	<b>COMPANY HEALTH AND SAFETY PROGRAM</b>	
	<b>Document No.</b> 7.2	<b>Date:</b> August 8, 2006
	<b>Respiratory Protection Program</b>	<b>Revision:</b> 0

## 1.0 PURPOSE

HES instituted the Respiratory Protection Program for its employees exposed to hazardous substances or health hazards relating to breathing contaminated atmospheres. This program was developed in an effort to comply with 29 CFR 1910.134, 1926.103, 1926.1101(h), and ANSI Z88.2. The program promotes a safe and clean atmospheric environment for employees who may encounter air contaminants.

## 2.0 SCOPE

This program applies to all Divisions/departments of HES.

## 3.0 RESPONSIBILITIES


The Health & Safety Manager (HSM) will be responsible for the formulation and coordination of the Respiratory Protection Program. This individual is responsible for administration of the program including the following:

- Ensuring proper respiratory equipment will be available for use.
- The equipment is properly cleaned, stored, and maintained.
- Maintaining records.
- Updating the written program, as needed.
- Providing training as required.

The HSM may periodically inspect the equipment to verify its condition and use. Each affected employee is responsible for wearing the equipment as required and trained, as well as properly cleaning, disinfecting, and storing the equipment. Only employees with no severe medical limitations will be allowed to perform work in areas requiring respiratory protection.

The Project Supervisors are responsible for the implementation of the program in the work areas. Supervisors must ensure that the program is understood and followed by the personnel under their direction. The duties of the supervisor include, but are not limited to the following:

- Ensuring employees under their direction have received the proper training required for the work activities.
- Awareness of the need for respiratory protection during work activities.
- Ensuring respirators are properly maintained.
- Monitoring work areas for identification of respiratory hazards.

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Workers have the responsibility to wear their respirators when and where required in accordance with their training. Workers must maintain their respirators as trained including proper storage and cleaning. Workers must inform their supervisor, project manager or HSM of any hazard not addressed appropriately in the work areas.

#### **4.0 POLICY**

The Respiratory Protection Program applies to all HES employees potentially exposed to respiratory hazards during asbestos abatement activities and hazardous waste activities. Acceptable engineering control measures (i.e. enclosure or confinement, local ventilation) will be used if feasible; otherwise, appropriate respirators will be used for protection. Medical evaluations will be conducted per the Medical Surveillance criteria ensuring employees are medically able to use a respirator before the employee is fit tested or required to use the respirator in the workplace. Affected employees will be issued their own respirator.

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH). All filters and cartridges must be labeled with the appropriate NIOSH approval label.

HES will provide respirators when they are needed for protection against air contaminants. Selection of respirators will be dependent upon the type of work to be performed. Respirators ranging from self-contained breathing apparatus (SCBA) to half-face air-purifying respirator may be used. Site conditions, hazard assessments, or monitoring equipment will be used to determine the level of protection required. Personnel may also use *Respirator Selection Figure 1* for routine remediation use and *Respirator Selection Figure 2* for Asbestos work activities as a basis for selection guidelines. Employees will wear supplied-air respirators or SCBA when contaminant concentrations in the atmosphere are unknown or exceed specified limitations by the manufacturer.

A qualified employee with technical expertise will administer fit testing to affected personnel and records will be maintained accordingly. The Respiratory Protection Fit Testing Form will be used to record the fit proceedings for each employee annually, at a minimum. The fit testing form is attached. Respiratory hazards will be addressed for each varying application. Respirators will be inspected before each use and during cleaning. Respirator cartridges and filters will be NIOSH approved and selected per job and changed out per manufacturer specifications or recommendations. End of service life indicator software will be used to determine cartridge life dependent upon the chemical constituents present.

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Respirators equipped with a face piece will not be worn if facial hair comes between the sealing surface of the face piece and the face, or if facial hair interferes with valve function. A qualified person must approve the use or prohibition of wearing contact lenses with selected respirator types. When eyeglasses, goggles, face shields, or welding helmets must be worn with a face piece, it will be worn so as not to adversely affect the seal to the face.

