American Forest & Paper Association

Safety & Health Group Meeting

March 20, 2008
8:30 a.m. –3:00 p.m.
Georgia Pacific Headquarters
133 Peachtree Street NE
Atlanta, Georgia

TAB 2

Agenda / Minutes

Meeting of the
AF&PA Safety & Health Group
March 20, 2008
8:30 a.m. –3:00 p.m.
Georgia Pacific Headquarters
133 Peachtree Street NE
Atlanta, Georgia

AGENDA

I. Call to Order

II. Anti-trust Statement

III. Combustible Dust

Round table on activities relating to combustible dust, including OSHA and legislative initiatives.

IV. Hand Safety

Chris Weber will lead a special discussion on Hand Safety. Member input will be requested.

V. Lockout / Tagout

- Review and discussion of new OSHA LOTO Directive.

- Use of Machine Safeguarding Measures to Provide Worker Protection While Performing Minor Servicing and Changeovers on Corrugated Box Machines. Member discussion of servicing and maintenance tasks performed on corrugated box machines (e.g., die cutter, folder gluer) and methods for controlling hazardous energy while performing those tasks.

VI. Safety Benchmark and AF&PA Safety Award Program

A report will be provided on the 2007 company safety benchmark survey.

Proposed revisions to the 2008 Safety Awards Program will be discussed.

VII. AF&PA / PPSA / OSHA Alliance

a) Implementation Team report
b) Planned 2008 activities
c) Success Stories

Conference call with PPSA to Discuss machine guarding conference

VIII. Company Safety Reports

- Members will discuss latest developments on safety: breakthroughs; serious injuries; enforcement.
- Member roundtable on international safety issues and developments.

IX. OSHA Activities Update

Larry Halprin will provide an update on current OSHA activities.

X. Legionella

John Festa will review a recent Finnish industry exposure / health study report.

XI. Night Shift and Cancer

IARC's recent classification and underlying Science.

XII. Recommended Topics for Next Meeting

XIII. Other Business

XIV. Adjournment

AF&PA®

AMERICAN FOREST & PAPER ASSOCIATION

GROWING WITH AMERICA SINCE 1861

Minutes of the AF&PA
Safety & Health Group Meeting
November 1, 2007
American Forest & Paper Association
1111 19th Street, NW, Suite 800
Washington, DC

1. Call to Order

Chairman Dennis Taylor called the meeting to order at 8:30 a.m.

2. Anti-trust Statement

John Festa gave the AF&PA anti-trust statement

3. AF&PA / PPSA Synergies Task Force

Dennis Taylor reported on a recent AF&PA and PPSA conference call to discuss areas of broadening cooperation. Areas identified in addition to the AF&PA/PPSA/OSHA Alliance partnership, were coordination on safety benchmarking, co-sponsorship of educational seminars and dissemination of member hazard alerts. A joint task group will review progress, and make future recommendations on cooperative joint projects.

4. AF&PA / PPSA / OSHA Alliance Report

Sue Cooper reported on the previous day's Alliance Implementation Team meeting. Among recommended activities for 2008 is a fourth quarter conference on machine guarding.

5. AF&PA Safety Awards Program

Members discussed proposed options for expanding facility recognitions under the AF&PA Safety Awards Program. In addition to continuing award certificates for No Days Away from Work, it was recommended that a higher levels certificate be awarded for No Reportable Cases.

6. Alliance Renewal and Featured Guest Speaker

AF&PA, PPSA and OSHA renewed the Alliance agreement for an additional two years. Assistant Secretary of Labor, Edwin G. Foulke Jr. addressed the Group on current OSHA activities.

7. OSHA Chemical Emergency Response

Larry Halprin reviewed OSHA's consideration of proposed changes to its comprehensive emergency response standards.

8. Focused Safety Topic

Finn Shefstad gave a presentation on safety issues relating to transport vehicle loading.

9. Company Safety Reports

Members held a roundtable discussion on latest company safety developments.

10. OSHA Activities Update

Larry Halprin provided an update on current OSHA regulatory and enforcement activities.

11. International Safety & Health Issues

John Festa gave an overview of key topics at a November 7-9, 2007 joint EU-US conference on Occupational Safety and Health in Portugal.

12. Updates

John Festa provided updates on the AF&PA-sponsored Legionella project performed by Packer Environmental Engineering, and on the Department of Homeland Security (DHS) Chemical Facility Anti-terrorism Standard.

13. 2008 Meeting Schedule and recommended Topics for Next Meeting

The following 2008 Safety & Health Group meeting dates were scheduled.

March 20, 2008 – Atlanta, GA (hosted by Georgia-Pacific)
July 31, 2008 – (Location TBD)
November 13, 2008 – AF&PA Headquarters, Washington, DC

14. Adjournment

There being no further business, the meeting adjourned at 3:10 p.m.

TAB 3

Combustible Dust

Safety and Health Topics

Combustible Dust

In Focus

- New Fact Sheet

Any combustible material (and some materials normally considered noncombustible) can burn rapidly when in a finely divided form. If such a dust is suspended in air in the right concentration, it can become explosive. The force from such an explosion can cause employee deaths, injuries, and destruction of entire buildings. Such incidents have killed scores of employees and injured hundreds over the past few decades.

Materials that may form combustible dust include metals (such as aluminum and magnesium), wood, coal, plastics, biosolids, sugar, paper, soap, dried blood, and certain textiles. In many accidents, employers and employees were unaware that a hazard even existed.

A combustible dust explosion hazard may exist in a variety of industries, including: food (e.g., candy, sugar, spice, starch, flour, feed), grain, tobacco, plastics, wood, paper, pulp, rubber, furniture, textiles, pesticides, pharmaceuticals, dyes, coal, metals (e.g., aluminum, chromium, iron, magnesium, and zinc), and fossil fuel power generation.

The following questions link to information relevant to combustible dust in the workplace.

Content Reviewed 02/29/2008

Accessibility Assistance

Contact the OSHA Directorate of Standards and Guidance at 202-693-1950 for assistance accessing OSHA PDF

materials.

What standards apply?
OSHA | National Consensus

What additional information is available?
Related Safety and Health Topics Pages | Other Resources

Hot Topics

- Combustible Dust National Emphasis Program. OSHA Instruction CPL 03-00-006, (2007, October 18).
- Combustible Dust in Industry: Preventing and Mitigating the Effects of Fire and Explosions. OSHA Safety and Health Information Bulletin (SHIB) 07-31-2005, (2005, July 31). Also available as a 21 KB PDF, 9 pages.

Occupational Safety & Health Administration
200 Constitution Avenue, NW
Washington, DC 20210

Page last updated: 03/11/2008

OSHA® FactSheet

Hazard Alert: Combustible Dust Explosions

Combustible dusts are fine particles that present an explosion hazard when suspended in air in certain conditions. A dust explosion can be catastrophic and cause employee deaths, injuries, and destruction of entire buildings. In many combustible dust accidents, employers and employees were unaware that a hazard even existed. It is important to determine if your company has this hazard, and if you do, you must take action now to prevent tragic consequences.

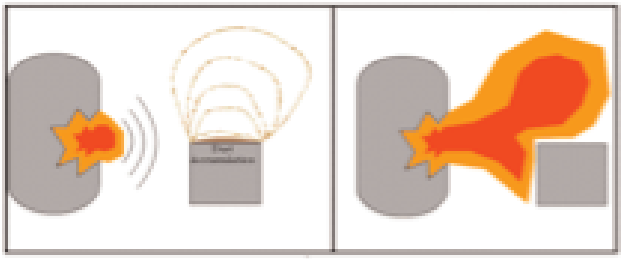
How Dust Explosions Occur

In addition to the familiar fire triangle of oxygen, heat, and fuel (the dust), dispersion of dust particles in sufficient quantity and concentration can cause rapid combustion known as a deflagration. If the event is confined by an enclosure such as a building, room, vessel, or process equipment, the resulting pressure rise may cause an explosion. These five factors (oxygen, heat, fuel, dispersion, and confinement) are known as the "Dust Explosion Pentagon". If one element of the pentagon is missing, an explosion cannot occur.

Catastrophic Secondary Explosions

An initial (primary) explosion in processing equipment or in an area where fugitive dust has accumulated may dislodge more accumulated dust into the air, or damage a containment system (such as a duct, vessel, or collector). As a result, if ignited, the additional dust dispersed into the air may cause one or more secondary explosions. These can be far more destructive than a primary explosion due to the increased quantity and concentration of dispersed combustible dust. Many deaths in past accidents, as well as other damage, have been caused by secondary explosions.

Initial Explosion **Secondary Explosion**



A pharmaceutical plant after a dust explosion.

Industries at Risk

Combustible dust explosion hazards exist in a variety of industries, including: agriculture, chemicals, food (e.g., candy, sugar, spice, starch, flour, feed), grain, fertilizer, tobacco, plastics, wood, forest, paper, pulp, rubber, furniture, textiles, pesticides, pharmaceuticals, tire and rubber manufacturing, dyes, coal, metal processing (e.g., aluminum, chromium, iron, magnesium, and zinc), recycling operations, and fossil fuel power generation (coal).

Prevention of Dust Explosions

To identify factors that may contribute to a explosion, OSHA recommends a thorough hazard assessment of:

- All materials handled;
- All operations conducted, including by-products;
- All spaces (including hidden ones); and
- All potential ignition sources.

Dust Control Recommendations

- Implement a hazardous dust inspection, testing, housekeeping, and control program;
- Use proper dust collection systems and filters;
- Minimize the escape of dust from process equipment or ventilation systems;
- Use surfaces that minimize dust accumulation and facilitate cleaning;
- Provide access to all hidden areas to permit inspection;
- Inspect for dust residues in open and hidden areas at regular intervals;
- If ignition sources are present, use cleaning methods that do not generate dust clouds;
- Use only vacuum cleaners approved for dust collection; and
- Locate relief valves away from dust deposits.

Ignition Control Recommendations

- Use appropriate electrical equipment and wiring methods;
- Control static electricity, including bonding of equipment to ground;
- Control smoking, open flames, and sparks;
- Control mechanical sparks and friction;
- Use separator devices to remove foreign materials capable of igniting combustibles from process materials;
- Separate heated surfaces from dusts;
- Separate heating systems from dusts;
- Select and use industrial trucks properly;
- Use cartridge activated tools properly; and
- Use an equipment preventive maintenance program.

Injury and Damage Control Methods

- Separation of the hazard (isolate with distance);
- Segregation of the hazard (isolate with a barrier);
- Deflagration isolation/venting;
- Pressure relief venting for equipment;
- Direct vents away from work areas;
- Specialized fire suppression systems;
- Explosion protection systems;
- Spark/ember detection for suppression activation;
- Develop an emergency action plan; and
- Maintain emergency exit routes.

Applicable OSHA Requirements Include:

- §1910.22 Housekeeping
- §1910.307 Hazardous Locations
- §1910.1200 Hazard Communication
- §1910.269 Electric Power Generation, Transmission and Distribution (coal handling)
- §1910.272 Grain Handling Facilities
- General Duty Clause, Section 5(a)(1) of the *Occupational Safety and Health Act* (Employers must keep workplaces free from recognized hazards likely to cause death or serious physical harm).

Resources

Readily available from www.osha.gov are:

- Combustible Dust National Emphasis Program
- Safety and Health Information Bulletin (SHIB) (07-31-2005) *Combustible Dust in Industry: Preventing and Mitigating the Effects of Fires and Explosions*

See the SHIB or www.osha.gov for other applicable standards.

