

VILLAGE OF HEWITT
RESPIRATORY PROTECTION PROGRAM

1994

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RESPIRATOR PROTECTION FOR WATER & SEWAGE UTILITY EMPLOYEES

INTRODUCTION

The Village of Hewitt provides respirators when such equipment is necessary to protect the health of the employee. The respirators shall be suitable and applicable for the purpose intended.

The employee shall use the provided respiratory protection in accordance with instructions and training.

All respirators must be NIOSH/MSHA approved.

Respirators shall be regularly cleaned and disinfected or disposed of after their use.

Respirators shall be stored in a convenient, clean and sanitary location.

Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced.

Respirators for emergency use such as self contained devices shall be thoroughly inspected at least once a month and after each use.

Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

There will be a regular inspection and evaluation to determine the continued effectiveness of the program.

Persons will not be assigned tasks requiring use of respirators unless they are physically able to perform the work and use the equipment.

The compressor for supplying air shall be equipped with necessary safety and standby devices. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality.

Written procedures shall be followed at all times of respirator use.

Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned and maintained.

Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator shall be worn, how to adjust it, and how to determine if it fits properly, test its face piece and face seal, wear it in normal air for a long familiarity period, and finally, to wear it in a test atmosphere.

Training, inspection and fitting of respirator, along with coordination of program, shall be done under the supervision of the Fire Chief and Safety Coordinator through the facilities of the Hewitt Fire Department.

VILLAGE OF HEWITT
RESPIRATORY PROTECTION PROGRAM

This respiratory protection program is established to coordinate the use and maintenance protection equipment which is used to reduce employee exposure to air contaminants. In addition, it will allow employees to work safely in potentially hazardous environments.

Established August, 1994

The administration of the overall respiratory protection program will be the responsibility of the Village President.

Administrative responsibilities include:

1. Identification & location of hazardous exposures.
2. Supervision of respirator selection.
3. Supervision of medical screening for potential respirator users.
4. Supervision of employee training & qualitative respirator fit testing.
5. Supervision of cleaning, maintenance & storage of respirators.
6. Evaluation of overall respirator program.

A. Identification & Location of Air Contaminant Exposures

Based on a comprehensive industrial hygiene evaluation conducted, all potentially hazardous air contaminant exposures are summarized in A-1. Additional air contaminant monitoring will be conducted whenever exposures are expected to change. For example, whenever new raw materials are used, production processes change or a spill occurs.

This monitoring will be conducted by a qualified individual. Subsequent information will be added to the A-1 Summary as it is accumulated.

B. Respirator Selection

All respirators will be selected based on the criteria spelled out by ANSI Z88.2 - 1980 which is summarized in B-1.

C. Medical Evaluation for Users of Respirators

Prior to assignment to any position requiring respirator use, as medical evaluation of the employee's physical ability to work while wearing a respirator will be necessary. An outline of the evaluation is found in C-1. A periodic evaluation identical to the replacement evaluation will

be done every 2 years. If a change in the employee's medical condition occurs, the interval for periodic evaluation will be established by the physician.

C-1 and the respirator to be worn will be sent along with the employee for the examination. Physicians approval on C-1 will be necessary before a respirator will be assigned.

D. Employee Training & Fit Testing

Training in the use and limitations of respirators will be provided to all respirator users. Initial training along with refresher training will be conducted by the Fire Chief and Safety Coordinator. D-1 will serve as a guide for the training as well as a documentation of training dates. During training, employees will be advised of the potential hazards associated with excessive exposure as summarized in the health guidelines in D-2.

Qualitative fit testing will be performed by the Fire Chief and Safety Coordinator as part of the employee training program and annually thereafter. A record of the tests will be maintained on D-3.

E. Respirator Cleaning, Maintenance & Storage

Cleaning and maintenance of respirators will be the responsibility of assigned Fire Department Personnel.

Procedures for cleaning, maintenance and storage are outlines in E-2.

F. Respirator Program Evaluation

The overall evaluation of the respirator program will be conducted by the Utility Supervisor on a monthly basis. This evaluation will include inspection of records contained in D-1 and E-1, observation of user proficiency, and random inspection of respirators for cleanliness, deterioration, proper selection and proper storage. A record of the evaluation will be recorded using F-1.

