REDWOODS COMMUNITY COLLEGE DISTRICT

Respiratory Protection Program

INTRODUCTION

The District is committed to employee safety and health and recognizes the need to comply with regulations governing our respirator protection program.

The primary objective of the program is to ensure the safety and health of employees in compliance with CalOSHA regulations 8 CCR 5144 which requires employers to establish and put in writing a respiratory protection program which includes procedures for the selection and use of respirators, medical evaluations, fit testing procedures, instruction and training, cleaning, sanitizing, inspection, replacement, repair and maintenance of respirators.

The prevention of atmospheric contamination at the work site will be accomplished as far as feasible by engineering control measures, such as enclosing or confining the contaminant producing operation, exhausting the contaminant, or substituting with less toxic materials. When effective engineering controls are not feasible administrative controls are the next preferred level of worker protection. When engineering and administrative controls fail to limit employee exposure appropriate, approved respirators must be used.

The user should be aware that respirators have their limitations and are not a substitute for effective engineering controls. Where respirators are necessary for health protection, specific procedures are necessary to overcome any potential deficiencies and to assure the effectiveness of the equipment.

Employers are responsible for establishing an effective respiratory program and supplying appropriate respirators, different hazards require different respirators. Employees are responsible for wearing the respirator and complying with the program.

PROGRAM ADMINISTRATOR

The District has designated the Director of Facilities and Grounds and the Environmental Health and Safety Manager to administer and be responsible for the overall respiratory protection program. The effectiveness of the Respiratory Protection Program will be evaluated regularly and modified as necessary to reflect the evaluation results.

The responsibility of the Administrator is to:

A. Choose and select the right respirator equipment.

B. Establish and maintain respirator equipment training for employees.

C. Supervise and ensure the proper fit testing of each employee.

D. Establish and maintain a continuing program of respiratory equipment inspection and cleaning.

E. Designation of proper respiratory storage areas to protect against dust, sunlight, heat, moisture or damaging chemicals.

F. Establishment of medical screening program to ensure employees are physically able to perform work while using a respirator.

G. Make periodic work area inspections where respirators are required to observe conditions, degree of worker exposure, stress or changing exposures.

H. To ensure that each respirator is approved for the contaminant or situation to which the employee is exposed.

HAZARD CONTROL

Before the wearing of any respirator, engineering controls, to the extent feasible, must be used to prevent worker exposure to harmful levels of airborne contaminants, oxygen deficient atmospheres, as well as toxic and other hazardous atmospheres. These controls include ventilation, use of a non-toxic or less toxic substance, isolation or encapsulation. If controls are not feasible or adequate, then administrative controls should be used to limit the time a worker is exposed. Only when all controls fail or are not feasible should respiratory protection be worn. The type of hazard dictates the kind of respirator that must be used.

RESPIRATOR SELECTION

Use only respirators approved by the National Institute for Occupational Safety and Health (NIOSH) or the Mine Safety and Health Administration (MSA). Cartridges must also be approved by NIOSH or MSA and indicate the hazard(s) they are approved for protection.

Respiratory equipment will be assigned to the user. This ensures that workers wear equipment that fits well and remains sanitary. In addition, workers can be held responsible for proper care of their respiratory equipment, and will have it available when they need it.

A. Air-Purifying Respirators

Air-purifying respirators with filters are designed to remove particulates (dust, mists, fumes) from the air; those with canisters or chemical cartridges are designed to protect the wearer from gases and vapors. Do not use air-purifying respirators:

* when the contaminant has poor warning properties; that is, when the contaminant cannot be recognized by taste, smell or irritation at or below the permissible exposure limit,

* in oxygen deficient atmospheres,

* in atmospheres immediately dangerous to life or health (atmospheres in which a short exposure would cause death, injury, or delayed reaction).