The primary National Fire Protection Association (NFPA) consensus standards related to this hazard are:

- NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids
- NFPA 61, Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
- NFPA 484, Standard for Combustible Metals
- NFPA 664, Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities
- NFPA 655, Standard for the Prevention of Sulfur Fires and Explosions
- See www.nfpa.org to view NFPA standards.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov

(800) 321-OSHA

DSG 3/2008

HR 5522 IH

110th CONGRESS
2d Session
H. R. 5522

To require the Secretary of Labor to issue interim and final occupational safety and health standards regarding worker exposure to combustible dust, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

March 4, 2008

Mr. GEORGE MILLER of California (for himself and Mr. BARROW) introduced the following bill; which was referred to the Committee on Education and Labor

---

A BILL

To require the Secretary of Labor to issue interim and final occupational safety and health standards regarding worker exposure to combustible dust, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Combustible Dust Explosion and Fire Prevention Act of 2008'.

SEC. 2. FINDINGS.

Congress finds the following:

(1) An emergency exists concerning worker exposure to combustible dust explosions and fires.

(2) At least 12 workers were killed and more than 60 seriously injured in a catastrophic combustible dust explosion at Imperial Sugar in Savannah, Georgia, on February 7, 2008.

(3) Following 3 catastrophic dust explosions that killed 14 workers in 2003, the Chemical Safety and Hazard

Investigation Board (CSB) issued a report in November 2006 which identified 281 combustible dust incidents between 1980 and 2005 that killed 119 workers and injured 718. A quarter of the explosions occurred at food industry facilities, including sugar plants.
(4) The CSB concluded that `combustible dust explosions are a serious hazard in American industry'.
(5) Material Safety Data Sheets (MSDSs) often do not adequately address the hazards of combustible dusts and the hazard communication standard promulgated by the Occupational Safety and Health Administration (OSHA) (29 C.F.R. 1910.1200) inadequately addresses dust explosion hazards, and fails to ensure that safe work practices and guidance documents are included in MSDSs.
(6) The CSB recommended that OSHA issue a standard designed to prevent combustible dust fires and explosions in general industry, based on current National Fire Protection Association dust explosion standards, and also that OSHA revise the hazard communication standard to clarify that combustible dusts are covered and that Material Safety Data Sheets contain information about the hazards and physical properties of combustible dusts.
(7) OSHA has not formally acted on either of the CSB's regulatory recommendations.
(8) OSHA issued a grain handling facilities standard in 1987 (29 C.F.R. 1910.272) that has proven highly effective in reducing the risk of combustible grain dust explosions, according to an OSHA evaluation.
(9) No OSHA standard comprehensively addresses combustible dust explosion hazards in general industry.
(10) Voluntary National Fire Protection Association standards exist which, when implemented, effectively reduce the likelihood and impact of combustible dust explosions.

SEC. 3. ISSUANCE OF STANDARD ON COMBUSTIBLE DUST.

(a) Interim Standard-

(1) RULEMAKING- Not later than 90 days after the date of enactment of this Act, the Secretary of Labor shall promulgate an interim final standard regulating combustible dusts. The interim final standard shall apply to manufacturing, processing, blending, conveying, repackaging, and handling of combustible particulate solids and their dusts, including food (such as candy, starch, flour, sugar, feed), plastics, wood, rubber, furniture, textiles, pesticides, pharmaceuticals, fibers, dyes, coal, metals (such as aluminum, chromium, iron, magnesium, and zinc), fossil fuels power, and any other industry in which combustible dust presents a hazard, but shall not apply to processes already covered by OSHA's standard on grain facilities (29 C.F.R. 1910.272).

(2) REQUIREMENTS- The interim final standard required under this subsection shall provide no less protection than the recommendations contained in the National Fire Protection Association's Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids-2006 (NFPA 654) and Standard for Combustible Metals-2006 (NFPA 484) and shall provide for the following:

(A) Requirements for hazard assessment to identify evaluate and control combustible dust hazards.

(B) Requirements for a written program which includes plans for hazardous dust inspection, testing, housekeeping, and control, with established frequency and methods.

(C) Requirements for engineering, administrative controls and operating procedures such as means to controlling fugitive dust emissions and ignition sources, the use of dust collection systems and filters, minimizing horizontal surfaces where dust can accumulate, and sealing of areas inaccessible to housekeeping.

(D) Requirements for managing change of dust producing materials, technology, equipment, staffing, and procedures.

(E) Requirements for housekeeping to control accumulation of combustible dust.

(F) Requirements for building design, such as equipping buildings with explosion venting or sprinklers.

(G) Requirements for explosion protection, including separation and segregation of the hazard.

(H) Requirements for employee participation in hazard assessment, development of and compliance with the written program, and other elements of hazard management in this standard.

(I) Requirements to provide written safety and health information and training to employees, including hazard communication information, labeling, and training.

(3) EFFECTIVE DATE OF INTERIM STANDARD- The interim final standard shall take effect upon issuance. The interim final standard shall have the legal effect of an occupational safety and health standard, and shall apply until a final standard becomes effective under section 6 of the Occupational Safety and Health Act (29 U.S.C. 655).

(b) Final Standard- Not later than 18 months after the date of enactment of this Act, the Secretary of Labor shall, pursuant to section 6 of the Occupational Safety and Health Act (29 U.S.C. 655), promulgate a final standard regulating combustible dust explosions. The final standard shall contain, at a minimum, the worker protection provisions in subsection (a)(2).

SEC. 4. REVISION OF THE HAZARD COMMUNICATION STANDARD.

(a) Rulemaking- The hazard communications standard in section 1910.1200(c) of chapter 29, Code of Federal Regulations, shall be revised as follows:

(1) The definition of `physical hazard' (29 C.F.R. 1910.1200(c)) shall be revised to include `a combustible dust' as an additional example of a physical hazard.

(2) The term `combustible dust' shall be added to the definitions in such section and such term shall be defined as `a combustible particulate solid or finely divided metal that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations regardless of particle size and shape'.

(b) Procedure and Effective Date- The modifications of the standard required by subsection (a) shall be made and published in the Federal Register not later than 6 months after the date of enactment of this Act by the Secretary of Labor acting through the Occupational Safety and Health Administration without regard to the procedural requirements applicable to regulations promulgated under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)) or the procedural requirements of chapter 5 of title 5, United States Code. Such revised standard shall take effect not later than 90 days after the publication in the Federal Register.
(c) Effect of Modifications- The modifications under this section shall be in force until superseded in whole or in part by regulations promulgated by the Secretary of Labor under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)) and shall be enforced in the same manner and to the same extent as any rule or regulation promulgated under such section.

END

U.S. Department of Labor
Occupational Safety and Health Administration

Inspection Number: 308273796
Inspection Dates: 09/01/2005 - 10/27/2005
Issuance Date: 02/16/2006

Citation and Notification of Penalty

Company Name: Kimberly Clark
Inspection Site: 58 Pickett District Road, New Milford, CT 06776

Citation 1 Item 1 Type of Violation: Serious

29 CFR 1910.22(a)(1): Place(s) of employment were not kept clean and orderly, or in a sanitary condition:

Multifold Department: Settled dust, composed of cellulose dust particulate, was allowed to accumulate on ventilation ducts, stairs and structural surfaces.

Specific Abatement Documentation is Required.

Date By Which Violation Must be Abated:	04/05/2006
Proposed Penalty:	$ 4500.00

See pages 1 through 4 of this Citation and Notification of Penalty for information on employer and employee rights and responsibilities.

U.S. Department of Labor
Occupational Safety and Health Administration

Inspection Number: 308273796
Inspection Dates: 09/01/2005 - 10/27/2005
Issuance Date: 02/16/2006

Citation and Notification of Penalty

Company Name: Kimberly Clark
Inspection Site: 58 Pickett District Road, New Milford, CT 06776

Citation 1 Item 2 Type of Violation: Serious

29 CFR 1910.307(b)(2)(i): Equipment, wiring methods and installation of equipment was not approved for the hazardous (classified) location and for the ignitible or combustible properties of the specific gas, vapor, dust or fiber present:

Converting: Accumulations of dust, composed of cellulose dust particulate, settled on and penetrated into standard electrical equipment, including but not limited to breaker boxes and transformer boxes.

Specific Abatement Documentation Required.

Date By Which Violation Must be Abated: 04/05/2006
Proposed Penalty: $ 4500.00

C. WILLIAM FREEMAN
Area Director

See pages 1 through 4 of this Citation and Notification of Penalty for information on employer and employee rights and responsibilities.

U.S. Department of Labor
Occupational Safety and Health Administration
FEDERAL BUILDING, ROOM 613
450 MAIN STREET
HARTFORD, CT 06103
Phone: (860)240-3152 FAX: (860) 240-3155

INVOICE/
DEBT COLLECTION NOTICE

Company Name: Kimberly Clark
Inspection Site: 58 Pickett District Road, New Milford, CT 06776
Issuance Date: 02/16/2006

Summary of Penalties for Inspection Number 308273796

Citation 1, Serious	= $	**9000.00**
TOTAL PROPOSED PENALTIES	= $	**9000.00**

To avoid additional charges, please remit payment promptly to this Area Office for the total amount of the uncontested penalties summarized above. Make your check or money order payable to: "DOL-OSHA". Please indicate OSHA's Inspection Number (indicated above) on the remittance.

OSHA does not agree to any restrictions or conditions put on any check or money order for less than the full amount due, and will cash the check or money order as if these restrictions or conditions do not exist.

If a personal check is issued, it will be converted into an electronic fund transfer (EFT). This means that our bank will copy your check and use the account information on it to electronically debit your account for the amount of the check. The debit from your account will then usually occur within 24 hours and will be shown on your regular account statement. You will not receive your original check back. The bank will destroy your original check, but will keep a copy of it. If the EFT cannot be completed because of insufficient funds or closed account, the bank will attempt to make the transfer up to 2 times.

Pursuant to the Debt Collection Act of 1982 (Public Law 97-365) and regulations of the U.S. Department of Labor (29 CFR Part 20), the Occupational Safety and Health Administration is required to assess interest, delinquent charges, and administrative costs for the collection of delinquent penalty debts for violations of the Occupational Safety and Health Act.

Interest. Interest charges will be assessed at an annual rate determined by the Secretary of the Treasury on all penalty debt amounts not paid within one month (30 calendar days) of the date on which the debt amount becomes due and payable (penalty due date). The current interest rate is 2% effective January 1, 2006. Interest will accrue from the date on which the penalty amounts (as proposed or adjusted) become a final order of the Occupational Safety and Health Review Commission (that is, 15 working days from your receipt of the Citation and Notification of Penalty), unless you file a notice of contest. Interest charges will be waived if the full amount owed is paid within 30 calendar days of the final order.

Delinquent Charges. A debt is considered delinquent if it has not been paid within one month (30 calendar days) of the penalty due date or if a satisfactory payment arrangement has not been made. If the debt remains delinquent for more than 90 calendar days, a delinquent charge of six percent (6%) per annum will be assessed accruing from the date that the debt became delinquent.

Administrative Costs. Agencies of the Department of Labor are required to assess additional charges for the recovery of delinquent debts. These additional charges are administrative costs incurred by the Agency in its attempt to collect an unpaid debt. Administrative costs will be assessed for demand letters sent in an attempt to collect the unpaid debt.