A-1 IDENTIFICATION & LOCATION OF AIR CONTAMINANT EXPOSURES

LOCATION	CONTAMINANTS	EXPOSURE	DATE
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B-1 RESPIRATOR SELECTION CRITERIA

1. Based on the minimum protection factor needed, select the respirator type from ANSI Z-88, 2-1980, Table 5.
2. Review specific contaminant information in B-2.
3. If skin irritation or absorption is a problem, a respirator alone will not provide complete protection and special protective clothing will be needed.
4. At what level of exposure are there noticeable warning properties which can signal respirator failure? For example, at what level is the odor noticeable and how does this relate to the workers' actual exposure. If warning properties are nil, then supplied air is the alternative.
5. Is eye irritation a problem at the exposed concentrations? If so, a full face piece will be needed.
6. If the concentrations approach the level of the IDLH or LFL, then the only acceptable respirator is SCBA or supplied air with auxiliary SCBA.
7. If the contaminant is a particulate, consider the health effects. If it is a systemic poison, then no single use respirator is acceptable.
8. If it is a particulate with a PEL of less than 50 micrograms/M3, then a high efficiency filter is necessary.
9. Where gases and vapors are of concern, is the sorbent efficiency of air purifying canister satisfactory? If not, supplied air is necessary.
10. Select only respirators having NIOSH/OSHA approval.

C-1 DOCTOR'S REPORT

Dear Doctor:

It is our company policy that before a worker can be required to wear respiratory protection on the job, a medical examination is needed to determine if the worker is capable of wearing the protective device.

On the following page is some information pertaining to the type of work performed, the respirator to be used and a recommendation of what the examination should include.

Upon completion of the examination, please complete the following and return to me.

Based on my evaluation, _____

_____ Has no medical condition which would be aggregated or interfere with the use of respiratory protection.

_____ Should not be required to wear respiratory protection.

Doctor's Signature _____

Date: _____

MEDICAL EVALUATION FOR USERS OF RESPIRATORY PROTECTIVE EQUIPMENT

Employee	
Date	
Respirator	
Work Activity	
Air Contaminants Exposed to	
Job Description	

1. A medical history emphasizing the presence and degree of cardiopulmonary complaints, e.g., dyspnea, cough, sputum production, wheezing and exertional chest pain. A smoking history should also be elicited.
2. A comprehensive occupational history detailing prior respirator use, if any, and any difficulties experienced.
3. A physical exam with special emphasis on the cardiopulmonary systems.
4. A 14 by 17 inch posterior-anterior chest roentgenogram.
5. Pulmonary function studies including forced expiratory volume in one second (FEV1) and forced vital capacity (FVC).
6. A resting electrocardiogram for those workers over 40 years of age or any who exhibit any signs of symptoms of cardiac disease.
7. Individuals with any of the following conditions may not be qualified for respirator use:
 - a. Symptomatic pulmonary disease with moderate-to-severe ventilatory impairment, e.g., chronic bronchitis, emphysema, asthma.
 - b. Symptomatic, severe or progressive cardiovascular disease, e.g., uncontrolled hypertension, angina pectoris.
 - c. Any anthropometric features which preclude an adequate seal, e.g., deep facial scars, blemishes, excessive facial hair, hollow temples, receding chin.
 - d. Any psychological condition where the employee cannot tolerate respirator use, e.g., claustrophobia, severe anxiety.

- e. Any skin hypersensitivity to the chemical components of the respirator itself.
 - f. Severe arthritis; absence of fingers, hand, or arms; or any other condition interfering with manual dexterity necessary for proper respirator use.
 - g. Any required vision correction incompatible with emergency respirator use.
 - h. Impaired sense of smell which may reduce warning properties of contaminant.
8. Individuals with a mild degree of pulmonary impairment should be further evaluated to determine their ability to wear a respirator. A trial period with the individual wearing a respirator in a nonhazardous atmosphere is suggested.

D-1 RESPIRATOR USER TRAINING & EDUCATION

1. The user will be instructed in the nature of the hazard or hazards for which the respiratory protection is being provided and informed of possible consequences which may occur if exposed to the hazard without adequate protection. Health hazard guidelines are contained. The user will also be made aware that every reasonable effort is being made to reduce or eliminate the hazard.
2. Instruction will include a discussion of the respirator's capabilities and limitations and discussion of the parts of the device and the function and possible malfunction of each part.
3. A detailed discussion of the user's responsibility for inspection of equipment prior to use and the appropriate points of inspection will be included. Each user will have access to a respirator during this part of training.
4. Instruction and training will include guidance on proper storage, method of obtaining cleaning and maintenance service and methods to assure adequate fit and function of the device each time it is donned.
5. Instructions on obtaining equipment, donning methods, proper fitting and adjustment of the equipment will be given. Each user will then don the equipment in an atmosphere of normal air, prior to a fit testing exercise.
6. Qualitative fit testing.
7. A record of employee names and the dates and type of initial training and subsequent refresher training will be maintained.

