



EI

ALERT

Va. DEQ announces new Environmental Excellence program

The Va. Department of Environmental Quality (DEQ) announced its new voluntary environmental compliance program for businesses, manufacturers, government agencies, and other organizations. This Environmental Excellence program encourages improved environmental performance and active participation beyond the role of compliance. Department Secretary Paul Woodley Jr. made the announcement in April during the Environment Virginia 2000 conference at Virginia Military Institute in Lexington.

DEQ promotes the use of environmental management systems (EMS) and pollution prevention to improve environmental and organizational performance. EMS implementation includes writing policies and procedures that outline environmental goals and the methods to achieve and maintain them. An EMS ensures ongoing compliance with environmental regulations. Organizations that participate in this voluntary program and show increased environmental protection beyond compliance may be eligible for

regulatory flexibility in DEQ inspection and monitoring schedules. (See related story, *Environmental Briefs*, page 5.)

The program has two levels of participation: environmental enterprise (E2) and exemplary environmental enterprise (E3). For facilities just beginning environmental programs, the E2 level focuses on EMS implementation and pollution prevention programs. The E3 category includes companies that have fully implemented EMS programs and may benefit on a case-to-case basis from regulatory flexibility.

The program is one of seven segments of the Virginia Innovations in Pollution Prevention (VIP2) program, announced in April 1999, that encourages nontraditional environmental management programs. Other commitments of the VIP2 program include improved environmental technology, environmental peer monitoring, and increased environmental education.

OSHA makes additional changes to Respiratory Protection Standard

The Occupational Health and Safety Administration's (OSHA) Respiratory Protection Standard (29 CFR 1910.134) requires that respirators must be worn in situations when it necessary to protect the health of an employee from contaminated or oxygen-deficient air. This 27-year-old standard was strengthened two years ago by changes to better protect the health and lives of self-contained apparatus wearers. Some of the required changes of the revision include:

- **Written plan** with worksite-specific procedures to tailor program to each worksite.
- **Hazard evaluation** to characterize respiratory hazards and conditions of work to assist employers in selecting appropriate respirators.
- **Medical evaluation** to determine ability of workers to wear the respirator selected.
- **Fit testing** of tight-fitting respirators to reduce face seal leakage and ensure that the respirators provide adequate protection. OSHA requires that the fit testing be administered at least annually.
- **Training** to ensure that employees use respirators safely.
- **Periodic program evaluation** to ensure that respirator use continues to be effective.

Recent Revisions that Address Quantitative and Qualitative Fit Testing

The revision of the standard dealing with fit testing requires detailed protocols for qualitative or quantitative methods. OSHA allows the use of either method in ensuring compliance, regardless of whether the respirator is used in a positive or negative pressure mode.

“Respirator” continued on page 4.

Also in this issue ...

- **Hearing Conservation**
- **Asbestos in Construction Regulations**
- **OSHA Rules on Construction Industry Compliance**
- **Environmental Briefs**
- **EI Training Courses**

Hearing conservation awareness in the workplace

Hearing loss, like musculoskeletal injuries, often goes unnoticed and unreported. Several years may pass before damage or injury become apparent, when it is too late to implement corrective or follow-up programs. Since 1983, OSHA has required hearing conservation programs for workplaces with noise levels at or above 85 decibels (dBA) per day.

According to the occupational noise exposure standard (29 CFR 1910.95), OSHA currently requires that a continuing, effective hearing conservation program be administered at facilities where employees are exposed to noise at or above levels of an eight-hour time-weighted average (TWA) 85 dBA. OSHA's hearing conservation program requires employers to monitor noise exposure levels for these employees, provide audiometric testing and evaluation, keep records of noise level and audiometric monitoring, provide hearing protectors, provide employees with training, and ensure workers are complying with hearing protector use requirements. Audiometric monitoring should be repeated when changes in production, process, or controls increase noise exposure.

The employer shall establish and maintain an audiometric testing program, including baseline audiograms, annual audiograms, training and follow-up procedures. Hearing tests should be done annually to identify deterioration in hearing ability so that protective follow-up measures can be initiated before hearing loss progresses.

The best method to reduce noise levels in the workplace is to implement engineering controls in place of or along with a hearing conservation program. If noise levels are reduced to below 85 dBA by engineering controls, a hearing conservation program is not needed.