## **5.0 RESPIRATOR SELECTION**

For the selection of a proper respirator for a particular instance, the following points should be taken into consideration:

- Nature of the Hazard (i.e. oxygen deficiency, PEL, properties, etc.)
- Nature of the Operation (i.e. process characteristics, by-products, etc.)
- Location of the Hazard (i.e. alternate escape, emergency procedures)
- Period of Respirator Use (i.e. limited air supply, cartridge limitations)
- Protection Factors (i.e. seal characteristics, half-face APR, etc.)
- Selection Figures (*Figure 1 - Routine Use, Figure 2 - Asbestos Activities*)

## **6.0 FIT TESTING REQUIREMENTS**

Any employee requiring the use of a respirator for *environmental/hazardous waste* activities will be fit tested on an annual basis, at a minimum. Any employee requiring the use of a respirator for *Asbestos* activities will be fit tested at least once every six months. There are two methods for conducting fit testing activities, Qualitative and Quantitative. Qualitative fit testing is quick and easy and capable of being performed almost anywhere (i.e. irritant smoke protocol, Bitrex protocol). Quantitative fit testing requires the use of electronic testing equipment and possible test chambers (i.e. port-a-count). Qualitative fit testing (QLFT) may be used to fit test negative pressure air-purifying respirators, if they will only be used in atmospheres less than ten (10) times the PEL, since existing evidence only validates the QLFT protocols listed in Appendix A of the Standard to identify respirators that achieve a fit factor of 100. For greater concentrations, Quantitative fit testing (QNFT) must be used. When quantitative fit testing is used, all full-facepiece respirators must meet or exceed a fit factor of 500, while quarter- and half-mask respirators must meet or exceed 100. The following table may be used to clarify acceptable fit testing method uses:

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<b>Acceptable Fit Testing Methods</b>		
	<b>QLFT</b>	<b>QNFT</b>
Half-Face, Negative Pressure, APR (<100 fit factor)	Yes	Yes
Full-Face, Negative Pressure, APR (<100 fit factor) used in atmospheres up to 10 times the PEL	Yes	Yes
Full-Face, Negative Pressure, APR (>100 fit factor)	No	Yes
PAPR (Powered Air-Purifying Respirator)	Yes	Yes
Supplied-Air Respirators (SAR), or SCBA used in Negative Pressure (Demand Mode) (>100 fit factor)	No	Yes
Supplied-Air Respirators (SAR), or SCBA used in Positive Pressure (Pressure Demand Mode)	Yes	Yes
SCBA - Structural Fire Fighting, Positive Pressure	Yes	Yes
SCBA/SAR - IDLH, Positive Pressure	Yes	Yes
Mouthbit Respirators	Fit Testing Not Required	
Loose-Fitting Respirators (e.g., hoods, helmets)		

Fit tests will be repeated if a weight change of at least 20 lbs. occurs, if facial scarring near the respirator seal occurs, if significant dental changes occur, if reconstructive or cosmetic surgery has occurred, or when any condition may interfere with the face piece sealing. Fit testing will also be performed for each type of respirator. Each time a respirator is put on for use the employee will perform an individual functional positive/negative fit check in accordance with the manufacturer's recommendation. The User Seal Check (Mandatory) Procedure is located in 29 CFR 1910.134 Appendix B-1.

One of the following two types of qualitative fit test protocols will be used for fit testing HES employees:

- Irritant Smoke (Stannic Chloride) Protocol (Appendix A, Part I, B.)
- Bitrex (Denatonium Benzoate) Protocol (Appendix A, Part I, B.)

