



EI

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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 be worn in situations when it is 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 work site-specific procedures to tailor program to each work site.
- **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. 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

"Respiratory Protection Standard" continued on page 4.

Temporary rule sets new schedule for underground storage tanks

Effective May 1, 2000, the Environmental Management Commission approved a temporary rule that sets a new schedule for underground storage tank (UST) systems near public and private drinking water wells and certain surface waters. The schedule determines if and when secondary containment must be installed. This new schedule only affects some tank owners and operators. Some tank owners and operators must comply with the siting / secondary containment requirements immediately. When siting UST systems, three water sources must be considered:

- Public water supply wells (which includes any well where water is available to the public)
- Any other wells used for human consumption
- Certain surface waters

Public water supply wells

- No UST system (including tank, piping, and dispensers) may be installed within 100 feet of a public water supply well.
- UST systems may be installed between 100 and 500 feet of a public water supply well, but secondary containment (double-walled UST systems with interstitial monitoring) is required.

Any other well used for human consumption

- No UST system (including tank, piping, and dispensers) may be installed within 50 feet of any other well used for human consumption.
- UST systems may be installed between 50 and 100 feet of any other well used for human consumption, but secondary containment (double-walled UST system with interstitial monitoring) is required.

"UST" continued on page 5.

Also in this issue ...

- Environmental Briefs
- Compliance deadlines for dry-cleaning and wholesale distribution facilities announced
- OSHA finalizes self-audit policy
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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 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. (See Alert Vol. 8, Nos. 10, available online.)

Automobile manufacturers require EMS

Some automotive suppliers are implementing environmental management systems (EMS) as part of a mandate from automotive companies General Motors (GM), Ford, and Toyota. GM manufacturing suppliers have until Dec. 31, 2002, to implement an EMS; Ford suppliers have until July 1, 2003; and Toyota suppliers have until Dec. 31, 2003. EMS is a tool that uses an international standard, known as ISO 14001, to systematically manage environmental activities, products, and services, and to help achieve environmental obligations and performance goals. The new requirement applies to about 5,000 Ford and GM suppliers worldwide. (See related story, "State and federal governments continue to encourage beyond compliance," page 4.)

EPA makes new metal sludge RCRA final rule

By encouraging metals recovery from hazardous wastewater treatment sludge, a new Resource Conservation and Recovery Act (RCRA) final rule will help the metal finishing industry meet voluntary waste-reduction goals as part of EPA's National Metal Finishing Strategic Goals Program (SGP). SGP grew out of EPA's Common Sense Initiative (CSI).

The new rule allows large quantity generators to accumulate hazardous waste code F006 sludge onsite for 180 days (or 270 days, as applicable) if the waste is going for recycling to recover the metals. This rule addresses a barrier to metals recovery and recycling identified by CSI. The longer accumulation time enables generators to send larger shipments of waste off-site for metals recovery less often, making it a more attractive waste management option. The rule was published in the March 8, 2000, Federal Register (60 FR 12378) and became effective immediately in North Carolina. For more information about the rule, visit: www.epa.gov/epaoswer/hazwaste/gener/f006acum.htm or call the RCRA/Superfund Hotline at (800) 424-9346 or (703) 412-9810.

EPA report shows improved air quality

On Aug. 7 EPA released its annual air quality trends report showing that air quality nationally continues to improve. The most recent 10-year period (1990 - 1999) shows these nationwide improvements:

- carbon monoxide concentrations decreased 36%
- lead concentrations decreased 60%
- nitrogen dioxide concentrations decreased 10%
- smog concentrations decreased 4%
- particulate matter concentrations decreased 18%
- sulfur dioxide concentrations decreased 36%

The report is a summary version of the longer Air Quality Trends report that EPA has issued in the past. Details are available at www.epa.gov/airtrends.

EPA proposes rule for cooling water intake structures at new facilities

EPA has proposed a new rule intended to protect fish and other aquatic organisms from being killed or injured by cooling water intake structures used by industries. It will establish new requirements to protect the most biologically sensitive areas, including tidal rivers and estuaries and will establish minimum standards for cooling water intake structures at new facilities. Section 316(b) of the Clean Water Act (CWA) directs EPA to ensure that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. The proposed rule would apply to new facilities that use large amounts of cooling water, primarily facilities in these industries: steam electric power generation, pulp and paper making, chemical manufacturing, petroleum refining, and primary metals manufacturing (including iron and steel making and aluminum manufacturing).