Air-purifying respirators are inexpensive, small, and allow freedom of movement. However, every time the wearer inhales, a negative pressure is created in the mask relative to the outside of atmosphere which will draw contaminants into the face piece through leaks in the seal. If the wearer of a gas/vapor air-purifying respirator begins to taste, smell, or be irritated with contaminant, it is an indication that a "breakthrough" has occurred and that the canister or cartridge needs to be replaced. Replace the filter in a particulate air-purifying respirator when it becomes harder to breathe because the filter is clogged with contaminant.

Air-purifying canisters are labeled and color coded for each type of atmospheric contaminant.

B. AIR-SUPPLYING RESPIRATORS

Self-contained breathing apparatus (SCBAs) have a supply of compressed oxygen or compressed air. SCBA is approved for use in atmospheres immediately dangerous to life or health (IDLH). A pressure demand type respirator provides a positive pressure in the face mask at all times and a substantially better protection factor.

Open circuit SCBAs use compressed air. Exhaled air is not re-breathed; it is conducted directly to the external environment. Pressure demand SCBAs should be used in extremely dangerous atmospheres where even minor leakage may be lethal. Pressure demand open circuit SCBAs are required for use by structural fire fighters.

Supplied-air respirators have an external air source connected to the mask by a hose. Supplied-air or air-line respirators are not approved for use in atmospheres immediately dangerous to life or health (IDLH) because the wearer is dependent on a remote source of air. If the hose is accidentally cut or blocked, or if the air source fails, the wearer would be unable to escape to safely.

Supplied-air respirators operating in the pressure demand mode and equipped with a self-contained escape bottle may be used in IDLH atmospheres if the escape bottle has sufficient service life to allow escape from the hazardous area.

RESPIRATOR FACE FIT TEST

Fit tests are essential to ensuring that a respirator mask forms a good seal against the wearer's face and prevents contaminants from leaking into the mask. Respirator face pieces are made in various sizes to fit a wide variety of face shapes and sizes; however, some workers simply won't be able to get a good fit with any available respirator and they should not be assigned to duties requiring respirator protection. Facial scars, beards, and sideburns can all interfere with a proper fit. This problem is especially acute when masks are used in which there is negative pressure created during inhalation.

When a respirator is first issued to the wearer, he/she should try on a variety of sizes to get a comfortable fit. Then do a qualitative fit test which includes a positive and negative fit test, and an irritant smoke test.

Qualitative fit tests can be performed quickly and easily. However, they depend on the wearer's judgment and give only a rough idea of how well the mask fits. Both the positive and negative pressure fit tests can be used with SCBA and air-purifying masks, and should be performed before entering a hazardous atmosphere.

Negative Pressure Fit Test: the wearer closes off the respirator inlet and inhales. A vacuum and partial inward collapse of the mask should result. If a vacuum cannot be maintained for at least 10 seconds, readjust the face piece and try again.

Positive Pressure Fit Test: the wearer closes off the exhalation valve and breathes out gently. Air should escape through any gaps in the seal.

Isoamyl Acetate and Irritant Smoke Tests are performed by introducing the substance around the seal of the mask. If the wearer detects a smell or irritation, he should readjust the face piece. It may be necessary to try several different makes of respirators in order to find one that gives a good fit.

EMPLOYEE RESPONSIBILITY

A. Check the respirator fit after each donning as instructed

B. Use the respirator as instructed

C. Guard against damaging the respirator

D. Go immediately to an area having respirable air if the respirator fails to provide proper protection

E. Report any respirator malfunction to the Respirator Program Administrator.

RESPIRATOR INSPECTION, MAINTENANCE AND STORAGE

Air-Purifying Respirators:

A. Inspect the condition of the mask before and after each use and during cleaning

B. Inspect at least monthly those respirators provided for emergency use only

C. Examine the condition of the mask, straps, valves and filter elements.

D. Examine the condition of the air hose, hose clamps, and gaskets.

E. Is the mask clean?

F. Does the respirator display a NIOSH or MSHA approval code?

G. Is the mask approved for the hazardous atmosphere the worker will be exposed to?

After removing filter and/or straps, wash a respirator in a mild soap solution and air dry (do not dry the respirator in temperatures above 125^{o} F); or immerse the respirator in a sanitary solution recommended by the manufacturer for at least two minutes. After washing or immersing the respirator, rinse it thoroughly.