The Fit Testing Form will document the following:

- |                                  |                                |
|----------------------------------|--------------------------------|
| i Type of fit test               | ii Fit test protocol           |
| iii The test exercises performed | iv The topics discussed        |
| v Employee name                  | vi Test date                   |
| vii Qualified trainer            | viii Respirator make and model |

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- ix Respirator style and size
- x Affected signatures
- xi Positive and negative pressure check procedures

## **7.0 RESPIRATOR INSPECTION, MAINTENANCE, AND STORAGE**

Respirators used in routine situations shall be inspected before and after each use and during cleaning by the user for any worn or deteriorated parts and replaced with new parts. The following checks should be made when inspecting respirators:

- Face piece: half - cracks, tears, or holes; face mask distortion
- full - same as above and cracked or loose
- Head straps: breaks or tears, broken buckles, over stretching
- Valves: residue or dirt; cracks or tears in valve
- Filter/Cartridges: approval designation; gaskets; cracks or dents in housing; proper cartridge for hazard encountered

The respirator cartridge/filter change schedule for asbestos abatement activities is one new set of hepa filters for APR, per day. Exposure sampling may determine a tighter/more frequent or less frequent change out schedule.

Cartridges and filters should be removed from the respirators prior to cleaning. The Respiratory Cleaning (Mandatory) Procedure is located in 29 CFR 1910.134 Appendix B-2. Respirators should be washed periodically with warm water and a mild detergent soap and rinsed thoroughly. Before and after each use respirators should be cleaned and wiped down with an alcohol wipe for disinfecting.

Respirators will be stored in a sealable Ziplock type bag to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they should be packed or stored to prevent deformation or deterioration.

It is the employee's responsibility to properly maintain and clean their equipment through the support from the Project Manager, Supervisor or Health & Safety Manager.

## **8.0 RESPIRATOR MALFUNCTION**

For any malfunction of an air-purifying respirator, such as breakthrough, face piece leakage, or improperly working valves, the user should inform their supervisor of the improper function and proceed to a safe location for repair maintenance. The supervisor must ensure that the employee receives the proper parts for the repair of the respirator, or is provided with a new respirator.

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## 9.0 MEDICAL SURVEILLANCE

All employees requiring the use of respirators will have a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator. The OSHA Respirator Medical Evaluation (Mandatory) Questionnaire is located in 29 CFR 1910.134 and will be completed prior to evaluation. Employees exposed to hazardous substances or health hazards at or above the permissible exposure limits or levels for 30 days or more a year are also subject to medical evaluation. Employees who become injured, ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation are also subject to medical evaluations. The evaluations monitor employee's physical capabilities to promote a safe and healthy working environment.

The Health & Safety Manager or Office Manager will complete a form to authorize the physicians, Occupational Medicine & Associates, to perform a physical on the listed employee. The purpose of the physical may vary from a new employee, to updating, or to an exit physical. The physical may include all of the following: Detailed work and medical history and review of systems, Respirator clearance to include pulmonary function test with Respirator release and chest x-ray with B-level read, Physician's exam per OSHA Regulations, Blood level and zinc protoporphyrin and Drug testing. The employee(s) may waive their right to an exit physical by signing the authorization form prior to leaving HES. The Medical Surveillance Program in Section 7.5 of the Company Health & Safety Program discusses practices in more detail.

Medical examinations will be provided at no cost to the employee, without loss of pay, and at a reasonable time and place. All medical examinations will be performed by or under the supervision of a licensed physician. Persons who administer the pulmonary function test must have completed a training course in spirometry sponsored by an appropriate academic or professional institution. HES will obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

1. The physician's opinion whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment or the employees health from work in hazardous waste operations, emergency response, or from respirator use;
2. The physician's recommended limitations upon the employee's assigned work;

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3. The results of the medical examination and tests if requested by the employee; and
4. A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

The written statement obtained by HES will not reveal specific findings or diagnoses unrelated to occupational exposures or activities.