In 1976, EPA published a final regulation implementing CWA section 316(b). However, industry groups challenged the regulation, and the U.S. Court of Appeals for the Fourth Circuit Court returned it for procedural errors in 1977. In 1995, EPA entered into a consent decree with the Riverkeeper and a coalition of other individuals and environmental groups and committed to complete a section 316(b) rule by August 2001. The Court Order, now in effect, required EPA to propose this regulation for new facilities by July 20, 2000, and to propose a regulation for existing facilities by July 20, 2001.

EPA believes this proposal would affect nearly 98 facilities during the next 20 years and would have an annual compliance cost of \$12 million. The proposal would set requirements to help preserve ecosystems near cooling water intake structures at new facilities. Expected benefits include a significant decrease in death or injury to aquatic organisms that would otherwise be drawn into cooling water systems or pinned against structure components at the entrance of cooling water intake.

New EPA deputy administrator appointed

The president announced Aug. 3 his recess appointment of W. Michael McCabe as EPA's deputy administrator. McCabe, from Pennsylvania, served as the regional administrator of the EPA Mid-Atlantic Region, where he directed the implementation of federal environmental programs in the states of Delaware, Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia. As deputy administrator, he will function as chief operating officer for the EPA and will work with the EPA administrator to provide agency leadership. The deputy position also serves as the acting administrator in the administrator's absence. McCabe is a Duke University graduate.

Compliance deadlines for dry-cleaning and wholesale distribution facilities announced

The Required Minimum Management Practices Rules for dry-cleaning and solvent distribution facilities became effective Aug. 1. Some rules require store modifications and have near future deadlines.

The State of North Carolina has set up a Dry-Cleaning Solvent Cleanup Program, authorized by the state statute known as the Dry-Cleaning Solvent Cleanup Act. The program is designed to assess and remediate dry-cleaning sites that are contaminated with chlorinated and petroleum-based dry-cleaning solvents. Under this Act, a dry-cleaning solvent trust fund has been set up that will receive money from taxes paid on dry-cleaning solvents.

To be eligible for the program and to access the trust fund, dry-cleaning and wholesale distribution facilities must have been in compliance by Aug. 1, 2000, and must remain in compliance with the following requirements from this date forward:

Title 15A NCAC Subchapter 2S .0202(b)

1 - At no time shall any dry-cleaning solvent, wastes containing dry-cleaning solvent, or water containing dry-cleaning solvent be discharged onto land or into waters of the State, sanitary sewers, storm drains, floor drains, septic systems, boilers, or cooling towers. All invoices generated as a result of disposal of all dry-cleaning solvent waste shall be made available for review by the N.C. Department of Environment and Natural Resources (DENR). If a dry-cleaning facility uses devices such as atomizers, evaporators, carbon filters, or other equipment for the treatment of wastewater containing solvent, all records including, but not limited to, invoices for the purchase, maintenance, and service of such devices shall be made available to DENR. Records shall be kept for three years.

3 - All perchloroethylene dry-cleaning machines installed at a dry-cleaning facility after the effective date of this rule shall meet air emission standards that equal or exceed the standards that apply to comparable dry-to-dry perchloroethylene dry-cleaning machine with an integrated refrigerated condenser. All perchloroethylene dry-cleaning facilities must be in compliance with the EPA perchloroethylene dry cleaner National Emissions Standards for

Hazardous Air Pollutants (NESHAP): 40CFR, Part 63, Subpart M to be eligible for certification.

Dry-cleaning facilities must be in compliance with the following requirement by Feb. 1, 2001, and remain in compliance from this date forward:

Title 15A NCAC Subchapter 2S .0202(b)

5 - No dry-cleaning shall use underground storage tanks for solvents or waste.

And, by Jan. 1, 2002, dry-cleaning facilities and wholesale distributors must be in compliance and remain in compliance from this date forward with the following requirement:

Title 15A NCAC Subchapter 2S .0202(b)

2- *Spill containment* shall be constructed in areas around dry-cleaning machines, filters, stills, vapor adsorbers, solvent storage areas, and waste solvent storage areas. The spill containment shall be constructed of or sealed with materials that are *impervious* to the applicable dry-cleaning solvent with a volumetric capacity of 110 percent of the largest vessel, tank, or container within the spill containment area. All floor drains within the containment shall be removed or permanently sealed with materials impervious to dry-cleaning solvents. Emergency adsorbent spill clean-up materials shall be on the premises. Facilities must maintain an emergency response plan that complies with federal, state, and local requirements.

