Environmental Investigations ALERT

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North Carolina Passes Revised Limits for Air Contaminants

On April 8, 1996, North Carolina passed into law the revised 29 CFR 1910.1000 Table Z-1 ***Limits for Air Contaminants***. This new standard integrates revised permissible exposure limits (PELs) limits from Table Z-2 and Z-3 into the new Table Z-1. Vertical standards such as asbestos, benzene, and lead were not revised. The new regulations added **153 new compounds** and **lowered 194 PELs**. By lowering these standards, those affected industries will be required to determine if they are in compliance with the new limits. These new exposure limits will have a direct effect on almost every manufacturing industry in North Carolina. The next few paragraphs provide examples of some of those industries. (A copy of the new standard can be obtained by contacting the Department of Labor Occupational Health and Safety Administration (OSHA) at (919) 733-2486, or Environmental Investigations at 1-800-717-3472.)

Welding Operations

Companies which weld or torch cut metals should take note that cobalt, magnesium, manganese, tin, tungsten, vanadium and zinc oxide have either been added to the list or their PELs have been lowered. In addition, welding fume as a total of all particulate matter has been added with a limit of 5 milligrams per cubic meter (mg/m´). Most continuous welding operations of four or more hours using SMAW or MIG technologies will approach or exceed this limit due to the flux.

Pulp and Paper

Pulp and paper industries may be affected by the reduction of the mercaptans limits from 10 ppm to 0.5 ppm. This is a twenty fold reduction. The new Time Weighted Average (TWA) for hydrogen sulfide is 10 ppm, and the ceiling limit of 50 ppm has been changed to a Short Term Exposure Limit (STEL) of 15 ppm.

The new exposure limit for chlorine has been established as 0.5 ppm TWA, and the ceiling has been lowered from 1.0 ppm to a STEL of 0.5 ppm.

Furniture Manufacturers

Furniture manufacturers and lumber processors may be affected by the new standard for wood. This new standard, establishes new limits for all types of wood (except Western Cedar) of 5 mg/m´ TWA with a STEL of 10 mg/m´. In the past, only the limit for Particulates Not Otherwise Regulated (PNOR) of 15 mg/m´ was used.

New Silica Standard

A wide variety of industries may also be affected by the simplification of the silica standards. Previously, the silica PEL standards were based on a formula using the analytical results which were divided by the percent of silica present in a bulk sample. The results of this calculation changed from sample to sample and was not easily enforced. The new standard is based on the type of silica present, which is noted on the Material Safety Data Sheet (MSDS) for that material.

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What Should Affected Companies Do?

Because of the new lower limits, most companies may be faced with evaluating their need for engineering controls and respiratory protection programs to reduce exposures below the revised standards. North Carolina OSHA is expanding their inspection capabilities and will be enforcing the new standards. To protect your company from citations and penalties related to airborne exposures, it is prudent to re-evaluate employee exposure assessments and records.

If exposures are expected to exceed the limits, the employer has the responsibility to implement a respiratory protection program in accordance with CFR 1910.134 until personal sampling can be conducted to document exposure concentrations. Engineering controls or other types of controls must be evaluated along with the requirement of respiratory protection for the employees.

Status of Proposed OSHA Ergonomic Protection Standard

There has been increasing concern about adverse health conditions that have been related to workplace "ergonomic hazards". Recently, the Bureau of Labor Statistics reported that the number of disorders in the workplace associated with repeated trauma has increased more than eight times since 1984. As a result, the federal OSHA began developing an "ergonomic protection standard" several years ago. The purposes of this standard were to:

- *prevent the occurrence of work-related musculo-skeletal disorder;*

- *inform employees about these disorders and risk factors that can cause or aggravate them;*

- *promote continuous improvement in workplace ergonomic protection;*

- *encourage new technology and innovation in ergonomic protection and;*

- *ensure ongoing and consistent management leadership and employee involvement in the process.*

OSHA developed the "ergonomic protection standard" into draft form and released it for "stakeholder: meetings in March 1995. After its release, numerous business groups expressed their concern regarding the sweeping nature of the draft and the potential cost to industry for implementation of the standard. Many business leaders felt that industry should be able to oversee their internally developed ergonomic programs. After the draft standard was released, Congress passed a recision bill with the intent of reducing overall government spending in 1995. A "rider" (commonly called the ergonomics rider, or "ergo rider" for short) was attached to the bill that was intended to stop spending money on any further development of the ergonomics standard. After this bill, with the attached rider, was passed, OSHA stopped work on the standard. OSHA personnel involved in the ergonomic standard development were assigned duties in other areas of worker protection, and some left OSHA to work elsewhere. No work has been done to develop the proposed standard since its release for comment in March 1995.

The recently enacted federal appropriations bill for fiscal year 1997 (beginning October 1, 1996) does not contain the "ergo rider," therefore OSHA can once again put resources into developing the standard. Mr. Joe Deat, Assistant Secretary of Labor and Head of OSHA, has asked his staff to put together a team to begin re-evaluating the standard. In addition to OSHA's efforts to re-evaluate the ergonomics standard, other organizations are also pursuing the issue. The state of California has developed a proposed ergonomics standard and has recently released this document for public comment. ANSI (American National Standard Institute) is also working on an ergonomics standard independently of OSHA. Many business interests have expressed a desire to develop and implement their own internal site-specific ergonomic programs rather than have OSHA draft a general standard to follow.