EI's Industrial Hygiene and Occupational Health Departments can assist your organization in meeting OSHA's requirements for noise monitoring and annual audiometric testing and audiogram evaluation. Also, EI's Engineering Department can assist in redesigning or creating a workplace with enhanced noise control levels. Please call us at (800) 717-3472.

Current statistics regarding hearing conservation

Noise-induced hearing loss (NIHL) is one of the most common occupational diseases and the second most self-reported occupational illness or injury.

30 million Americans are exposed to hazardous noise at work, resulting in permanent hearing loss for nearly 10 million workers.

An additional nine million workers are at risk of hearing loss from other agents such as solvents and metals.

NIHL is preventable.

Ideas for an effective hearing conservation program

CUSTOM TAILOR your hearing conservation program for each work station or individual worker. Hearing protection devices can be chosen to meet objectives, such as the amount of noise reduction they provide, the type of sounds they block out, whether they are premolded or flexible foam, etc.

TRAIN WORKERS on proper wear and use of hearing protection. Ensure they know why it is needed, where it is needed, and the health risk of developing NIHL if it is not properly worn.

DEVELOP INCENTIVES and positive reinforcement for workers who comply with personal hearing protection use requirements.

FOCUS on both management reinforcement for positive safety behavior and confronting negative disregard for safety rules immediately.

FOLLOW-UP after training to ensure that workers are using hearing protection correctly and consistently throughout the duration of the task that requires their use.

Review of Changing OSHA Rules On Construction Industry Compliance

During the past several years, OSHA has issued final or draft standards that apply to the construction industry. Among the standards with the most effect on companies involved in construction is the revised fork truck standard. Also, OSHA is expected this year to issue draft standards on fall protection and exposure to silica.

Powered Industrial Trucks

OSHA has redefined training requirements for forklift and industrial truck operators in an effort to reduce that high rate of injuries resulting from inadequate instruction. The revision, effective March 1, 1999, lists specific topics that must be included in **formal training** and **offered by a qualified instructor**.

"Construction" continued on page 5.

10 Fall Protection Issues for Review

- Whether there is a need for alternative procedures for residential construction
- Whether there is a need for alternative procedures for precast concrete erection
- Whether there is a need for alternative procedures for post-frame construction
- Whether there is a need for alternative procedures for vendors delivering construction materials
- Whether there are alternative methods of fall protection while climbing reinforcing steel (rebar walls and cages)
- What criteria should be used for restraint systems
- Whether the strength requirements for anchorage points for personal fall arrest systems, positioning device systems, and restraint systems should be changed
- Whether the standard's prompt rescue requirements should be revised
- Whether there is a need for alternative procedures for drilling shafts
- Whether body belts incorporated into full body harnesses provide appropriate employee protection in a fall

Overview of amendments to asbestos in construction regulations

The Virginia House of Representatives indefinitely passed the HJ 272 Study in February 2000 regarding certain asbestos and lead abatement issues. This study requests the departments of Professional and Occupational Regulation and Housing and Community Development to study the issues below and report their findings to the 2001 Session of the General Assembly:

- identification of lead and asbestos risks prior to demolition/renovation
- required training of lead and asbestos contractors and workers
- provision of effective and sufficient training
- meeting lead and asbestos state and federal requirements

Five years ago, the Occupational Safety and Health Administration (OSHA) finalized the “Asbestos in Construction” standard (29 CFR 1926.1101). The standard has impacted a wide variety of workplaces, such as commercial office buildings and manufacturing plants. The standard includes employer requirements for training, asbestos identification, air monitoring, work practices, and communication. The standard applies to asbestos activities involving demolition, removal, or renovation. The facility owner and the renovation/demolition contractor are responsible for ensuring compliance with this regulation. Requirements of the standard are summarized below.

