEEPING

The following records shall be maintained in the CCS Environmental Health and Safety Department for each respirator wearer.

'Employee Medical Questionnaire, Potential Respirator Users' form

'Respirator Qualitative Fit Test Record' form

'Respirator Training Record' form

H. EMERGENCIES

CCS does not intend for its employees to use respirators in a rescue situation. It is not anticipated that CCS work processes would involve the need for emergency or rescue use of respirators, with the possible exception of employee entry into a known permit-required confined space. Such entry generally requires a "buddy" system (one entrant and one attendant). It is recommended that the entrant include an escape respirator (5-minute escape apparatus) in their equipment at the time of entry. Because a self-contained breathing apparatus is required of a "rescuer" in terms of a confined space entry incident, and the CCS respiratory protection program does not include SCBA's. CCS employees are never to enter a confined space if it appears the worker(s) is unconscious or if the worker does not respond to outside stimuli such as verbal orders or signals. Emergency rescue procedures, as outlined in the CCS **Permit Required Confined Space Entry Program**, state:

- If worker is in trouble, hoist immediately until person is in fresh air.
- Once victim is away from opening, immediately start first aid and/or CPR as applicable).
- Immediately telephone 911 emergency services (as appropriate to the situation).
- Inform Buildings and Grounds (533-8630) of the situation.

I. PROGRAM EVALUATION

The Environmental Health & Safety Department shall perform regular inspections and shall evaluate both the administrative and operative aspects of the entire respiratory protection program annually, to ensure its continuing overall effectiveness (e.g., Are other exposures present? Are other types of respiratory protection devices required? Are there other employees who require respiratory training and protection?). As needed and where appropriate, program adjustments shall be made to reflect the results of the evaluation. The 'Respiratory Protection Program Evaluation Checklist' form shall be utilized in this annual evaluation.