C. WILLIAM FREEMAN
Area Director

Date

26

UNITED STATES OF AMERICA

OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

SECRETARY OF LABOR, United States Department of Labor, Complainant, v. KIMBERLY-CLARK CORPORATION, Respondent.	* * * * * * * * *	DOCKET NO. 06-0501 REGION I INSPECTION NO. 308273796

SETTLEMENT AGREEMENT

Complainant and Respondent hereby stipulate and agree that:

(1) On February 16, 2006 Respondent was cited for alleged violations of the Occupational Safety and Health Act of 1970, 29 USC 651, et seq., hereinafter referred to as the Act and was issued a Notification of Proposed Penalty in the total amount of $9000.

(2) Respondent, an employer within the meaning of section 3(5) of the Act, duly filed with a representative of the Secretary of Labor a notice of intent to contest the citation and its affiliated penalties. This notice was duly transmitted to the Review Commission and it is agreed that jurisdiction of this proceeding is conferred upon said Commission by section 10(c) of the Act.

(3) The Secretary of Labor has filed a Complaint herein stating with particularity the violations alleged, the penalties proposed and the issues in contest before the Commission.

(4) Complainant and Respondent have agreed to resolve this matter, without the necessity of further pleadings, by agreeing to the following for the citation items and for abatement measures specific to the Multifold Room at Respondent's New Milford, CT facility (hereinafter "Multifold Room"), which was the subject of an inspection by OSHA from September 1, 2005 to October 27, 2005:

For Citation 1 Item 1 Type of Violation: Serious **Penalty: $4500**

29 CFR 1910.22(a)(1) : Places of employment were not kept clean and orderly, or in a sanitary condition:

Multifold Room:
Settled combustible dust, composed of cellulose dust particulate, was allowed to accumulate on ventilation ducts, stairs and structural surfaces.

- It had accumulated to a depth of ¼ inch within 2 months

- It was scheduled for clearing on a semi-annual basis.
- It was cleared by "blowdown" using compressed air at 30 psi, instead of being cleaned in a manner that minimizes the generation of combustible dust clouds (such as vacuuming).

Abatement shall proceed in two phases: Interim Abatement from March 1 to August 31, 2007 and Final Abatement as of September 1, 2007.

A. Interim Abatement Period: March 1 to August 31, 2007

A. 1. Dust accumulation level during the Interim Abatement Period

With respect to overhead surfaces in the Multifold Room, Respondent agrees to use 1/8 inch average dust accumulation as the triggerpoint for initiating dust removal activities (as set forth in the next paragraph) during the Interim Abatement Period.

A. 2. Housekeeping methods for overhead surface dust during the Interim Abatement Period

During the Interim Abatement Period, with respect to overhead surfaces in the Multifold Room, Respondent will follow the dust removal methods set forth below from NFPA 654 (Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids, 2006), Chapter 8 (Fugitive Dust Control and Housekeeping):

"8.2.2 Dust Clouds
8.2.2.1 Surfaces shall be cleaned in a manner that minimizes the generation of dust clouds.
8.2.2.2 Vigorous sweeping or blowing down with steam or compressed air produces dust clouds and shall be permitted only where the following requirements are met:

1. Area and equipment shall be vacuumed prior to blowdown.
2. Electrical equipment not suitable for Class II locations and other sources of ignition shall be shut down or removed from the area.
3. Only low-pressure steam or compressed air, not exceeding a gauge pressure of 15 psi (103kPa), shall be used.
4. No hot surfaces or flames capable of igniting a dust cloud or layer shall exist in the area.

8.2.3 Vacuum Cleaners
8.2.3.1 Vacuum cleaners shall be listed for use in Class II hazardous locations or shall be a fixed-pipe suction system with remotely located exhauster and dust collector installed in conformance with Section 7.13."

However, if Respondent cannot remove all overhead dust in the Multifold Room by vacuuming first and then using compressed air at a gauge pressure not exceeding 15 psi, it is agreed that Respondent may increase the compressed air pressure to the lowest gauge pressure needed to clear the remaining dust.

A. 3. Data collection and overhead surfaces housekeeping program development during the Interim Abatement Period

By March 1, 2007, Respondent will secure the services of a combustible dust expert who is acceptable to both parties (hereinafter "Respondent's consulting dust expert"). Respondent and its consulting dust expert together will:

A. 3. (a) Implement the *Protocol for Determining Housekeeping Methods for Overhead Surface Locations in K-C New Milford Multifold Room* (Exhibit A) and prepare a report that presents and analyzes the information collected.

A. 3. (b) Implement the *Protocol for Overhead Dust Accumulation Weight Measurements in K-C New Milford Multifold Room* (Exhibit B) and prepare a report that presents and analyzes the information collected.

and

A. 3. (c) Draft an *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room*, which will include the following components:

1. A summary of the hazards associated with combustible dust and protective measures related thereto, with an emphasis on the rationale for cleaning combustible dust in a manner that minimizes the generation of dust clouds.

2. The results of the *Protocol for Overhead Dust Accumulation Weight Measurements in K-C New Milford Multifold Room* (Exhibit B) and the projected frequency of overhead surface dust removal activities needed to keep the average dust accumulation levels on its overhead surfaces at or under the Maximum Allowable Overhead Dust Accumulations in Mass/Area according to the methodology set forth in Exhibit C.

3. The sequence and methods for removal of overhead dust, determined as set forth in A.2. above in accord with the results of the *Protocol for Determining Housekeeping Methods for Overhead Surface Locations in K-C New Milford Multifold Room* (Exhibit A). This will include a clear and detailed sequence of instructions to complete vacuuming in all accessible areas before commencing any use of compressed air and diagrams designating what cleaning methods are applicable to which locations.

4. A protocol for monitoring overhead surfaces dust accumulation weight measurements at representative locations periodically[1] and whenever a change in production levels, methods or materials could affect the rate of dust accumulation on overhead surfaces, to ensure that the frequency of overhead housekeeping maintains dust accumulations within the limits set by the *Maximum Allowable Overhead Dust Accumulations in Mass/Area for K-C New Milford Multifold Room* (Exhibit C).

5. Provisions to monitor employee compliance with the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* and to document dust removal dates, frequencies and methods, as well as any areas of difficulty plus appropriate follow up measures.

6. Designation of a specific employee given overall responsibility for the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* and all necessary authority needed to effectuate and maintain it.

[1] Annually or, at Respondent's discretion, more frequently.

7. Provisions for initial and annual refresher training on the contents of the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* for employees in the Multifold Room, with condensed training for general employees and more detailed training for the employees who perform the overhead surfaces dust housekeeping.

B. Final Abatement: September 1, 2007

B. 1. Overhead Surfaces Housekeeping

Respondent will implement and follow the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* developed as described above, keeping the average dust accumulation levels on overhead surfaces in the Multifold Room at or under the *Maximum Allowable Overhead Dust Accumulations in Mass/Area* according to the methodology set forth in Exhibit C.

B. 2. Hazard Communication

Respondent agrees to apply the provisions of 29 CFR 1910.1200 (the Hazard Communication Standard) to the combustible dusts created or released in the Multifold Room and to incorporate these dusts into its existing Hazard Communication Program.

C. Progress Reports and Other Matters

(a) By September 15, 2007, Respondent will transmit to the Hartford, CT OSHA Office copies of the following: the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room*; its report on the *Protocol for Determining Housekeeping Methods for Overhead Surfaces Locations in K-C New Milford Multifold Room* (see Exhibit A); and its report on the *Protocol for Overhead Dust Accumulation Weight Measurements in K-C New Milford Multifold Room* (see Exhibit B).

(b) Respondent will retain its consulting dust expert to monitor and report on the implementation and efficacy of the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* in four quarterly reports to the Hartford, CT OSHA Office commencing December 15, 2007 and ending September 15, 2008.

(c) The parties agree that further developments or changes in published industry or consensus standards applicable to the combustible dust at Respondent's New Milford plant may supersede the abatement measures set forth herein provided that such developments give at least equivalent protection to employees from combustible dust hazards.

For Citation 1 Item 2 Type of Violation: Serious **Penalty: $4500**
This citation is amended as follows:

29 CFR 1910.303(b)(2) Listed or labeled equipment was not used in accordance with instructions included in the listing or labeling:

Multifold Room:

Accumulations of cellulose dust particulate had settled on and penetrated into electrical equipment, including but not limited to breaker boxes and transformer boxes. The electrical equipment was not approved for a hazardous (classified) location nor were the housekeeping and electrical maintenance practices such that they might render the area an unclassified location.

Abatement shall include:

(a) Installation of approved NEMA 12 dust-tight covers or equivalent protection on all electrical equipment and compliance both with good housekeeping practices at the floor level and with the *Overhead Surfaces Dust Housekeeping Program for K-C New Milford Multifold Room* (see abatement measures set forth under Citation 1, Item 1), if such compliance renders the area into an unclassified location as determined by an electrical expert who is acceptable to both parties;

or

(b) Installation of Class II Division 2 electrical equipment throughout the Multifold Room;

Abatement will be completed and reported on by March 15, 2008.

(5) In view of the aforesaid, Respondent hereby withdraws its Notice of Contest and the parties agree that the citations and proposed penalties as amended by this Agreement, shall be affirmed and become the final Order of the Occupational Safety and Health Review Commission.

(6) Respondent certifies that the violations alleged have been abated or will be abated by the abatement dates shown in the citation as amended above. Respondent will submit to the issuing area director an Abatement Certification as required by 29 CFR 1903.19(c) within 30 days of signing this agreement or within 10 days of the abatement dates described herein, whichever is later. The parties agree that the penalty will be paid on or before March 15, 2007.

Respondent agrees to comply with the Act in all respects in the future.

(7) Respondent certifies that there is no authorized employee representative, at Respondent's workplace. It is hereby further certified by Respondent that this Settlement Agreement has been served on employees, by posting this agreement on _____, in a place where the Citation is required to be posted, in accordance with Rules 7 and 100 of the Commission's Rules of Procedure.

(8) None of the foregoing agreements, statements, stipulations, and actions taken by Respondent shall be deemed an admission by Respondent of the allegations contained within the Citation, Notification of Penalties and the Complaint herein. The agreements, statements, stipulations, findings and actions taken herein are made for the purpose of settling this matter economically and amicably and they shall not be used for any purpose, except for proceedings and matters arising under the Occupational Safety and Health Act (29 USC 651, et seq.).

(9) Each party hereby agrees to bear its own fees and other expenses incurred by such party in connection with any stage of this proceedings.

Kimberly Clark

_____

Eric P. Berezin, Esq.
Duane Morris
1180 West Peachtree Street, Suite 700
Atlanta, GA 30309-3448
Tel 404-253-6989
Fax 404-253-6901

Attorney for Respondent
Kimberly-Clark Corporation

Jonathan L. Snare
Acting Solicitor of Labor

Frank V. McDermott, Jr.
Regional Solicitor

_____

Constance B. Franklin
Attorney

Solicitor's Office, U.S. Dept. of Labor
Kennedy Federal Bldg, Rm. E-375
Boston, MA 02203
Tel 617-565-2500
Fax 617-565-2142

DATED_____

Protocol for Determining Housekeeping Methods for Overhead Surface Locations in K-C New Milford Multifold Room

Kimberly-Clark has agreed to work with a consulting dust expert (defined in the attached Settlement Agreement) along the following parameters, in order to develop a clear set of written instructions and diagrams that detail the order and methods for cleaning accumulated combustible dust from identified overhead surface locations in the Multifold Room. This analysis will address the following subjects, making use of a map(s) of the overhead surfaces:

- determine the equipment to be used (cherry picker, scissor list, vacuum, attachments, power source, compressed air wands, etc);
- determine the order or route for vacuuming and the time it takes to complete a vacuum circuit of the room (taking into account roll change & other scheduling needs on the floor that may slow down vacuuming);
- specify that all vacuuming must be completed before commencing use of compressed air;
- identify, document and explain specific areas where vacuuming is infeasible;
- determine the order or route for use of compressed air at ≤15 psi and the time it takes to complete a circuit of the room using ≤15 psi compressed air;
- identify, document and explain any areas where ≤15 psi compressed air may be inadequate to clear dust; determine the minimum psi needed to clear dust.