Regulated Facilities, Materials, and Activities

According to the regulation, asbestos management activities are required in buildings known to contain asbestos, as well as in those **built prior to 1981**. This requirement not only regulates asbestos-containing materials (ACMs) but “presumed asbestos-containing material” (PACM) as well. PACM includes materials such as thermal system insulation (TSI), surfacing material, vinyl floor tiles, and floor coverings in pre-1981 buildings, unless indicated otherwise from laboratory testing. Also, under the rule, regulated work activities are broken into “classes” as follows:

- Class I** Actual asbestos removal of TSI or surfacing ACM or PACM
- Class II** Removal of ACM that is not TSI or surfacing
- Class III** Repair and maintenance operations where ACM, including TSI and surfacing material, is likely to be disturbed
- Class IV** Maintenance and custodial activities for employees involved in contact or cleanup of ACM and PACM or waste containing ACM and PACM

Asbestos Identification and Notification

Employers must ensure that a “competent person” is available to identify asbestos and hazardous, unsanitary, or dangerous conditions; select control strategies; and promptly implement corrective measures. This person must have completed the necessary training requirements specific to the class of the asbestos project and the authority to implement required corrective actions.

Prior to commencing work in buildings or facilities subject to this regulation, **building/facility owners** must notify the following people verbally or in writing:

- all prospective employers/contractors bidding for work whose employees reasonably can be expected to work in or adjacent to areas containing ACM or PACM
- any employees of the building owner working in or adjacent to areas containing such material
- all employers on multi-employer work sites who will be working in or adjacent to areas containing ACM or PACM
- tenants occupying areas containing ACM or PACM

Contractor employers must inform the following persons of the location and quantity of ACM and/or PACM and of the necessary precautions to ensure that airborne asbestos fibers are confined to the area:

- building/facility owners
- employees working in the area
- employers of workers in adjacent areas — at least 10 days prior to project completion, contractor employers must also inform the building or facility owners and employers of final air monitoring results and of the current location and quantity of ACM and/or PACM remaining in the area

Training

For Class I and II asbestos work, a competent person must be trained in all aspects of asbestos handling and removal and must have the authority to implement required corrective actions. Training can be obtained from a 40-hour comprehensive course for supervisors.

For Class III and IV asbestos work, a competent person should be trained in aspects of asbestos handling appropriate for the nature of the work such as glove bagging procedures, use of mini-enclosures, use of wet methods, and the identification of asbestos. Class III employees must receive at least 16 hours of training, or the equivalent to the Operations and Maintenance (O&M) course developed by EPA for maintenance and custodial workers. Class IV employees must receive at least two hours of “awareness training.” Lifetime annual medical surveillance must be provided to employees who perform 30 or more days of Class I, II, or III work per year, and for employees who wear negative pressure respirators.

Warning Signs and Labels

The building owner is required to post signs at entrances to mechanical rooms and other areas that contain thermal insulation (TSI) and surfacing ACM/PACM through which employees enter. Signs should identify the material present, its location, and appropriate work practices needed to ensure that ACM/PACM will not be disturbed. Signs must be posted at such a distance from the

“Asbestos” continued on page 5.

Environmental Briefs

■ President Clinton proposes strategy to end childhood lead poisoning, allow stricter enforcement on lead-based paint

President Clinton is proposing a \$165-million, 10-year strategy to end childhood lead hazards, strengthening enforcement of lead regulations, advancing research, and improving health monitoring and intervention. Fiscal year 2001 priorities include spending \$120 million for grants and other housing and urban development efforts to reduce lead-based paint hazards in low income homes with children under age six, and spending \$6 million through the EPA and the Department of Justice to increase public education and enforcement of lead-disclosure rules. *Source: Environmental Health Perspectives, National Institute of Health, June 2000.*

■ Reducing polluted runoff: the Storm Water Phase II Rule

In December 1998, EPA entered the Storm Water Phase II Rule into the Federal Register. The Phase II Rule will extend regulation of storm water from construction activities greater than five acres to construction activities equal to or greater than one acre. It also will regulate small municipal separate storm sewer systems in urbanized areas not currently covered by the Phase I Rule. Regulation of these entities will become effective mid-2001.

Also, as of February 2000, all categories of industrial activity, except construction, can now claim the no exposure exemption under the Storm Water Phase II Rule. The no exposure exemption allows industries to avoid storm water permits if there is no exposure of industrial materials or activities to storm water. Under the Phase I Rule only category, 11 industries are allowed to claim this exemption. For more information, visit www.epa.gov/owm/sw/phase2.

