

V.I.E.W.S.

IEWS & INFORMATION ON ENVIRONMENTAL & WORKPLACE SAFETY



RESPIRATORY PROTECTION

As soon as people discovered that they could be hurt in various ways, they began to devise ways to protect themselves. Foot protection, hand protection, head protection, and eye protection were developed and evolved through various stages of improvement from very early times. The full extent of respiratory protection, however, was the last to be properly identified and widely used. Examples of respiratory protection existed from time immemorial, with people holding a cloth tightly against the nose to keep out dust and particulates, particularly in sand and desert environments. It is, however, only through modern science that a proper understanding arose of the full range of respiratory hazards and what procedures and devices would safe guard against them.

The federal regulation that governs occupational respiratory protection is 29 CFR 1910.134. New York State has not developed or adapted any respiratory protection requirements of its own, but users are referred to the OSHA regulation, which remains the guiding principle and industry standard.

Chemical Exposure

There are four main routes of entry of chemicals into the body: ingestion, absorption / contact, penetration and inhalation. It is towards inhalation hazards alone that Respiratory Protection is directed. There are two kinds of breathing hazards: when a toxic contaminant is present in the air at a high enough level to cause harm when inhaled and a breathing hazard also exists when the air does not contain enough oxygen to support life

Hazardous environments can be of two types

Immediately Dangerous to Life and Health (IDLH)

Air is considered IDLH when a person cannot escape unprotected in a few minutes without suffering fatal or serious consequences. Air that does not have the required amount of oxygen (19.5 – 23.5 %) and air that contains high levels of toxic contaminants (above OSHA IDLH levels) would be considered IDLH.



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Not IDLH

Air is considered Not IDLH when it has enough oxygen but contains toxic contaminants above certain levels fixed by OSHA called PELs or Permissible Exposure Limits, but below IDLH levels that would be harmful if exposure is prolonged above the stipulated duration as prescribed by permissible levels.

Hazard Determination

If a determination is made that either of these two types of hazardous environments exists, then a respiratory protection device must be used. The use of respiratory protection is only justified when engineering or administrative controls are inadequate or not feasible. If proper means of hazard determination are not available then the default mechanism is defined by the requirements of an IDLH condition.

Types of Respirators

Air Purifying Respirators (APR). These can be particulate removing, vapor / gas removing, or a combination of both.

Supplied Air Respirators (SAR). These can be either a self contained breathing apparatus (SCBA) or supplied air (air line). Both types strictly fall under the phrase "supplied air." Emergency escape type respirators are also included in these. In these a supply of clean air is delivered into the breathing zone of the employee.

Summary of Requirements

Written Program

A Written Program must be established, designating a PROGRAMME ADMINISTRATOR, procedures for the safe and proper use of respirators, their capabilities and limitations, respirator selection, and IDLH requirements.

Training

Training shall be conducted annually and shall include discussions of the types of hazards, types of respirators, respirator selection, limitations and proper use, methods of donning and fit testing, inspection and cleaning, maintenance and storage, and emergency procedures.

Respiratory Protection Program Evaluation

Annual review of programmed effectiveness and modifications of the Standard Operating Procedures shall be performed as necessary.

Criteria for the Election of the Respirators

Criteria shall include considering the type and extent of the hazard, choosing equipment certified for the hazard present, and ensuring that the device performs as intended. These criteria must be in compliance with ANSI standard Z 88.2.

Fit Testing

All half and full-face negative pressure respirators must be fit tested annually at the same time as training. There are two kinds of approved fit testing procedures: qualitative and quantitative. Either of these might be used which fulfill the OSHA requirements for such procedures. Employees need to practice self fit testing each time a respirator is used. This consists of negative and positive fit testing.

Maintenance and Storage

Respirators shall be maintained and stored in accordance with the manufacturers' requirements. Storage shall be such that respirators are protected against dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, mechanical damage and malformation.

Medical Evaluation

Using a respirator may place a physiological challenge on an employee that varies with the type of respirator worn, the job and the work-place conditions in which the respirator is used, as well as the medical status of the employee. It is a requirement that a medical evaluation be given to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the work place

Inspections

All routinely used respirators shall be inspected for wear and deterioration and cleaned and disinfected before and after each use. Self contained breathing apparatus and other equipment used for emergency situations shall be inspected monthly.

IDLH atmospheres

It must be firmly understood that if a situation is identified as IDLH or even if it cannot be determined accurately that it is not IDLH, then only one condition applies and that is that an SCBA, SAR, or an Emergency Escape Respirator must be used.