A report of this analysis and the information collected will be prepared and kept. Accompanying the report and based on its findings, there will be a set of clear sequential instructions & diagrams suitable for employee use. Laminated copies of the diagrams will be attached and maintained on the cherry picker interior. The instructions will:

- emphasize that the need to minimize the generation of combustible dust clouds is why the whole room must be vacuumed first before resorting to any use of compressed air (which would otherwise dislodge distant dust that should be vacuumed);
- show the sequence of cleaning methods applicable to each location (e.g. diagram of overhead surfaces for vacuuming; diagram of identified locations requiring ≤15 psi compressed air; diagram of any locations requiring compressed air at a specified psi greater than 15); and
- remind employees that they will be monitored to ensure they follow the instructions & diagrams.

Protocol for Overhead Dust Accumulation Weight Measurements in K-C New Milford Multifold Room

Kimberly-Clark has agreed to periodically measure the accumulation of tissue paper dust on overhead ducting and structural members in the New Milford Multifold Room. The methodology to be used in the dust sampling and weight measurements is described here.

Sample Locations

Six samples will be taken each month for a period of six months. Three of the samples will be from the top surfaces of rectangular cross-section ventilation ducting, one sample will be from the top of a circular cross-section ventilation duct, and the other two samples will be from the horizontal flanges on a structural steel beam and a joist. The locations will be at different elevations, and at varying sites relative to operating equipment, stairways, and other structural features. No location will be within 4 feet of a ventilation duct intake or exhaust opening.

The precise locations will be determined by Kimberly-Clark's consulting dust expert (defined in the attached Settlement Agreement) after viewing and photographing or videoing candidate locations to identify locations with representative dust loadings. The photographs/videos and location selection documentation will be retained for later review.

The dust collection surface area at each location will be 4 sq-ft (0.37 sq-m). The collection surface area dimensions, described as follows, will be measured and recorded. In the case of the rectangular duct, this area will encompass the full duct width, W_D, and a duct length equal to $4/W_D$, where W_D is in feet. The measured duct length will be demarked by tape or other visible markings at each end. Photographs of the marked area will be taken before and after sampling. In the case of the circular cross-section duct, the width of the sample will be the measured arc length, S_D, on which clearly visible paper dust is adhering, and the length (ft) will be equal to $4/S_D$. In the case of the structural steel beam and joist, the width of the sample area will be the flange width, W_F, and the measured length of the sample area will be approximately $4/W_F$. Before and after photographs of the marked areas on the structural steel will be taken and retained as documentation.

Collection Method

All of the paper dust from each sample area will be collected by carefully sweeping the dust into a sample container that was tared (weighed) prior to collecting the sample. Any apparent accumulation of dust on the sweeping implement will also be removed and deposited into the container. A video of the sweeping and collection process will be taken and retained for documentation. The container will be covered immediately after collection, and a label, tag, or marking will be attached to the container to identify the sample number and location, and the measured sample surface area. The collection date will also be noted.

Sample Weighing and Drying

The containers with each of the collected samples will be weighed on a mass balance that has been calibrated (with documentation) no earlier than one year prior to the sample weighing. The balance will have a manufacturer's certified accuracy of at least plus-or-minus 0.1 gram, and

will be the same balance used to tare the collecting container. After calculating the net weight of the collected sample, i.e. accounting for the container weight, the measured net weight in grams for all of the samples will be recorded on a data sheet along with the corresponding sample number and location.

After weighing each sample, the samples will be placed in a laboratory oven and held at a temperature of 90°C to 95°C for 12 to 24 hours. The samples will then be re-weighed upon removal from the oven, and the difference in weights before and after oven conditioning will be recorded on the sample data sheet. The percent reduction in weight for each sample will be calculated.

Data Analysis and Reporting

The dried sample weights per unit sample surface area, m''_D, will be calculated by dividing the dried sample weight in grams by the corresponding surface area in sq-m. The average and standard deviation weight-per-unit-surface-area will be calculated for the set of six samples.

A brief report will be written documenting the sample locations and date, the measured surface areas for each sample, and measured sample weights and weight-per-unit-surface-area, m''_D. The sample collection date and interval from the last sample collection at each location, and the interval from the last general cleaning of overhead surfaces will also be reported.

The rate of dust sample accumulation, m''_D/T, will be calculated by dividing the average value of m''_D by the interval, T, since the last cleaning or collection of dust from the sample locations. The report will be reviewed and signed by both the preparer and reviewer. The report will be retained for transmittal to the OSHA Hartford District office.

Maximum Allowable Overhead Dust Accumulations in Mass/Area for K-C New Milford Multifold Room

Using the FM Global Data Sheet 7-76 (page 8 of May 2006 edition) approach, the dust accumulation needed to create a room explosion hazard is given by

$$t_{ex}\rho A_{Dust} = 15.5 H A_{tot} \qquad [1]$$

where both sides of the equation represent the mass of accumulated dust, m_{Dmax}, in metric units, i.e. grams of dust, at which a room explosion hazard is judged to exist. The most logical interpretation of this equation is that the maximum allowable dust accumulation is related to a dust cloud of optimum dust concentration, c_{opt}, (worst-case concentration from the viewpoint of dust explosibility) in a cloud volume occupying some maximum allowable partial room volume fraction, f_{pv}, then

$$m_{D\max} = \chi_{Disp} f_{pv} c_{opt} V_{room} = \chi_{Disp} f_{pv} c_{opt} H A_{tot} \qquad [2]$$

where χ_{Disp} is the fraction of accumulated dust that is actually suspended to form the dust cloud.

Equating the right hand sides of Equations 1 and 2, gives

$$\chi_{Disp} f_{pv} c_{opt} = 15.5\ g/m^3 \qquad [3]$$

Thus, the more general form of Equation 1 can be written as

$$t_{ex}\rho = \frac{\chi_{Disp} f_{pv} c_{opt} V_{room}}{A_{Dust}} \qquad [4]$$

where $t_{ex}\rho$ is the mass dust accumulation per unit surface area that would produce a room explosion hazard. Using Equation 3,

$$\chi_{Disp} f_{pv} = \left(15.5 / c_{opt} \right) \qquad [5]$$

On page 35 of Eckhoff's Dust Explosions in the Process Industries, 3rd Edition, 2003, the value of c_{opt} (based on maximum rate-of-pressure-rise) for corn starch is reported to be 500 g/m^3. If we use the latter value, then $\chi_{Disp} f_{pv} = 15.5/500 = 0.031$. Using the notation m_{Dmax}'' for the maximum allowable mass accumulation over the dust collection surface area A_{Dust}, the result using $\chi_{Disp} f_{pv} = 0.031$ in Equation 4 is

$$m''_{D\max} = \frac{0.031 c_{opt} V_{room}}{A_{Dust}} \ \text{g/m}^2 \qquad [6]$$

Thus, Equation 6 would represent the maximum allowable dust accumulation in the Kimberly-Clark multifolding room corresponding to a room explosion hazard. It is important that the value of c_{opt} be based on ASTM E1226 test methodology using sub-200-mesh sieved dust. Although no data has been submitted on sub-200-mesh dust, Bates numbered pages KCNM 0455 and KCNM 0456 (from the Fike 1990 report on explosibility properties of dust) show maximum pressure, and max-rate-of-pressure-rise data indicating that the optimum (worst-case) concentration for KC multifold area dust is also about 500 g/m^3.

If we use c_{opt} = 500 g/m^3, V_{room} = 20,000 sq-ft x H (because FM Data Sheet 7-76 says the maximum room floor area for use in the equation is 20,000 sq-ft), and A_{Dust} = 4,000 sq-ft for ducting + 4,000 sq-ft for structural steel = 8,000 sq-ft (per KC estimates at 12/28/06 meeting), then

$$m''_{D\max} = \frac{0.031(500\,g/m^3)\,20000\,(H\ m)}{8000} \qquad [7]$$

Taking H = 19.75 ft = 6.02 m, we get m''_{Dmax} = 233 g/m^2. This would be the average dust loading for a room explosion hazard. The actual average dust accumulation level, m''_D, will be determined using the *Protocol for Overhead Dust Accumulation Weight Measurements in K-C New Milford Multifold Room* (Exhibit B). In accord with page 5 (Paragraph 2.3.2.1b) of FM Data Sheet 7-76 and occupational safety principles, Kimberly Clark cleaning frequencies and methods for the multifolding area will be designed to limit combustible dust accumulations per unit surface area to no more than half the room explosion hazard level, i.e. no more than 116 g/m^2.

OFFICE OF
INSURANCE AND SAFETY FIRE COMMISSIONER

JOHN W. OXENDINE
COMMISSIONER OF INSURANCE
SAFETY FIRE COMMISSIONER
INDUSTRIAL LOAN
COMMISSIONER
COMPTROLLER GENERAL

SEVENTH FLOOR, WEST TOWER
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(404) 656-2056 or (404) 656-4031
www.gainsurance.org

BEFORE THE INSURANCE AND SAFETY FIRE COMMISSIONER

STATE OF GEORGIA

NOTICE OF EMERGENCY RULEMAKING

The Insurance and Safety Fire Commissioner hereby adopts Emergency Rule Chapter 120-3-24-0.8 of the Rules and Regulations of the Office of Safety Fire Commissioner, to add a new Chapter entitled "Rules and Regulations for Loss Prevention Due to Combustible Dust Explosions and Fire." The Insurance and Safety Fire Commissioner finds that there is an imminent peril to the public health, safety, and welfare of the citizens of Georgia because it is necessary to establish minimum fire safety standards regarding potential industrial and manufacturing dust fires and explosions.

A copy of the Emergency Rule is attached to this Notice.

The change to Chapter 120-3-24-0.8 is being promulgated on an emergency basis for a period of 120 days beginning March 5, 2008. During the 120-day period the emergency rule is in effect, adoption of Chapter 120-3-24 will also be promulgated according to the rulemaking process outlined in O.C.G.A. Section 50-13-1 et seq.

Should you have any questions concerning this Notice, please contact the Office of Safety Fire Commissioner, Administrative Procedure Division, Room 612, West Tower, Floyd Building, 2 Martin Luther King, Jr. Drive, Atlanta, Georgia 30334; (404) 656-5875.

This 7th day of March, 2008.

JOHN W. OXENDINE
INSURANCE AND SAFETY FIRE COMMISSIONER
STATE OF GEORGIA

Direct All Correspondence To:
Fred Meyer, Administrative Procedure Attorney
Administrative Procedure Division
612 West Tower, Floyd Building
2 Martin Luther King, Jr. Drive
Atlanta, Georgia 30334
Telephone Number (404) 656-5875
TDD/TTY (404) 656-4031

Dear Sir/Madam:

I am writing today to bring to your attention an issue of critical importance to you, your employees and your company. The purpose of this letter is to emphasize how critical it is for the safety of your employees that you comply with all applicable OSHA standards, in particular those relevant to combustible dust. To highlight the significance of this issue, OSHA has launched a National Emphasis Program and is distributing the enclosed Safety and Health Information Bulletin (SHIB). Combustible dusts are often either organic or metal dusts that are finely ground into very small particles, fibers, fines, chips, chunks, flakes, or a small mixture of these. When these particles become airborne and come in contact with an ignition source a deadly explosion could occur.