■ Automobile manufacturers require EMS

Automotive suppliers are implementing environmental management systems (EMS) as part of a mandate from automotive companies Ford and General Motors. Ford manufacturing suppliers have until July 1, 2003, to implement an EMS; GM suppliers have until Dec. 31, 2002. EMS is a tool that uses an international standard (ISO 140001) to systematically manage environmental activities, products, and services, and to help achieve environmental obligations and performance goals. Both companies are making the requirement because of their interest in improving the quality of the environment. The new requirement applies to about 5,000 of Ford and GM suppliers worldwide. (See related story, page 1.)

“Respirator” continued from page 1.



OSHA mandates that the respiratory fit testing be administered annually. The technology EI uses to administer quantitative respirator fit testing has been scientifically proven to be a more reliable means of measuring respirator face seal leakage, and it provides a much more rigorous test of respirator fit than non-validated particle counting techniques.

However, each method has its advantages and disadvantages. Some points to consider when choosing which method to use are:

Qualitative fit testing is a pass/fail evaluation that relies on the response of the respirator wearer to various test agents, such as banana oil or irritant smoke. Its advantages include low cost, ease of performance, and minimal time constraints. However, its disadvantages include low reliability and dependence on the sensitivity of the wearer to the test agents used, resulting in clearance of respirators that do not adequately protect the exposed worker.

Quantitative fit testing uses numerical measurements to assess the adequacy of a respirator by measuring its fit to the wearer. Advantages to this method of testing include greater accuracy and reliability, as the method does not rely on the sensitivity of the wearer to test agents. However, disadvantages include the use of expensive equipment and the need for highly-trained personnel to provide the fit testing using their fit test mechanisms.

In determining which fit testing method is more appropriate for your employees, keep in mind that the method chosen provide the necessary accuracy in meeting your respiratory fit factor requirements. A fit factor is a numerical estimate of the fit of a given respirator to the face of its wearer, specific to the particular make and model. OSHA requires that the type of fit test performed provide the accuracy in fit factor that must be achieved. For example, if your facility is classified as a more hazardous operating environment, requiring greater accuracy to ensure the protective capacity of your respirators, *you most likely will need to use quantitative fit testing. Regardless the method you choose, the standard mandates that testing be administered annually.*

EI's Occupational Health and Industrial Hygiene Departments provide a variety of services that include medical evaluations, respirator fit testing, pulmonary function testing, and indoor air quality monitoring. For more information about these or any other services we provide, please call us at (800) 717-3472.

“Construction,” continued from page 3.

The new standard specifies 14 different truck-related topics and nine different workplace-related issues for training inclusion. Only sections not applicable to the specific work site may be disregarded. Refresher training is required under the following conditions:

- The driver operates the vehicle in an unsafe manner.
- The operator has been involved in an accident or near-miss incident.
- The operator’s evaluation indicates that more instruction is needed.
- The operator is assigned a different type of truck.
- The workplace changes in a manner that could affect the safe operation of the truck.

The employee must also participate in practical operating exercises and demonstrate an ability to safely operate a truck. A document certifying completion of required training must record the date and identity of the evaluator and be retained for future reference. Additionally, operator performance must be evaluated every three years following initial instruction.

New training requirements must be met prior to operation of powered industrial trucks if the employee is hired **after** Dec. 1, 1999. Employees hired **before** Dec. 1, 1999, have until that date to complete initial training. This standard applies to all industries, except agricultural operations, that use trucks.

Fall Protection Update

“Standards for Fall Protection in the Construction Industry,” was originally published Aug. 4, 1994, and requires that employees exposed to a fall hazard of greater than six feet be protected by equipment to prevent or stop the fall. Since 1994, OSHA has received comments and information on fall protection, specifically regarding situations where this rule seems infeasible with certain jobs such as erecting precast concrete, climbing reinforced steel or providing rescue. OSHA issued an Advance Notice of Proposed Rule Making (ANPRM) in July 1999 that will review discussion of 10 issues of concern to employees. OSHA accepted comments and claims on the proposed rule until Jan. 24, 2000.

Crystalline Silica

Crystalline silica is a basic component of sand and granite that can cause silicosis if inhaled. The disease results in fibrosis or scar tissue formations in the lungs that decrease the lung’s ability to work to extract oxygen from the air. There is no cure yet for silicosis, only prevention. Exposure to crystalline silica has also been associated with other diseases such as tuberculosis and lung cancer.