4 - Facilities that use perchloroethylene shall use a *closed container solvent transfer system*.

For more information about these rules, call DENR's Waste Division at (919) 733-2801, or visit <http://wastenot.enr.state.nc.us>, or visit *El Alert* Vol. 9, No. 5 at www.ei1.com, then click "Regulatory Highlights."

El has assisted numerous clients in the identification and subsequent treatment of soil/groundwater contaminated with perchloroethylene. For further information, contact *El* at (800) 717-3472.

OSHA finalizes self-audit policy

Government safety inspectors will not routinely request that employers who voluntarily evaluate work sites for potential safety and health problems provide the findings to the government during safety and health inspections, the Occupational Safety and Health Administration (OSHA) announced July 27.

In formalizing the policy first announced this past October, OSHA said that a voluntary evaluation — or "self-audit" — will not be used to justify a citation if the hazard has been corrected and the employer has taken steps to prevent its recurrence. OSHA also said that a voluntary self-audit, when coupled with a "good faith" attempt to correct an existing hazard, will eliminate a potential "willful" violation of the Occupational Safety and Health Act of 1970 and will result in penalty reductions.

"We're formalizing this policy because we want employers to find and fix hazards and not fear that we'll use this information against them," OSHA Administrator Charles N. Jeffress said. Jeffress said that only in rare cases, such as when an employer blatantly ignores or refuses to

correct hazards likely to result in serious injury or death, could self-audits be used as the basis for issuing a willful citation.

Although not required, OSHA took public comment on last year's draft. The policy, effective immediately, appeared in the July 28 *Federal Register*. Suggestions that OSHA included in this final policy are:

- Expanding the definition of "self-audit" to include evaluations conducted by a third party
- Broadening the types of people who may conduct self-audits to include competent employees and management officials;
- Ensuring that OSHA personnel are fully trained in this policy so that it will be consistently applied
- Allowing employers to provide self-audits report as evidence of "good faith" attempts to fix hazards

El's Occupational Health Services Department provides self-audit consulting services, among many other services. For further information, contact *El* at (800) 717-3472.

State and federal governments continue to encourage beyond compliance

The U.S. Environmental Protection Agency (EPA) and the N.C. Department of Environment and Natural Resources (DENR) have each announced a new program and policy, respectively, to further encourage industries, businesses, community groups, and other organizations to improve environmental performance, cut costs, and avoid new regulations. The efforts are hoped to produce better results more quickly and cost-effectively than what might be expected through regulatory actions alone.

EPA's new environmental performance program - EPA announced June 26 that it will elevate its efforts to work with businesses that have achieved a higher environmental performance level beyond legal compliance requirements. Under its new National Environmental Performance Track program, the agency will reward companies that exceed minimum regulatory requirements and take extra steps to reduce and prevent pollution. The program is for top performing facilities and companies with a proven record of regulatory compliance, an operational Environmental Management System (EMS), and a demonstrated commitment to continued improvement and outreach to the local community and public. Participant benefits include national recognition, regulatory and administrative flexibility, a more cooperative relationship with EPA, and a reduction in both record keeping and reporting requirements.

N.C. DENR's new environmental policy - As part of the State of North Carolina's pursuit for environmental excellence, DENR has adopted an environmental policy: "Environmental Management Systems and Voluntary ISO 14001 EMS Model." A copy of this policy may be found on the Web at www.p2pays.org/ref/03/02256.pdf.

EMSs and ISO 14001 are increasingly being used by public and private entities to improve compliance, to go beyond compliance, and to establish a systematic approach to manage environmental impacts based on continual improvement. Some groups choose to become ISO 14001 certified based on market decisions such as supplier demand; others seek certification because of corporate pressure or a desire to improve the management of environmental issues. (See related story, "Automobile manufacturers require EMS," page 2.) Adoption of EMSs by North Carolina organizations helps produce a healthy environment and a vibrant economy.

EI can provide EMS work that is certifiable to all ISO 14001 elements (environmental policy, planning, implementation and operation, checking and corrective action, and management review). For more information contact EI at (800) 717-3472.

"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.*

disadvantages includes 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 should 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 of the other services we provide, please call EI at (800) 717-3472.

Surface waters

UST systems (including tank, piping, and dispensers) within 500 feet of any surface water meeting the following N.C. Division of Water Quality (DWQ) classifications will require secondary containment (double-walled UST system with interstitial monitoring):

- high quality water (HQW)
- outstanding resource water (ORW)
- water supply I (WS-1)
- water supply II (WS-II)
- shellfishing (SA)

Exclusion from rule requirements

All UST systems installed on or before Jan. 1, 1991, that met "new tank system" performance standards (corrosion protection, spill prevention, and overflow prevention) by that date are excluded from these siting and secondary containment regulations.