Your establishment has been identified as being in an industry that often faces this potentially deadly hazard. To assist your organization in identifying and abating combustible dust hazards, I am enclosing a copy of OSHA's SHIB titled *Combustible Dust in Industry: Preventing and Mitigating the Effects of Fire and Explosions*. It is imperative that you take the time to review the information in this bulletin and take necessary steps to prevent such potentially lethal hazards. Failure to attend to housekeeping standards or to conduct maintenance on your ventilation systems or electrical controls places your employees and your facility at risk.

OSHA is available to provide assistance to companies facing all types of safety and health hazards. OSHA's onsite consultation program, which is designed primarily for small employers (companies of 250 or fewer employees) can help you identify safety and health hazards including combustible dust hazards in your workplace and find effective solutions for eliminating or controlling those hazards. This program is administered by a state agency and operated separately from OSHA's enforcement program. The service is free and confidential. In addition, the OSHA state consultant can assist you in developing and implementing a safety and health management system for your workplace.

If you have any further questions, please call you local OSHA Area Office or your state's consultation program. Information on both is available at www.osha.gov. Thank you for your attention to this very important matter.

Sincerely,

Edwin G. Foulke, Jr.

Edwin G. Foulke, Jr.
Assistant Secretary

TAB 4

Hand Safety

TAB 5

Lockout / Tagout

OSHA INSTRUCTION

U.S. DEPARTMENT OF LABOR — Occupational Safety and Health Administration

DIRECTIVE NUMBER: CPL 02-00-147	EFFECTIVE DATE: 2/11/08

SUBJECT: The Control of Hazardous Energy – Enforcement Policy and Inspection Procedures

ABSTRACT

Purpose: This directive (manual) establishes OSHA's enforcement policy for its standards addressing the control of hazardous energy. It instructs OSHA enforcement personnel on both the agency's interpretations of those standards, and on the procedures for enforcing them. The application of this instruction will further OSHA's goal of uniform enforcement of these standards. However, OSHA personnel should exercise professional judgment consistent with their authority as appropriate when particular circumstances necessitate a deviation from the guidance provided in the instruction in order to effectuate the purposes of the Occupational Safety and Health Act (OSH Act), to utilize resources to effectively administer the OSH Act, or to ensure CSHO safety.

This instruction is not a standard, regulation or any other type of substantive rule. No statement in this instruction should be construed to require the regulated community to adopt any practices, means, methods, operations, or processes beyond those which are already required by the OSH Act or standards and regulations promulgated under the OSH Act.

Scope: This instruction applies OSHA-wide.

References:

1. General Industry Standards, 29 CFR Part 1910.

2. Federal Register, Vol. 54, No. 169, September 1, 1989, pages 36644-36696, *Control of Hazardous Energy Sources (Lockout/Tagout), Final Rule, 29 CFR 1910.147*.

3. Federal Register, Vol. 55, No. 183, September 20, 1990, pages 38677-38687, *Control of Hazardous Energy Sources (Lockout/Tagout), Final Rule, Corrections and Technical Amendments, 29 CFR 1910.147*.

4. Federal Register, Vol. 58, No. 59, March 30, 1993, pages 16612-16623, *Control of Hazardous Energy Sources (Lockout/Tagout), Final Rule, Supplemental Statement of Reasons, 29 CFR 1910.147*.

5. Federal Register, Vol. 65, No. 119, June 20, 2000, pages 38302-38304, *Control of Hazardous Energy Sources (Lockout/Tagout), Notice of the Availability of a Lookback Review Pursuant to the Regulatory Flexibility Act and Executive Order 12866.*

Cancellations: OSHA Instruction, STD 01-05-019 [STD 1-7.3], 29 CFR 1910.147, *The Control of Hazardous Energy (Lockout/Tagout) -- Inspection Procedures and Interpretive Guidance*, September 11, 1990.

As part of the directive revision process, OSHA has removed and archived interpretations from its public web-site that no longer reflect current policy and/or are superseded by this OSHA Instruction.

State Impact: This instruction describes a Federal Program change for which State adoption is not required, but is recommended. (See Chapter 1.VII.)

Action Offices: National, Regional, Area, and State Consultation Offices.

Originating Office: Directorate of Enforcement Programs, Office of General Industry Enforcement

Contact: Directorate of Enforcement Programs (202-693-1850)
Office of General Industry Enforcement
200 Constitution Avenue, N.W., N-3119
Washington, DC 20210

By and Under the Authority of

Edwin G. Foulke, Jr.
Assistant Secretary

Executive Summary

This directive (manual) provides guidance to OSHA personnel concerning the Occupational Safety and Health Administration's (OSHA's) policy, procedures, and technical interpretations regarding the enforcement of the *Control of hazardous energy (lockout/tagout)* standard, 29 CFR §1910.147, and other related standards. OSHA completed a look-back review of its *Control of hazardous energy (lockout/tagout)* standard, 29 CFR §1910.147, pursuant to Section 610 of the Regulatory Flexibility Act and Section 5 of Executive Order 12866. In response to the look-back review's suggestions, OSHA Instruction STD 01-05-019 [STD 1-7.3], *29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout) – Inspection Procedures and Interpretative Guidance* (dated September 11, 1990) has been cancelled and superseded by this instruction. However, due to the magnitude of this review, a phased approach is planned for the revision of this instruction. Many of the changes contained in this revision are described below, and the second phase will include the incorporation of existing letters of interpretation, including frequently asked questions, into the manual.

Significant Changes

This instruction cancels the September 11, 1990 OSHA Instruction, STD 1-7.3. This manual provides enforcement policy and guidance for OSHA personnel performing inspection activity related to the control of hazardous energy. Significant modifications in this instruction include:

- Changes in the instruction format necessitated by the *OSHA Directive System* (ADM 03-00-003);
- Addition of *Compliance Officer Safety* guidelines;
- Inclusion of *Citation Examples* and additional guidance regarding *Affirmative Defenses;*
- Incorporation of compliance assistance flowcharts;
- Inclusion of additional guidance on the minor servicing exception, specific energy control procedures, periodic inspections, and unexpected energization;
- Inclusion of additional information and guidance on *Alternative Methods to Lockout/Tagout (LOTO)*;
- Inclusion of general reference material for information pertinent to hazardous energy control, including governmental, industry and national consensus standards; and
- Addition of vehicle repair and maintenance standards and practices, including relevant Internet links, to assist employers engaged in these activities with hazardous energy control.

TAB 6

Safety Benchmark
and
AF&PA Safety Award Program

Proposed Modification
of AF&PA Safety Excellence Award

(Current Safety Excellence Awards Program)

Plaque Awards (Based on best TCIR by type of operations and with no fatalities).

Primary Operations

- Over 1,500,000 work hours
- 250,000 -1,500,000 work hours
- less than 250,000 work hours

Wood Products Operations

- Over 500,000 work hours
- 250,000 – 500,000 work hours
- less than 250,000 work hours

Converting Operations

- Over 500,000 work hours
- 250,000 – 500,000 work hours
- less than 250,000 work hours

Woodland Operations

- Over 200,000 work hours
- Less than 200,000 work hours

Recycling Centers

- All facilities

Certificate Awards
(Awarded to facilities with No Days Away From Work)

Proposed Changes

Plaque Awards

Eliminate Plaque award.

Certificate Awards

1. Continue award certificates for No Days Away From Work.
2. Add a higher level certificate for No Reportable Cases.

TAB 7

AF&PA / PSA / OSHA Alliance

TAB 8

Company Safety Reports

TAB 9

OSHA Activites Update

AMERICAN FOREST & PAPER ASSOCIATION

SAFETY AND HEALTH GROUP MEETING

ATLANTA, GEORGIA

MARCH 20, 2008

WORKPLACE SAFETY AND HEALTH UPDATE

By: Lawrence P. Halprin
Keller and Heckman LLP
1001 G Street, N.W.
Suite 500 West
Washington, D.C. 20001
Phone: 202-434-4177
Fax: 202-434-4646
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Table Of Contents

This update focuses on developments since the November 1, 2007 AF&PA Safety and Health Group Meeting.

I. RULEMAKING ACTIVITIES

A. OSHA Issues Final Rule on Payment for Personal Protection Equipment (PPE)

For over three decades, OSHA had been wresting with the issue of whether employers are and/or employees should be required by OSHA's general PPE standard, 29 CFR 1910.132, to pay for the PPE that employees are required (by OSHA, the employer or, the employee's doctor) to use in performing their jobs. On November 15, 2007, under the imminent threats of both a court order and a Congressional mandate, OSHA issued a final rule to resolve this issue.[1]

With a few exceptions, the final rule requires the employer to provide its employees with the PPE (both initial and replacement) that they are required to use in performing their jobs, *at no cost to its employees*. The term "employees" includes those workers on the employer's payroll and those additional workers deemed to be its employees under the traditional control test – whether the entity has day to day control/supervision over the means and methods of performance.

The relevant exceptions to the employer payment obligation are generally limited to the following:

1) non-specialty safety shoes that can be worn outside work.
2) non-specialty prescription safety eyewear that can be worn outside work.
3) everyday clothing, such as long sleeve shirts, long pants, street shoes, and normal work boots (and presumably the cotton underwear of electrical workers).
4) the weather gear exception for ordinary clothing used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, and ordinary sunglasses. (However, clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is NOT considered part of the weather gear exception.)
(5) replacement PPE when the employee has lost or intentionally damaged the PPE. (The line between unnecessarily rough use (or misuse) and intentional destruction is not clear, and the exception for "lost" items would not include theft. As a practical matter, if the employer determines that it will use the exception and hold an employee responsible for lost or intentionally destroyed PPE, it will be necessary to provide appropriate notice – probably some form of disciplinary action – to the employee and place an appropriate record in the employee's personnel file to substantiate that action.)

In the event of a dispute as to whether one of the exceptions applies, the burden of proof will be on the employer to demonstrate that it qualifies for an exception.

[1] **http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FEDERAL_REGISTER&p_id=20094**

In adopting the final rule, OSHA rejected a broader "tools of the trade" exception to the employer payment obligation. Had OSHA adopted that broader exception, it appears likely that the Omnibus Funding Bill passed by the Congress would have retained the language requiring OSHA to adopt the PPE rule as originally proposed, which would have resulted in the elimination of that exception.

There is some ambiguity regarding the use of allowances that probably should be addressed through a letter of interpretation. The spirit of the rule would seem to allow an employer to provide the employee with an allowance adequate to cover the cost of adequate or "minimal" PPE (meaning, for example, suitable, but not top of the line safety shoes – where the shoes cannot be worn off site) and allow the employee to pay the difference between the allowance and the higher purchase price for the upgraded safety shoes. However, the rule is not clear on this point.

For example, in the preamble to the final rule, OSHA states that it "does not object to allowances as a means of paying for PPE, as long as the allowance policy ensures that employees receive appropriate PPE at no cost." 72 FR 64367, col. 1. OSHA notes that employers who opt to use upgraded PPE rather than the minimal level required by the standard, will still be required to pay the costs of the upgraded PPE. Conversely, if an employer provides PPE to its employees at no cost, and the employee decides to use some other PPE, OSHA notes that the responsibility for the cost (implying, but not clearly stating that it is referring to the total cost of the item rather than the incremental cost for the upgrade) will then fall upon the employee.