Although the most severe worker exposure to crystalline silica results from exposure during sandblasting, even materials containing small amounts of crystalline silica may be hazardous if used in ways to produce high dust concentrations. Construction workers can be exposed to silica when using concrete or masonry products

that contain silica sand when executing tasks such as chipping, hammering, drilling, crushing, or hauling rock; and sawing, hammering drilling, and sweeping concrete or masonry.

Currently, there is no comprehensive OSHA standard for exposure to crystalline silica. Rather, exposures are regulated by a number of OSHA standards. These include (but are not limited to):

- 29 CFR 1926.27 and 29CFR 1926.51 (sanitation-hygiene)
- 29 CFR 1926.28 (personal protective equipment)
- 29 CFR 1926.103 and 29 CFR 1926.134 (respiratory protection)
- 29 CFR 1926.55 (gases, vapors, fumes, dusts, and mists - PELs)
- 29 CFR 1926.57 (ventilation)
- 29 CFR 1926.59 (hazard communication)

OSHA plans to publish a proposed comprehensive rule concerning personal exposure to airborne crystalline silica this year to protect workers in general industry, construction, and maritime. In 1996, OSHA initiated a Special Emphasis Program that involved extensive public outreach to encourage the implementation of silicosis programs and inspections designed to reduce the incidence of silicosis. Although OSHA has an existing PEL, it has continued to find evidence of significant overexposures, a lack of effective workplace controls, and inadequate medical evaluations of employees. The new comprehensive standard for crystalline silica may include product substitution, engineering controls, medical screening, and surveillance, coupled with training and education. A risk assessment is ongoing to determine if the exposure limit should be reduced and if a new standard is technically and economically feasible.

EI’s Occupational Safety Departments has developed written project-specific safety plans, provided third party construction safety compliance assessments, and conducted construction safety training for a broad range of industrial and commercial construction projects. For more information call EI at (800) 717-3472.

“Asbestos” continued from page 3.

regulated area that employees may read the signs and take the necessary protective steps before entering the regulated area.

Labels should be affixed to all products and containers containing asbestos, including waste containers. Where feasible, installed asbestos products should contain a visible label; however, OSHA’s intent was not to require conspicuous warning labels in “public areas.” Labels should contain a warning statement against breathing asbestos fibers.

Recordkeeping

Records must be maintained (generally for 30 years) for any exposure measurements, bulk sample data, and any medical surveillance records, if required.

EI Training Courses

Health & Safety

Hearing Conservation: Refresher Course Hearing Conservation and Audiometric Testing, Certified Safety Professional Preparation Workshop

OSHA Compliance

ADAction Plan ■ Bloodborne Pathogens ■ Confined Space ■ Construction Safety ■ Contractor Safety ■ Electrical Safety ■ Hazard Communication ■ HAZWOPER ■ Laboratory Safety and Compliance ■ Respiratory Protection and Fit Testing

Safety/Health Program Management

Accident and Injury Prevention and Management ■ Advanced Occupational Safety and Health ■ Back Injury: Prevention, Management and Cost Containment ■ Cumulative Trauma Disorders ■ Developing and Managing a Safe Workplace ■ Ergonomics ■ Fundamentals of Occupational Safety and Health ■ Occupational Health Nurse Institute ■ OSHA Recordkeeping and Confidentiality ■ Spirometry and Pulmonary Function Testing ■ Stress Management for Professionals ■ Wellness Prescription: Worker's Compensation Management

Industrial Hygiene

Indoor Air Quality ■ Industrial Hygiene Calculations ■ Noise Technician ■ Asbestos Awareness ■ Asbestos Operations and Maintenance ■ Asbestos Abatement Projects Supervision ■ Asbestos Containing Material Inspection ■ Asbestos Training and Refresher ■ Lead: OSHA General Awareness Training and Refresher

For more information about these and other training courses, call EI at 1-800-717-3472.

EI provides comprehensive environmental, occupational safety and health consulting, and engineering services. Contact any of our professional staff:

Certified Industrial Hygienists
Licensed Asbestos and Lead Paint Inspectors
Licensed Asbestos Management Planners
Licensed Asbestos Project Designers
Licensed Asbestos Project Monitors
Certified Safety Professionals
Professional Engineers
Professional Geologists

8 0 0 . 7 1 7 . 3 4 7 2
e i @ e i 1 . c o m

check out our

Web site

www.ei1.com

Our Web site contains our company profile, consulting services, training course catalog, and regulatory updates.