Medical examinations will be performed in the following instances: A Pre-employment exam will be given to all employees required dependent upon work activities; at a frequency of at least once annually; upon termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months; as soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits; and more frequent times if the examining physician determines that an increased frequency of examination is medically necessary.

## **10.0 MEDICAL RECORDS**

When conducting the initial medical examination (new employee), the standardized OSHA Medical Questionnaire must be used. During the annual re-examination, the abbreviated OSHA Medical Questionnaire should be used. Dependent upon the use and frequency of the respirator for environmental personnel, an OSHA medical questionnaire may be all that is needed on an annual basis. Upon review from the physician, he or she may warrant an annual physical examination unnecessary.

At the conclusion of the examination, the physician will provide a written opinion to HES. This will contain the results of the examination, any conditions discovered by the physician that would prohibit the employee from using a respirator and any recommendations from the physician regarding the employee's limitations. It should also contain a statement from the physician that he or she has informed the employee of the results of the examination.

A copy of the physician's opinion must be furnished to the employee, by HES if requested, within 30 days of receiving the copy.

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## 11.0 RECORDS RETENTION

A file will be kept for each employee affected by the program. Any employee may view their file at any time with a request to the Office Manager or Health and Safety Manager. Each employee file will contain the employee name, employee social security number, physician's written opinions, recommended limitations, the results of the exam and tests, any employee medical complaints related to exposure to hazardous substances, and a copy of the information provided to the examining physician by the employer.

This documentation will be maintained for at least the duration of employment plus thirty (30) years after the date of the final release of the employee. The employee file will also contain a copy of the fit testing/ training record. The occupational health clinic, which performs the examinations, will also keep a copy of the medical exam and test results.

## 12.0 TRAINING

Respirators will not be issued to personnel who have not received appropriate respirator training and who do not have a current Physician's Written Opinion. All personnel requiring the use of respirators will be trained in the following basic respirator practices during fit testing activities:

1. Purpose of the respirator.
2. Purpose and reasoning for medical surveillance.
3. Explanation of problems involved in misusing respirators.
4. Instruction on respirator limitations (i.e. oxygen deficiency).
5. Instruction on donning and doffing a respirator.
6. Instruction on proper inspection, care, and maintenance of the respirator.
7. Instruction on cleaning and storage procedures.
8. Explanation of the differences between air-purifying and supplied-air.

All effected employees will be trained on the use and care of respirators through fit testing activities and continued program involvement annually, at a minimum dependant upon arising issues. Only designated personnel are authorized/ qualified to conduct fit testing activities for employees.

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**13.0 PROGRAM MAINTENANCE**