As noted above, the final rule requires the employer to provide most types of required PPE "*at no cost to its employees.*" OSHA positively responded to the comments we prepared for another client regarding the interpretation of the phrase "*at no cost to its employees.*"

As you may recall, various OSHA health standards require an employer to provide certain medical consultation/diagnostic services to each covered employee/associate "at no cost to the employee." Those clauses have been consistently interpreted by OSHA and the Review Commission to mean that if an employee is sent to the medical professional for that service outside the employee's scheduled hours, the employer must pay for the employee's transportation costs plus the applicable hourly wages, which are likely to be at the overtime rate.

We filed comments objecting to the application of that approach in connection with the purchase of PPE (using the off-site purchase of safety shoes as an example) and OSHA agreed, stating that the final rule was not intended to require the employer "to cover time and travel expenses an employee might incur while shopping for PPE during non-work hours." 72 FR 64367, col. 2. It took the agency two columns of the Federal Register to address that issue. The agency found it necessary to explain the basis for this interpretation and distinguish it from the contrary interpretation it has taken with respect to employee time and travel expenses for medical services in several other standards.

The final rule became effective on February 13, 2008, and compliance is required by May 15, 2008.

B. OSHA's Issues Proposed Rule for Confined Spaces in Construction

OSHA began this rulemaking with an Advanced Notice of Proposed Rulemaking in March of 1980 that addressed confined spaces in both General Industry and construction. The agency issued its Permit Required Confined Spaces (PRCS) Standard for General Industry, 29 CFR 1910.146, in January of 1993, but did not adopt a confined spaces standard for construction. There was a union challenge to the final rule on, among other grounds, the failure to adopt a standard covering construction work. As part of its settlement agreement with the union, OSHA agreed to develop a confined spaces standard for construction work. Almost 15 years later, on November 28, 2007, OSHA finally issued a proposed confined spaces standard for construction.[2]

The OSHA proposal poses significant concerns in three areas: 1) the confusion (and need for substantial changes to existing and effective programs and training) created by the introduction of different terminology and a regulatory scheme based on 5 rather than 3 types of confined spaces; 2) provisions that suggest an inappropriate effort to amend the PRCS Standard; and 3) an expanded and over-reaching set of provisions addressing multi-employer issues.

The existing requirements governing confined spaces in construction are minimal and inadequate. In light of that void, our understanding is that, over the past 15 years, construction contractors have adapted to and follow the General Industry PRCS Standard for entry into confined spaces. Accordingly, one fairly universal theme in the comments submitted to OSHA on the proposed CSIC rule has been to adopt the PRCS Standard for construction with only those minimal changes OSHA finds to be necessary. Consistent with that comment, the commenters have generally been critical of OSHA's proposal to expand the classes of confined spaces from 3[3] (in the PRCS Standard) to 5 in the CSIS proposal.[4]

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[2] See 72 Fed. Reg. 67351-67425.

[3] The three categories of confined spaces effectively established by § 1910.146 are: 1) a PRCS subject to all requirements of § 1910.146: 2) a PRCS subject to the reduced requirements of § 1910.146(c)(5); and 3) a non-permit space (NPS), which is an NPS either because it was an NPS rather than a PRCS before the application of control measures (per the definition of a PRCS in § 1910.146(b)) or because, after application of the control measures, and for the period they remain in effect, the confined space is reclassified as an NPS per § 1910.146(c)(7).

[4] The proposed rule would, in effect, create five different types of confined spaces:

1. Continuous System PRCS (a space, such as a sewer system, which cannot be isolated);
2. PRCS (generally the same as 1910.146);
3. Controlled Atmosphere Confined Space (apparently equivalent to the Low Hazard Entry under 1910.146 where all physical hazards are isolated and any actual or potential atmospheric hazard is controlled with forced ventilation); and
4. Isolated Hazard Confined Space (a classification achieved by going through a formal process that appears equivalent to what should be done to re-classify a PRCS as a non-permit space under 1910.146, by demonstrating that the employer has isolated all physical and atmospheric hazards in the space).
5. Unregulated confined spaces.

For several reasons, various industry commenters have expressed objections to OSHA's efforts to redefine terms used in the PRCS Standard. First, it certainly appears that the revised terms would expand the scope of the standard in comparison to 1910.146 in ways that seem inconsistent with the reasonable objectives of a confined spaces standard (e.g., expand the definition of a hazardous atmosphere to include any space where a PEL was exceeded, expand the meaning of limited means of entry/exit to include any space with a slippery surface or inadequate lighting). Second, there would be continuing confusion and a need for significant retraining. Finally, the impractical result would be that different terminology and requirements would apply to manufacturing employees and construction employees working side by side, or to the same person depending on the label applied to the work being performed.

The proposal would continue and expand on the recent OSHA practice of attempting to address the multi-employer worksite issues in the substance of the rule. It specifies the obligations of employers whose employees enter confined spaces, host employers, and controlling contractors, such as general contractors and construction management firms.

The explicit listing of these multi-employer obligations cannot help, but cause a re-thinking of current practices. The proposal states that neither the controlling employer (the employer with overall responsibility for construction at the site) nor the host employer (the site owner or manager) are required **to obtain** (research and investigate information about the hazards and classification of a space), provided their employees do not enter the space. However, they must provide that information to the employer performing the entry ("the entering employer") **if they have it**.

If an employee of the host employer or controlling contractor ever entered the space, those employers may be deemed to (permanently) have information for purposes of future confined space hazard communication obligations. Depending on the practices in effect, the controlling employer or host employer may have previously signed off on an entry permit or similar paperwork (whether for approval or acknowledgement of receipt) for a prior entry into that space or a similar space, simply received that paperwork, or even reviewed that paperwork as part of a post entry review. In that event, OSHA arguably could take the position that those employers would be deemed to have knowledge of the information in that paperwork, even if they have not kept it, and would need to create some type of permanent record of that information so it could be communicated to another entering employer in the future.

Furthermore, if the entering employer determines that the confined space falls into one of the four regulated categories of spaces listed in footnote 4, the proposed rule would require the entering employer to inform the controlling employer and host employer of the precautions and procedures it will follow and about any hazards that were present. Again, assuming this requirement is implemented, OSHA arguably could take the position that those employers would be deemed to (permanently) have that knowledge, and would need to maintain a record of it for communication to another contractor in the future. The thrust of this set of communication requirements suggests that, rather than throwing out entry permits after one year, the host employer may have to maintain a space-specific file for each confined space at its site. The same may also be true for controlling contractors.

In a January 23, 2008 Federal Register notice, OSHA extended the comment period on this proposal to February 28, 2008. In response to numerous requests, OSHA has announced that it will be holding a public hearing on this proposal, but has not yet set the hearing dates.

II. OSHA ENFORCEMENT INITIATIVES

A. OSHA's Enhanced Enforcement Procedures

OSHA's Enhanced Enforcement Policy (EEP) is a special enforcement program designed to target those employers, which OSHA has identified as being indifferent to their obligations under the OSH Act, with an arsenal of compelling sanctions. OSHA modified the EEP, as of January 1, 2008[5], to place greater emphasis on those employers with a history of violations, those employers with failure to abate citations, and those employers who receive either egregious willful citations or a set of citations proposing at least $100,000 in penalties (a/k/a a "significant case.") The revisions are also designed to exclude the case of an employer with a single fatality tied to a single serious violation where the employer did not have a history of "similar" OSHA violations.

The revised EEP seems likely to cast a wider net that will subject a broader class of larger employers to the EEP, and may encourage OSHA Area Directors to propose larger fines for the purpose of creating a "significant case" (proposed fines of at least $100,000) that would trigger EEP treatment. The primary revisions to the EEP criteria are described below with the new language either marked as "new" or presented in *italics,* and the old language marked by ~~double strikethrough~~.

1. Fatality Criterion

A case is covered by the EEP if there is a fatality inspection in which OSHA finds:

(1) *one or more willful or repeated (serious, any gravity)* [~~one or more high gravity serious (or willful or repeated~~] *violations related to the death, OR*

(2) *one or more serious (any gravity) violations related to the death, and the employer has either*

(a) an OSHA history of violations [defined below] *similar in kind to the violation that led to the current fatality consisting of at least one serious, or willful, or repeat violation within the last three years, or*

(b) the occurrence of another fatality within the last three years regardless of whether any citation was issued.

2. Non-Fatality Criterion (paraphrased)

Willful/Repeat Criterion

A case is covered by the EEP if:

[5] See CPL 02-00-145, January 1, 2008. http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=3749.

(1) the OSHA inspection results in the citation of three or more violations that are classified as both (a) ~~[high gravity]~~ serious *(any gravity)* AND (b) either willful or repeat*; and*

(2) *the employer has an OSHA history of violations* [defined below] *similar in kind to one or more of the violations found in the current inspection consisting of at least one serious (any gravity), or willful, or repeat violation within the last three years.*

Presumably, the agency will not engage in double counting by counting the violation underlying the repeat citation(s) as the triggering history.

Failure-to-Abate Criterion

A case is covered by the EEP if the OSHA inspection *results in one* ~~[two~~] *or more failure-to-abate notices where the underlying violations were classified as* ~~[high gravity]~~ *serious (any gravity).*

Egregious Willful Case Criterion (new)

Any egregious case will be considered an enhanced enforcement case.

Significant Case Criterion (new)

A Significant Case, generally consisting of one or more inspections at the same site in which the proposed penalties total more than $100,000, will be considered an enhanced enforcement case.

New Procedures for Characterizing Unclassified Violations and Employer History for Purposes of the EEP

For purposes of the EEP assessment, an Unclassified violation will be viewed as having the classification it had (before amendment) or would have had (absent the pre-citation settlement), as if the Unclassified designation was not used.

For purposes of determining whether an employer has a "*history of violations similar in kind to one or more of the violations found in the current inspection,"* OSHA will consider the employer's nationwide inspection history, which includes final orders issued under State Plans as well as the Federal system. Furthermore, for purposes of the EEP, OSHA is giving the phrase "similar in kind" a far broader interpretation than the "substantial" similarity that is required for a repeat citation under the OSH Act.[6]

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[6] The EEP states:

> The following examples show a violation history that is "similar in kind" to the current violation for the purposes of this Instruction. This would also apply to any violations of the General Duty Clause.
>
> Example 1. Violations of OSHA's fall protection standards. A prior fall from a scaffold is considered similar in kind to a current fall through a floor opening, or a fall from a roof. [It does not appear that a prior fall would be required.]

Based on the examples provided by OSHA in the EEP, it appears that OSHA plans to exercise enormous discretion in the EEP. First, it plans to treat an entire corporate family as a single employer. Second, OSHA plans to use the "opening" provided by three willful or repeat citations in a single inspection, plus as little as one "similar in kind" previous violation anywhere in the corporate family to "create" probable cause for employing a wide-ranging combination of EEP sanctions.

B. Control of Hazardous Energy Procedures

On February 11, 2008, approximately 18 years after the adoption of its Lockout-Tagout (LOTO) Standard, and 8 years after OSHA promised it would provide employers with better guidance on how to comply with that standard, OSHA finally issued Part I of its overhauled Field Instruction on LOTO. http://www.osha.gov/OshDoc/Directive_pdf/CPL_02-00-147.pdf.

To the disappointment of many, OSHA declined to honor the commitment made by former Assistant Secretary John Henshaw to post the document on its website in draft form for public comment. While the manual does assist in at least partially clarifying some issues surrounding equipment-specific energy control procedures and the annual LOTO inspection, it is largely a compilation of materials drawn from the previous Field Instruction, OSHA interpretation letters and some case law. The manual reflects some inconsistencies (e.g., distinguishing "make-ready" from "set-up" activities), does not realistically address some of the areas of greatest concern to the paper industry (e.g., set-up activities), continues to give the minor servicing exemption and the testing and positioning exemption narrow interpretations, suggests the reliability of alternative protection will be a rising issue, raises questions about the adequacy of certain types of longstanding guarding methods, and provides an overly complex and confusing description of the inter-relationship between machine guarding and LOTO. To quote an old saying: "Other than that Mrs. Lincoln, how did you like the play?"