Respirators can be permanently damaged if they are not stored properly. After use, clean, sanitize, and store respirators in resealable plastic bags. Protect them from sunlight, dust, chemicals, moisture, and temperature extremes.

If you need to repair a respirator, use only replacement parts from the same type and brand of equipment. Repair of SCBA gear should be done by the manufacturer.

Air Supply Respirators:

A. Cylinders shall be hydrostatically tested and maintained as prescribed by D.O.T. (49-CFR Part 178).

B. Breathing air quality shall meet the specification of Grade "D" breathing air as

described by ANSI 286.1.

C. Each cylinder must be legibly identified with the word "Air" or Oxygen" by means of stenciling, stamping or labeling as near to the valve end as practical.

D. Use of a compressor for supplying air must be equipped with safety and standby devices to avoid entry of contaminated air into the system. In-line air purifying sorbent beds and filters will further assure breathing air quality. Alarms to indicate compressor failure must be installed on the system.

Oil lubricated compressors must be equipped with a continuous reading carbon monoxide monitoring system set to alarm should the carbon monoxide concentration exceed 20 ppm or a high air temperature alarm. If only the high temperature alarm is used, the compressor must be tested for carbon monoxide at least weekly. Alarm systems shall be tested at least monthly. Air line couplings must be incompatible with other outlets to prevent accidental connection to other lines. The air pressure at the hose connection to positive-pressure respiratory equipment shall be within the range specified in the approval of the equipment.

ATMOSPHERES IMMEDIATELY HAZARDOUS TO LIFE OR HEALTH

In atmospheres immediately hazardous to life or health, at least two persons equipped with approved respiratory equipment shall be on the job. Communications shall be maintained between both or all individuals present. Standby persons, at least one of which shall be in a location which will not be affected by any likely incidents, shall be present with suitable rescue equipment, including self-contained breathing apparatus.

MEDICAL LIMITATIONS

Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work while using the required respiratory equipment. A licensed physician shall determine what health and physical conditions are pertinent. The medical status of persons assigned use of respiratory equipment should be reviewed at least annually. Wearing of contact lenses shall not be permitted in an atmosphere where a respirator is required.

TRAINING

All employees required to use respiratory equipment must be trained in the proper use of the equipment and its limitations.

Those employees who will be required to use respiratory protective equipment in atmospheres immediately dangerous to life or health will be trained in rescue procedures.

Training must include instructions on fitting and how to check the face-piece to face seal. The employee must be given an opportunity to handle the respirator, wear it in normal air for a period of time to become familiar with it and to practice adjusting it, and then wear it in a test atmosphere.

Training should also include an explanation of the following:

* Nature of the respiratory hazard and what may happen if the respirator is not used properly

* Engineering and administrative controls being used and the need for the respirator as added protection

* Reason(s) for selection of a particular type of respirator

* Limitations of the selected respirator

* Methods of donning the respirator and checking its fit and operations

* Proper wear of the respirator

* Respirator maintenance and storage

* Proper method for handling emergency situations

Users should know that improper respirator use or maintenance may cause overexposure. They should know that continued use of poorly fitted and maintained respirators can also cause chronic disease or death from overexposure to air contaminants.

VOLUNTARY RESPIRATOR USE

In conditions where engineering and administrative controls provide an atmosphere where hazards are below the Permissible Exposure Level employees will be allowed the voluntary use of respirators. When such conditions exist, employees choosing to voluntary use respirators will be provided the information in Appendix D of 8 CCR 5144 (“Information for Employees Using Respirators When Not Required Under the Standard”) and all other relevant training and information.