Secondary containment upgrade requirements

- Secondary containment must be provided immediately for UST systems installed on or before Jan. 1, 1991, that did not meet the "new tank system" performance standards by that date, and that are within 100 feet of a public water well or within 50 feet of any other well used for human consumption. Replacement UST systems with secondary containment may not be located any closer to the well than the UST system they replaced.
- Proper closure of either the UST system or the public water supply well must be performed immediately if a UST system was installed after Jan. 1, 1991, and is within 100 feet of a public water supply well or within 50 feet of any other well used for human consumption.
- Effective May 1, 2000, all new UST systems and all replacements to UST systems must be provided with secondary containment at the time they are installed or replaced if located between 100 and 500 feet of a public water supply well, between 50 and 100 feet of any other well used for human consumption or within 500 feet of specified surface waters.
- A new schedule for upgrading with secondary containment was approved as a temporary rule that took effect May 1, 2000. This option is only available for tank owners and operators with UST systems located:
 - between 100 and 500 feet of a public water supply well
 - between 50 and 100 feet of any other well is used for human consumption
 - within 500 feet of specified surface waters

These tank owners and operators must also use "enhanced leak detection," described in the following paragraph, to qualify for the Secondary Containment Upgrade Schedule.

Enhanced leak detection

A combination of leak detection monitoring and well sampling offers UST system owners an extended deadline to comply with secondary containment requirements for affected UST systems. Enhanced leak detection is described in following paragraphs. It must be implemented by Oct. 1, 2000.

- Install a standard or continuous automatic tank gauge (ATG) for each UST. For a standard ATG, conduct at least one valid 0.1 gallon per hour (gph) leak test per month or one valid 0.2 gph test per week. For a continuous ATG, conduct at least one valid 0.2 gph test per week.

Note: A standard ATG collects product levels and temperature from a UST for a period of time and then performs a leak test. A UST system must be shut down while a leak test is in progress. A continuous ATG continuously collects data and performs a leak test whenever enough acceptable data has been collected. With a continuous ATG, a UST system does not need to be taken out of service while a leak test is in progress.

- Install an electronic line leak detector (ELLD) for each pressurized piping system. The ELLD must be capable of detecting a catastrophic 3.0 gph leak. In addition, use the ELLD to perform at least one valid 0.1 gph leak test per month on the lines.
- Conduct a line tightness test once per year for each suction piping system. The line tightness test must be capable of detecting a leak rate of 0.1 gph. "European" or "safe" suction systems are excluded from this requirement.
- Public water supply wells and any other well used for human consumption must be sampled once per year for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). If the UST system contains waste oil, the wells must also be sampled for lead and chromium. The first sample must be collected and the results received by your UST section regional office on or before Oct. 1, 2000, and yearly thereafter.

Secondary containment upgrade schedule

Secondary containment must be installed by Jan. 1 of following years.

- 2005** All steel or metal connected piping and ancillary equipment
- 2008** All fiberglass or nonmetal connected piping and ancillary equipment
- 2008** All USTs installed on or before Jan. 1, 1991
- 2016** All USTs installed after Jan. 1, 1991

For more information, visit <http://ust.enr.state.nc.us>.

EI provides UST assessment, remediation, and management services. For more information about these or any of the other services we provide, please call EI at (800) 717-3472.

El Training

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OSHA Compliance

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Safety/Health Program Management

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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, contact El at 1-800-717-3472 or El@ei1.com.

Upcoming Conferences

September

- 20-22 **Carolina's Environmental, Health, and Safety Conference**, Renaissance Hotel, Charlotte, N.C. (704) 378-1325
- 21-22 **10th Annual North Carolina / South Carolina Information Association Technical Conference**, Ocean Creek Resort, Myrtle Beach, S.C. (846) 232-8204

October

- 10-13 **N.C. Association of Occupational Health Nurses**, Spring Maid Beach Resort, Myrtle Beach, S.C., (704) 378-1325
- 15-16 **N.C. League of Municipalities 2000 Annual Conference**, Cumberland County Coliseum Complex Charlie Rose Agri-Expo Center, Fayetteville, N.C., (919) 733-9519
- 25-27 **Carolinan Air Pollution Control Association**, The Wyndham, Myrtle Beach, S.C., (919) 859-3926

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