C. Inspection Procedures for Hexavalent Chromium

OSHA's comprehensive hexavalent chromium Cr(VI) standards for general industry, construction, and shipyards[7] went into effect on May 30, 2006, and employers with covered activities had to be in compliance with those standards by November 27, 2006. On January 24, 2008, OSHA finally published its initial field directive designed to clarify how it would interpret those standards,[8] all of which is subject to the outcome of the pending suits challenging the standards. Some of the highlights from the directive include:

Example 2. Violations of standards calling for personal protective equipment (PPE). A prior failure to provide hard hats is considered similar in kind to a current failure to ensure respirator use, or a failure to train regarding PPE.

Example 3. Violations of OSHA's standards concerning exposure to toxic and hazardous substances. A prior exposure to lead is considered similar in kind to a current exposure to chemicals of a dipping/coating operation, or a failure to train on the hazards of the chemicals.

[7] See 71 Fed. Reg. 10099-10385 §§ 1910.1026, 1915.1026, and 1926.1126 respectively, *Occupational Exposure to Hexavalent Chromium*, February 28, 2006.

[8] See Directive Number CPL 02-02-074, *Inspection Procedures for the Chromium (VI) Standards*.

Exceptions to the Cr(VI) Standard

The directive reiterates that the only exemptions from compliance with the standard are for the following:

Exposure to Cr(VI) from the *application* of pesticides for wood treatment; or

Exposure to Cr(VI) from Portland cement (with a big caveat for those involved in construction activities, as explained below); or

Where an employer can present objective data demonstrating that a material containing chromium or a specific process, operation, or activity cannot release dust, fumes, or mists of Cr(VI) in 8-hour TWA concentrations at or above 0.5 $\mu g/m^3$.

Portland Cement Exemption

The use of Portland cement is technically exempt from OSHA's Cr(VI) standards. However, OSHA's inspectors visiting a construction workplaces are instructed by the directive to: (1) confirm that concentrations of Portland cement dust are at or below 15 mg/m^3 and (2) ensure that employers at the site are in compliance with four other generic OSHA standards applicable to exposures to Portland cement.[9] They are OSHA's PPE, Sanitation, Air Contaminants and Hazard Communication Standards in addition to OSHA's recordkeeping regulations found at 29 CFR Part 1904. In other words, although an employer falls within the scope of the Portland cement exemption, the directive effectively establishes a special emphasis program under which inspectors are required to verify compliance with those referenced rules by employers engaged in construction activities. See Appendix C, Section C-1, *Inspection Procedures for Construction Sites Using Portland Cement.*

Recently, OSHA published a guidance document to alert employers and employees to the skin hazards associated with exposure to Portland cement and provides guidance on how to prevent cement-related skin problems. This document can be found at the following: http://www.osha.gov/dsg/guidance/cement-guidance.html.

Exemption for 8 Hour TWA Below 0.5 ug/m3

As with all exemptions from OSHA requirements, the burden of proof is on the employer to demonstrate that it qualifies for the exemption. To qualify for this exemption, the "employer must develop data that: (1) *accurately characterize* employee exposure to Cr(VI) and (2) *closely resembles* the specific process, operation, or activity seeking exemption in order to avoid a violation."[10] According to the directive, data "accurately characterizes" employee exposure to Cr(VI) when it provides the same degree of assurance as data retrieved by air monitoring. The term, "closely resembles" is interpreted, consistent with the language in several other Agency

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[9] See Appendix C, Section C-1, *Inspection Procedures for the Chromium (VI) Standards*.

[10] See Directive Number CPL 02-02-074, *Inspection Procedures for the Chromium (VI) Standards*, pgs. 9-10.

standards, to mean those "circumstances where the major workplace conditions which have contributed to the levels of historic exposure are no more protective than in the current workplace."[11] That has the potential to become a fairly subjective determination.

Methods of Compliance

Covered employers were required to comply with the PEL and other requirements of the Cr(VI) standards by November 27, 2006. Respiratory protection may be use to achieve the PEL in the following circumstances:

(i) During periods necessary to install or implement feasible engineering and work practice controls;
(ii) During work operations, such as maintenance and repair activities, for which engineering and work practice controls are not feasible;
(iii) In work operations for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL;
(iv) For **"work operations"** (see discussion of this term below) where employees are exposed above the PEL for fewer than 30 days per year, and the employer has elected not to implement engineering and work practice controls to achieve the PEL; or
(v) Emergencies.

Aside from the circumstances listed above, the PEL must be achieved through the use of engineering and work practice controls, with the further exception that the use of engineering controls to achieve the PEL is voluntary until May 31, 2010. The extension to May 31, 2010 applies to engineering controls, but not to work practice controls. In other words, prior to May 31, 2010, to the extent "voluntarily" implemented engineering controls do not achieve the PEL, the employer must first employ feasible work practice controls to achieve the PEL. If the employer has exhausted all available work practice controls and not yet achieved the PEL, respirators must be used to comply with the PEL. After May 31, 2010, the employer will be required to exhaust all engineering and work practice controls before it will be permitted to rely on respiratory protection.

The interpretation of the exception from the requirement to use engineering and work practice controls "for **work operations** where employees are exposed above the PEL for fewer than 30 days per year" remains to be clarified. However, there are some aspects that seem to be clear. First, the test is not whether a particular employee is exposed above the PEL for fewer than 30 days per year, but rather a collective test applicable to all employees. The question is whether there are 30 or more man-days per year for which the employees of a particular employer involved in a particular "work operation" are exposed above the PEL. Furthermore, it appears that OSHA interprets the term "work operation" to mean a generic type of task (e.g., all welding) or some substantially similar process rather than breaking welding down by type (e.g, SMAW, GMAW, TIG).

[11] OSHA Interpretation Letter, *Use of "objective data" to accurately characterize employee exposure to hexavalent chromium during welding operations*, November 14, 2006 (citing reference 59 FR 40977, 29 CFR Parts 1910, et al., Occupational Exposure to Asbestos; Final Rule, August 10, 1994.).

Limitation on Rotation: Section 1910.1026(f)(2) (and its counterparts) prohibits rotation of employees for the purpose of reducing the time-weighted average exposure to Cr(VI) below the PEL. However, in a Letter of Interpretation, dated October 31, 2006, OSHA stated that the language in Section 1910.1026(f)(2) was not intended as, and should not be interpreted as, a general prohibition on employee rotation where workers are exposed to Cr(VI), whether or not above the PEL. OSHA noted that there are a variety of permissible reasons for rotating employees, such as cross-training and/or to alternate physically demanding tasks with less strenuous activities.[12] We made an informal (non-binding) inquiry to a staff person in OSHA's Directorate of Compliance Programs, and were advised as follows: "Where the TWA exposure would otherwise be below the PEL, the rotation of employees *is permissible* to further reduce the time-weighted average exposures to, for example, levels below the Action Level or the 0.5µg/m^3 threshold below which the activity is exempt from the scope of the standards."

Protective Work Clothing and Equipment (PPE)

The PPE requirements in the Cr(VI) standards are tied to a performance-based hazard assessment. A covered employer must provide its employees with protective clothing and equipment appropriate to protect its employees from the hazards (if any) posed by exposure to Cr(VI). The standards do not establish or suggest a threshold concentration of Cr(VI) in a bulk material below which the PPE requirements would not apply.

A January 25, 2007 Letter of Interpretation, OSHA responded to an employer's inquiry as to whether it was permissible for its employees wear short-sleeve shirts while performing a thermal spray operation during the summer months when the temperature typically exceeds 90 degrees. The employer noted that during his 34 years of professional experience it had not observed any skin abnormalities related to Cr(VI) exposures from this thermal spray process. Based on the information provided, OSHA advised that the employer **may** have performed an adequate hazard assessment of dermal exposure from Cr(VI) exposure. Specifically, OSHA stated that short-sleeve shirts may be permissible in the given scenario **IF** the employer took into consideration the "physical aspects of the process or operation any control measures, the chemical and physical properties of the compound or mixture and the magnitude and duration of exposure in addition to the size, flexibility, and cut-and-tear resistance of the PPE."[13]

Additional Requirements for the General Industry

The directive reminds employers in the General Industry that they must comply with two requirements that were not included in the construction and maritime standards because OSHA concluded compliance would be highly impracticable: (1) establishing regulated areas where exposure can reasonably be expected to exceed the PEL; and (2) housekeeping where exposures exceed the Action Level and the 0.5 µg/m^3 threshold. OSHA acknowledges that there will be situations in which General Industry and construction activities will be occurring side by side,

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[12] OSHA Interpretation Letter, *Clarification of the Hexavalent Chromium Final Rule*, October 31, 2006.

[13] OSHA Interpretation Letter, *Wearing short-sleeved shirts while performing a thermal spray operation with exposure to the hexavalent chromium fumes*, January, 25, 2007.

and apparently will have its inspectors exercise their discretion in determining which requirements apply to which employees.

The housekeeping requirements in the General Industry Cr(VI) standard prohibit dry sweeping, dry shoveling, and dry brushing, but do not specify a particular method for cleaning.[14] While OSHA states that vacuuming is a reliable method of cleaning surfaces on which dust accumulates, it notes that there are several other effective methods which may be used, such as wet sweeping or the use of wet scrubbers.[15]

Interface with Other Standards

There are several other OSHA standards -- such as the Lead, Arsenic, and Hot Work (Welding, Cutting, and Brazing) Standards -- where compliance requirements effectively overlap with the Cr(VI) standards.[16] Where two substance-specific standards apply, compliance officers may verify compliance with both or may verify compliance with the Cr(VI) standard and then assume there is compliance with the other applicable sub-stance-specific standards.

III. RECENT WORKPLACE SAFETY & HEALTH CASE LAW

A. Fifth Circuit Denies Employers Petition Requesting Pre-Inspection Hearings

In a case of first impression, the 5th Circuit Court of Appeals upheld the decision of a Review Commission ALJ deny a motion to suppress evidence on the ground that OSHA utilized a Federal marshall to enforce an inspection warrant over the employer's objection rather than bringing a contempt proceeding. In other words, the court held that employers do not have a right to challenge an administrative warrant prior to its execution through a contempt proceeding unless OSHA chooses to bring a contempt proceeding.[17] The action arose shortly after an inspection by OSHA compliance officers over the objection of which resulted in the issuance of several citations.

In 2004, OSHA compliance officers attempted to conduct an inspection at a facility owned by Trinity Marine Products Inc., hereinafter "Trinity," but were denied entry with the explanation that the facility's safety representative was not present. A few weeks later, OSHA returned to Trinity's facility armed with an administrative inspection warrant. Trinity, once again, denied entry, this time on the basis that OSHA compliance officers failed to produce the warrant's supporting documentation.

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[14] 29 CFR 1910.1026(j)(2)(ii).

[15] OSHA Interpretation Letter, *Clarification of the Hexavalent Chromium Final Rule*, October 31, 2006; See also 71 Fed. Reg. 10358.

[16] See 29 CFR 1910.1025, Lead; 29 CFR 1915.1025, Lead; 29 CFR 1926.62, Lead; 29 CFR 1910.1018, Inorganic Arsenic; 29 CFR 1915.1018, Inorganic Arsenic; 29 CFR 1926.1118, Inorganic Arsenic; 29 CFR 1910, Subpart Q, Welding, Cutting and Brazing; 29 CFR 1915, Subpart D, Welding, Cutting and Heating; 29 CFR 1917.152, Welding, Cutting and Heating (Hot Work), and 29 CFR 1926, Subpart J, Welding and Cutting.