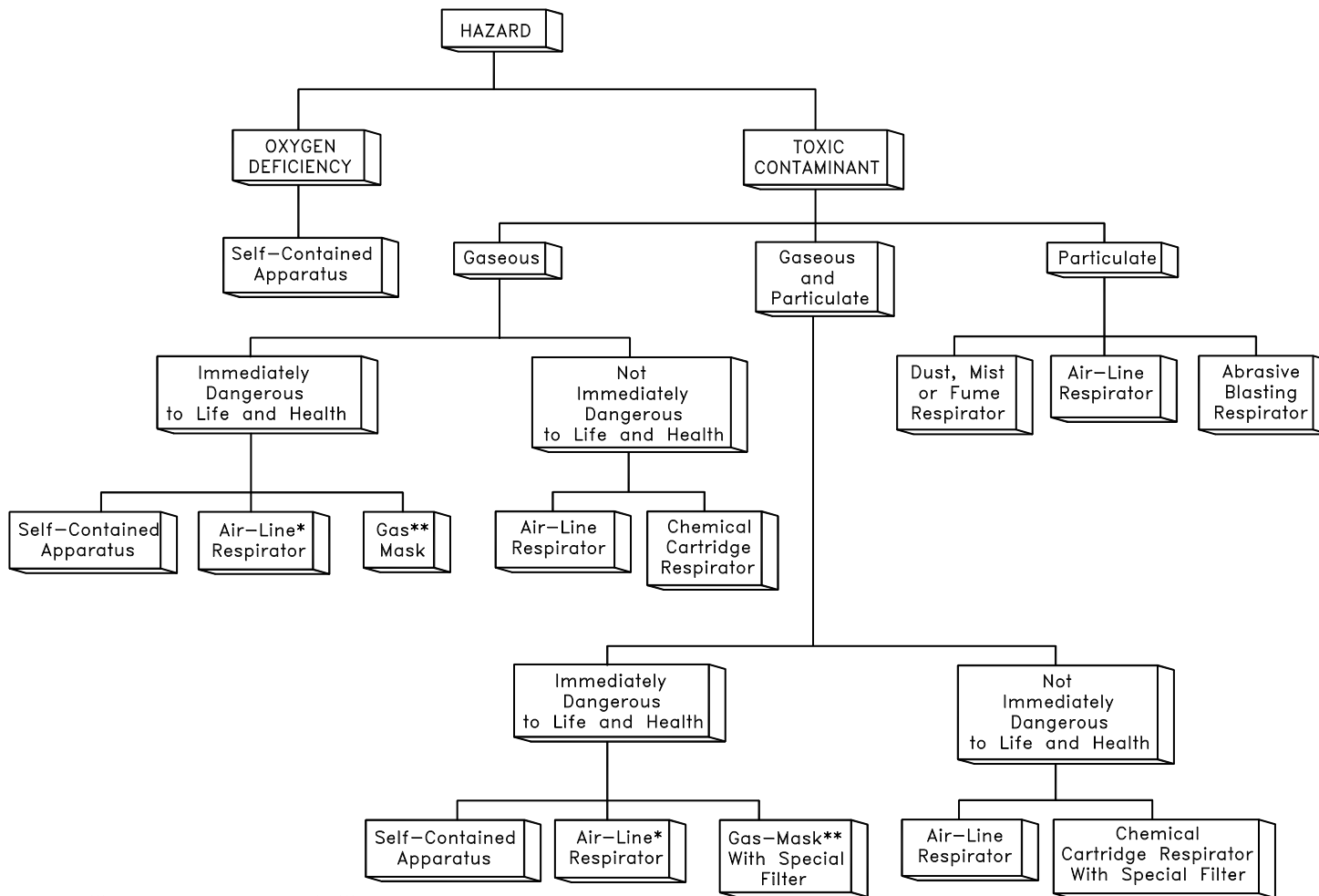
This program will be revised as required by the Health & Safety Manager and approved by the Director, Environmental Services. This program will be reevaluated as needed, or annually at a minimum.

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Respirator Selection Figure 1 – Routine Use

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\* - with emergency escape bottle  
 \*\* - for emergency escape only



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**RESPIRATOR TRAINING & QUALITATIVE FIT TEST RECORD**

Subject's Name: \_\_\_\_\_

Contract : \_\_\_\_\_ Location: \_\_\_\_\_

Type of Respirator Fit Test Used \_\_\_\_\_

Respirator Tested \_\_\_\_\_ Size: \_\_\_\_\_

**Test Results:**

1. Facial Characteristic Assessment. Respirators with tight-fitting facepieces may not provide satisfactory seal with individuals having facial features (i.e. Hair, missing dentures) that could interfere with said seal. Did any such conditions exist? \_\_\_\_\_

2. Sensitivity Test            Passed \_\_\_\_\_            Failed \_\_\_\_\_

3. Fit Test                      Passed \_\_\_\_\_            Failed \_\_\_\_\_

**Respirator Training:**

I have successfully completed Hallen's Respiratory Training Program. The proper use, fit and maintenance of respirators was reviewed. Task specific respirator/filter selection were outlined. Hallen's Respirator Protection Program was reviewed.

Employee Signature: \_\_\_\_\_ Date \_\_\_\_\_

Test Administrator \_\_\_\_\_