Regardless of any formal programs enacted by the government, it is good practice for all industries to evaluate their workplace manufacturing operations to identify potential ergonomic hazards and to

proactively address these problems before adverse health impacts occur. It has been demonstrated that there is increased productivity, decreased lost work time, and lower costs associated with an ergonomically sound work place. Ergonomics programs do not always have to be elaborate and expensive. Changes can often be made relatively easily and cost effectively. Management needs to take the necessary steps to identify ergonomic hazards and correct them.

OSHA's Bloodborne Pathogens Rule

OSHA's Bloodborne Pathogens Rule (29 CFR 1910.1030) became effective December 1991, and applies to all workplaces that have the potential for occupational exposure to blood and other potentially infectious materials. While many employers interpret the rule to apply only to the health care industry (including hospitals, physicians' offices, dental offices, residential care facilities, etc.), the rule actually applies to any employer who has employees performing tasks where there could be *reasonably anticipated* contact with blood or other types of infectious materials. OSHA uses the following definitions in interpreting the scope of the regulations:

Blood **-** means human blood, human blood components, and products made from human blood.

Bloodborne pathogens **-** includes pathogenic microorganisms present in human blood (HIV and hepatitis B are specifically mentioned).

Other Potentially Infectious Materials **-** include:

- *Semen and vaginal secretions;*
- *Cerebrospinal, synovial fluid;*
- *Pleural, pericardial, peritoneal fluid;*
- *Amniotic fluid;*
- *Fluid visibly contaminated with blood;*
- *All body fluids in situations where it is difficult or impossible to differentiate between fluids;*
- *Any unfixed tissue or organ from a human (living or dead);*
- *HIV-containing cell, tissue, organ cultures;*
- *HIV- or HBV-containing culture medium, blood, organs, tissue from experimental animals infected with HIV or HBV.*

Compliance with the regulation requires employers who have employees with an "occupational exposure: to bloodborne pathogens to prepare a written Exposure Control Plan that identifies tasks or jobs where exposures to blood or infectious materials may occur, without regard to protective equipment. This plan, at a minimum, must include the following three sections:

1. **Exposure determination**, including the following:

a) Job classifications in which all employees in those job classifications have occupational exposure.

b) Job classifications in which some employees have occupational exposure.

c) Tasks and procedures or groups of closely related tasks in which occupational exposures may occur and that are performed by employees in the job classifications listed in "b" above.

2. **Schedule and method of compliance**

3. **Procedure for evaluating exposure incidents**

The standard offers several methods of compliance or means of minimizing exposure. These methods/ means should be presented in the employer's *"Schedule and Method of Implementation"* section of the **Exposure Control Plan**. They include:

1. ***Universal precautions*** - Treat **all** human blood and other potentially contaminated materials and devices as if they are known to be infectious, whether contaminated or not.

2. ***Engineering controls*** - Engineering controls can be used to eliminate or minimize the source of the potential problem, such as automating a process so that human contact with the contaminated material is not necessary. Other examples of engineering controls include: adding exhaust ventilation to an area that emits an aerosol to eliminate the possibility of an employee inhaling the contaminant; the use of biosafety cabinets; and the use of antiseptic hand cleaners, followed by hand washing.

3. ***Work practice controls*** **-** Includes general work practice controls such as not eating, drinking, smoking, applying cosmetics, or handling contact lenses in work areas where an occupational exposure to blood or other infectious material may be present.

4. ***Personal protective equipment*** - The employer must provide, at no cost to the employee, appropriate personal protective equipment. Examples include: gloves, masks, eye protection, face shields, and gowns.

5. ***Housekeeping*** - The employer is to establish an appropriate written schedule for cleaning and methods of decontamination, based on the location, type of surface, type of soil present, and procedures being performed in the area.

6. ***Medical wastes (regulated wastes)*** - In general, regulated wastes include the following categories (may differ from State to State):

    a. *Liquid or semi-liquid blood or other potentially infectious material (OPIM).*

    b. *Items contaminated with blood or OPIM and which would release these substances in a liquid or semi-liquid state, if compressed.*

    c. *Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling.*

    d. *Pathological and microbiological wastes containing blood or OPIM.*

7. ***Laundry*** **-** Handle laundry as little as possible with minimal agitation. It also cannot be sorted or rinsed in the location of use.

8. ***Hepatitis B vaccinations*** - All potentially exposed employees must be offered the hepatitis B vaccine at not cost. Employees may decline the vaccine.
9. ***Communication*** - OSHA mandates that all employees receive training and education on the standard. This can be accomplished with:

    a. Signs and warnings

    b. Training (must be provided):

    - at the time of initial assignment.
    - within 90 days after effective standard date.
    - *annually thereafter*.

The last element of the standard is recordkeeping. Employers are required to establish and maintain recordkeeping procedures for all occupationally exposed individuals. Items that must be documented include employee training (annual training is required), incident reporting, and inspections.