NAME	TRAINING	DATE	INITIALS

Signature of Trainer _____

D-3 RESPIRATOR FITTING TEST

NAME: _____ DATE _____

Job: _____ Glasses Worn: _____

Facial Hair, Dentures, etc: _____

Respirator Type: _____

A. Compatible with eye glasses _____

B. Irritant smoke test

1. Head stationary, normal breathing _____
2. Head stationary, deep breathing _____
3. Head turning, side to side _____
4. Head moving up & down _____
5. Talking _____

C. Comfort

1. Very comfortable _____
2. Comfortable _____
3. Barely Comfortable _____
4. Uncomfortable _____
5. Intolerable _____

Comments:

Tested by: _____

Village of Hewitt Fire Department

E-1 RESPIRATOR USE AND MAINTENANCE RECORD

Respirator Type _____

Manufacturer _____

Model Number _____

Date Placed in Service _____

Assigned to Whom _____

Inspection & Maintenance Record:

Date

Serviced By

RESPIRATOR CLEANING, MAINTENANCE & STORAGE PROCEDURES

Washing & Disinfecting

The respirator must be washed and disinfected after each day of use by carrying out the following instructions:

1. Remove the air-purifying element from the respirator. An air-purifying element must never be washed and disinfected.
2. Immerse the respirator in a warm (140-160 degree F.) water solution of a detergent. The respirator facepiece and parts may be scrubbed gently with a cloth or soft brush. Make sure that all foreign matter is removed from all surfaces of the rubber exhalation valve flap and plastic exhalation valve seal.
3. After washing and disinfecting the respirator, rinse the respirator in clean, warm (140-160 degree F.) water and then allow the respirator to dry.
4. After the respirator is dry, change the air-purifying element if necessary and attach a new precleaner.

Removing Paint Accumulation

To remove accumulation of paint, enamel, or lacquer from the respirator, wipe area so covered with a cloth that has been wetted with a commercially available paint-lacquer stripping agent. Mineral spirits, naphtha, or turpentine may be substituted if it is found that any of these materials are effective. Accumulations of water-based paint, enamel or lacquer may be removed from the respirator by wiping with a cloth that has been wetted with a soap and water solution.

WARNING - Do not immerse and soak rubber and plastic parts in stripping agents since this may damage rubber and plastic parts.

Never attempt to remove accumulations of paint, etc., from the air-purifying element, discard this element and replace with a new one when cleaning of the respirator is completed.

Storage

When the respirator is not in use, it should be placed in a plastic film bag and then stored in the carton provided. Respirators should be stored in a single layer with the facepiece and exhalation valve in a more or less normal position to prevent the rubber plastic from taking a permanent distorted "bag".

Inspection of Respirator

The respirator must be inspected to insure that it will function properly. Examine each part of the respirator for defects and discard if defects are found, unless the defects may be eliminated by replacement of defective parts with new parts.

Check for the following:

Cracks, tears, decomposition, stiffening and distortion of the rubber facepiece.

Distorted or badly worn plastic adaptor.

Rubber gasket that contains cuts, cracks or scratches.

Rubber inhalation valve flap that is stiffened, decomposed, or cut.

Rubber head harness strapping that is stiffened, decomposed, or cut.

Snap fasteners on head straps or facepiece that are worn or loose.

Plastic exhalation valve flap that is stiffened, distorted, decomposed, or contains cuts.

Rubber head harness straps that are stiff, decomposed, or cut.

Plastic exhalation valve seat that is distorted or contains scratches or cracks on its sealing surface.

Rubber exhalation valve seat, and valve flap, and valve cover, that are distorted, decomposed, or contains cuts.

Rubber filter clip that is distorted, decomposed, or contains cuts.

Replacement parts **MUST** be from the same manufacturer and for the same respirator before they are used. If other parts are substituted, the manufacturer's guarantee is not valid.

RESPIRATOR PROGRAM EVALUATION

1. Are all records complete and up to date? Yes___ No___
If no, what action has been taken to improve future performance? _____

2. Has air contaminant monitoring been conducted at operations where new ray materials or production processes are in use? Yes___ No___
If no, what action has been taken to determine exposure? _____

3. Are employees wearing respirators selected for the job? Yes___ No___
If no, what action has been taken to eliminate the use of improper respirators? _____

4. Do employees wearing respirators have medical approval and fit test? Yes___ No___
If no, what is being done to correct the situation? _____

5. Have employees completed their initial or refresher respirator training? Yes___ No___
If no, what is being done to complete training? _____

6. Do employees who have completed training understand limitations, use and inspection of respirators? Yes___ No___
If no, what improvements in the training program are being implemented? _____

Date: _____ Signature _____