Asher Nadjmuddin
BWSO/EH&S

DEP SERIOUS ABOUT SAFETY AWARDS



On Tuesday, August 2nd, four "Serious About Safety" Awards were given to the individuals listed below. They have been recognized for their hard work and continued dedication to implementing safe work place practices, and for their commitment to the safety of their co-workers and the public.

The August 2005 "Serious About Safety" Award Winners

Courtney Anderson, Senior Stationary Engineer (Electric) and **Vinesh Arjune**, Sewage Treatment Worker, Jamaica WPCP, Bureau of Wastewater Treatment. Working together, Mr. Anderson and Mr. Arjune developed and are in the process of implementing a system that reduces spills and minimizes personal contact with sewage during sludge blanket sampling at Jamaica WPCP.

Award recipients and Deputy Commissioners Al Lopez (BWT), Mike Principe (BWS), and Doug Greeley (BWSO). Also present were three earlier recipients of Serious About Safety Awards: Brett Elk, Peter Lenz, and John Zollo from BWSO.

Tom Soriano, Field Operations, Bureau of Water and Sewer Operations. Mr. Soriano has been instrumental in reorganizing training and personnel records for the Queens Repairs Yard, his methods being adopted as the standard for Field Operations. He has also worked to correct a number of long-standing drainage issues at the yard, leading to a reduction in unregulated discharges and area sewer back-ups.

Kenneth O'Connor, West-of-Hudson Health and Safety Coordinator, Bureau of Water Supply. In addition to his regular duties, Mr. O'Connor has worked closely with the DEP Police Division to implement the Agency's environmental health & safety program. He has dedicated his time to reviewing and updating facility-specific emergency action plans for every upstate precinct, as well as evaluating each precinct's chemical management practices.

"Serious About Safety" Awards are intended to highlight the many individual accomplishments contributing to the agency's implementation of an environmental safety and health compliance program for the benefit of all staff and the general public.

Please join me in congratulating these individuals on their awards, and thanking them for their innovative and helpful practices in support of the agency's compliance program.

In addition to the "Serious About Safety" Award, I would like to announce the creation of two new awards programs, the "Eyes on Environmental Awareness" Award and the "Dedicated to Service" Award. "Eyes on Environmental Awareness" Awards are intended to highlight individuals who have continued to exhibit a positive understanding of the impact of their work on the environment while contributing to the Agency's compliance with all legal and regulatory requirements. "Dedicated to Service" Awards are intended to highlight individuals whose work exhibits a continued dedication to excellence in customer service and responsiveness to the general public.

Nominations for all awards will be accepted at all times, and awards will be given out on a regular basis. Nomination forms must be signed or co-signed directly by Bureau Heads before being submitted, though recommendations for awards should be culled from any division or unit of employees. Nominations forms may be found via the Commissioner's Page on DEP's intranet, Pipeline.

Award winners will receive a \$250.00 check from the New York City Water Board, as well as a certificate to be delivered by the Commissioner directly to the employee. Additionally, award recipients and their service achievements will be highlighted in agency-wide communications, including the employee newsletter, The DEP Digest, and on Pipeline.

Sincerely,
Emily Lloyd
Commissioner

DEP Respiratory Protection Policy

DEP is committed to providing a safe and healthy working environment to all its employees. Respiratory protection helps to insure that this objective is achieved. The guidelines of the Respiratory Protection Policy are designed to help minimize employees' exposure to potentially harmful occupational dusts, fumes, mists, gases and vapors. Accepted engineering and administrative controls are basic to containing breathing hazards. Only those individuals medically capable of wearing respirators shall be issued a respirator. All individuals identified as needing respiratory protection for carrying out any job task shall be in the respiratory protection program with all the elements of the policy applying to them. Employees who need to use Escape Only type respiratory protection in emergency situations do not need to be in the Respiratory Protection Program or to be medically evaluated for wearing respirators.

Voluntary Use

When respiratory protection is not required by DEP Policy or justified by any hazard evaluation, employees can still use respiratory protection on a voluntary basis provided the following conditions are met:

- ✘ Only filtering facepiece particle respirators will be used (dust mask). These respirators shall be certified by NIOSH.
- ✘ The use of a filtering facepiece particle respirator must not itself create a hazard.
- ✘ The employee understands all the instructions regarding respirator limitations provided by the manufacturer.
- ✘ The employee shall be provided and shall read Attachment D of OSHA regulation 29 CFR 1910.134.

Such individuals using filtering facepiece particle respirators need not be part of the respiratory protection program. They also do not need to be medically evaluated for Respirator Wear.

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