[17] *Trinity Marine Products, Inc. v. Chao*, 512 F.3d 198 (5th Cir. 2007).

The OSHA compliance officer contacted the local Assistant United States Attorney ("AUSA"), who then contacted Trinity. AUSA told Trinity that if they did not permit the compliance officers to inspect the premises that federal marshals would be dispatched. Trinity's counsel rejoined that the proper procedure to enforce an administrative warrant is a contempt proceeding, not the use of force. The compliance officers left the premises, but returned shortly thereafter with federal marshals, threatening to arrest any employees that interfered with the inspection.

Trinity permitted the inspection, but immediately filed an emergency motion to quash the warrant in federal court, alleging that OSHA's warrant lacked probable cause and was improperly executed. The inspection was completed before the court had an opportunity to schedule a hearing on the motion to quash. On December 9, 2004, the trial court ruled that because the warrant had already been enforced, the appropriate recourse would be to exhaust all administrative remedies rather than having the court consider a motion to suppress the evidence obtained through the inspection.

Shortly after the inspection, OSHA issued several citations to Trinity. Trinity contested these citations before an administrative law judge ("ALJ"), arguing that the "search's illegality should result in the suppression of the evidence." The ALJ rejected Trinity's argument and the Review Commission declined to review the ALJ's decision.

Before the appellate federal court, Trinity argued that employers should be permitted to challenge inspection warrants before they are executed. That is, if employers are not given a forum to challenge warrants prior to there execution, the Agency is free to conduct unlawful searches. Trinity also contended that the execution of an inspection warrant by force, as was done in this case, was unlawful.

The Court rejected these claims, holding that there is no case law to support the contention that a pre-inspection hearing is required, and there is no case law that prohibits the use of reasonable force to execute a warrant. The Court also rejected Trinity's argument that an employer subjected to an unlawful search, pursuant to an invalid inspection warrant, would have no meaningful remedy. The Court indicated that, in those circumstances, an employer could bring a suit for damages based on violations of the employer's constitutional rights by federal officers (a/k/a a *Bivens* action). The Court noted that *Bivens* may not be a perfect remedy, but it is just as attractive as requiring an employer to risk contempt to get pre-enforcement review of an administrative warrant.

B. Tort Suit Involving Forklift Training Provided by Third Party

A forklift operator struck a steel beam, which fell on the plaintiff and caused debilitating injuries, leaving the plaintiff confined to a wheelchair. The forklift operator received his forklift training from a third party and plaintiff brought a suit against the training organization alleging that it was negligent in that it provided inadequate training. The court held, as expected, that the fact that the employer was obligated by OSHA requirements to provide the training and used a third party to perform that function does not shield the third party from liability. The court also held that a former Deputy Assistant Secretary for OSHA could opine (provide expert testimony)

as to what the forklift rule says or whether or not it was violated, but could not provide his interpretation of the rule because that was purely a legal function reserved to the court.

According to the Court, testimony which attempts to interpret Agency regulations would essentially "usurp the role of the Court." It is the "duty of the Court, not the parties, to instruct the jury on the law and the weight and any interpretation to be afforded to the OSHA regulation." The Court went on to state, that there is a great danger in permitting experts to interpret the law. The expert could misstate or misapply the law, and thus confuse or mislead the jury. How the court would interpret an ambiguous OSHA rule without outside assistance remains a mystery.

IV. COMBUSTIBLE DUST

A. Congress

On March 4, Rep. Miller introduced HR 5522, the Combustible Dust Explosion and Fire Prevention Act of 2008. The bill would require OSHA to adopt an interim final combustible dust standard in 90 days, which is no less protective than NFPA 654 (covering combustible particulate solids) and NFPA 484 (covering combustible metals), and a final standard in another 18 months, which is no less protective than the interim standard. It appears that the realistic expectation of the Democrats was to jump start an OSHA rulemaking on this issue rather than to impose a complex NFPA-based regulatory scheme in this impractical time frame.

With the exception of facilities covered by the OSHA grain dust standard, the bill would generally apply to any industrial activity subject to OSHA jurisdiction that poses a combustible dust hazard. A hearing on the bill was held on March 12 before the House Committee on Education and Labor. Among those testifying were OSHA Administrator Edwin Foulke (see attached testimony), CSB Member and Interim Executive William Wright (see attached testimony), two members of Congress from Georgia (the site of the recent Imperial Sugar refinery tragedy), a sister of an employee who died in an industrial explosion, a representative of NFPA and my partner, David Sarvadi (see attached testimony on behalf of the U.S. Chamber of Commerce).

With respect to the possibility of an OSHA standard on combustible dust, Mr. Foulke stated:

> If employers follow the existing requirements established by these standards, employees will be protected from combustible dust hazards. If our investigation of the Imperial Sugar accident or our forthcoming inspections indicates that our existing standards do not adequately mitigate the potential for combustible dust hazards, we will assess the need for regulatory changes.

That statement was not well received by Chairman George Miller.

Mr. Wright's statement made it clear that the CSB continues to recommend adoption of an OSHA standard, but recognized the need for a traditional rulemaking. To our surprise, the

NFPA representative said it would be straightforward for OSHA to adopt NFPA 654. David Sarvadi picked up on the theme of the prior witnesses about a lack of knowledge on the issue within major sectors of the industrial community and explained some of the complexities of the issue, and the problems OSHA would face if Congress directed OSHA to adopt NFPA 654 or proceed with an accelerated rulemaking. NFPA 654 has a four paragraph section on retroactivity (leaving much to the discretion of the local authority), has an extensive appendix that is not part of the standard (but which OSHA relies on in its NEP), and includes 113 provisions with the word "should" (which are non-mandatory and unenforceable) that would have to be reviewed to determine whether they should be deleted or changed to "shall."

B. OSHA NEP for Combustible Dust

The Secretary of Labor reportedly directed OSHA Administrator Edwin Foulke to inspect/tour the Imperial Sugar facility in Savannah, Georgia 2 weeks ago and invigorate OSHA's efforts on that issue. On March 4, Mr. Foulke announced that OSHA would be issuing a revised National Emphasis Program (NEP) Directive for Combustible Dust, which would better focus OSHA's efforts in this area. The revised directive was issued on March 11, the day before the Congressional hearing on this issue, replacing the directive from October 17, 2007.

Under the revised directive, OSHA apparently targets industrial sectors for a combustible dust inspection based on a consideration of two factors – the average frequency of combustible dust explosions in each industry and the average magnitude of the blast generated by those explosions. Appendix D-1 of the revised NEP lists "Industries with More Frequent and/or High Consequence Dust Explosions/Fires," and includes the following industrial sectors:

SIC 2493 or NAICS 321219	Reconstituted Wood Products
SIC 2499 or NAICS 321920, 321219	Wood Products, NEC
SIC 2421 or NAICS 321113	Sawmills and Planing Mills, General

Appendix D-2 of the revised NEP lists "Industries that may have the Potential for Combustible Dust Explosions/Fires," and includes the following industrial sectors:

SIC 2439 or NAICS 321213, 321214	Structural Wood Members, NEC
SIC 2452 or NAICS 321992	Prefabricated Wood Buildings and Components

In addition, the minimum number of combustible dust inspections to be performed by each OSHA area office was raised from 1 per year to 4 per year (3 per year from industries in Appendix D-1 and 1 per year from industries in Appendix D-2). In his March 12 testimony, Mr. Foulke stated that he expected OSHA to conduct 300 combustible dust inspections in the current fiscal year ending September 30, 2008.

On the positive side, the basis for issuing a citation for poor housekeeping (allowing an excess accumulation of combustible dust) is now tied to the actual characteristics of the dust rather than what OSHA acknowledged was "an idealized approach." Under the old directive, inspectors were told to issue a citation whenever a combustible dust accumulation exceeded

1/32" over 5% or more of the floor area up to 20,000 square feet. Under the new directive, inspectors are told to issue a citation when "the surface dust accumulations (i.e., dust accumulations outside the dust collection system or other containers, such as mixers) can create an explosion, deflagration or other fire hazard." The presence of a 1/32" layer will likely trigger the inspector to take a close look at the situation. OSHA reportedly determines whether a layer of dust exceeds 1/32" by using a metal paper clip, which is made of wire with a diameter of approximately 1/32", as suggested by Appendix D to NFPA 654.

C. Potential Abatement Measures Required by an NEP Enforcement Action

OSHA inspected a Kimberly Clark tissue plant in New Milford, Connecticut during the period 9/1/05 to 10/27/05 and, on 2/16/06, issued citations to Kimberly Clark for alleged violations of 1910.22(a)(1) (places of employment not maintained in clean condition) and 1910.307(b)(2)(i) (electrical equipment not approved for hazardous locations). In the citations, OSHA alleged that it found dust accumulations of up to 1/4" (of cellulose that OSHA estimated to be comparable to corn starch) that had accumulated in a period of 2 months, and were scheduled to be addressed during a semiannual cleanup. Kimberly Clark entered into a detailed settlement agreement with OSHA that specified extensive interim and final abatement measures to address that dust issue.

Under the settlement agreement, Kimberly Clark agreed to retrofit certain electrical equipment and implement additional interim and final abatement measures. The interim abatement measures (for the period from 3-1-07 to 8-31-07) required dust removal whenever the average accumulations reached 1/8". Kimberly Clark also agreed to retain a dust expert who would assist the company in establishing protocols for dust housekeeping measures and calculating the mass of overhead dust accumulations per unit area. The expert was also to assist the company in establishing the Maximum Allowable Overhead Dust Accumulations on a mass/area basis, corresponding to a room explosion hazard, according to the formula provided in FM Global Data Sheet 7-76 (p. 8 of May 2006 edition). Kimberly Clark agreed that, after the interim abatement period, it would implement revised housekeeping measures that would maintain average overhead dust accumulations below 50% of that calculated figure, which presumably would have changed the 1/8" level to something else. The Kimberly Clark citations and settlement agreement are attached.

OSHA recently created a Safety and Health Topics page on Combustible Dust to give it a higher profile and make it easier for employers to find information on this issue. improve alert employers of the hazards associated with combustible dust. The page can be found at the following address: http://www.osha.gov/dsg/combustibledust/index.html.

V. RECENT WORKPLACE SAFETY & HEALTH ISSUES

A. Controversy Surrounds Allegations of Widespread Under-Reporting of Workplace Injuries and Illnesses

Bob Whitmore, a long-time and well-known professional in OSHA's Office of Statistics, contacted reporters and alleged that there is widespread under-reporting of workplace injuries

and illnesses on the OSHA 300 logs. His comments have been widely reported and he reportedly pointed investigative reporters toward a particular poultry processor.

Shortly after receiving the allegations, a team of reporters from the Charlotte Observer reviewed OSHA logs and conducted several interviews with current and former employees of that company. They subsequently authored a series of highly critical articles, run in the Charlotte Observer over a period of five days and supported by material on the editorial page, describing what appeared to be serious ergonomics and recordkeeping issues at that company's facilities.

Mr. Whitmore contends that poultry processor is one of many other U.S. companies with recordkeeping issues. It appears that OSHA believes that company's situation was the exception rather than an example of a widespread problem.

VI. LEGISLATION

A. The "New Employee Verification Act"

On February 28, U.S. Representatives Sam Johnson (R-Texas), Paul Ryan (R-WI) and Kevin Brady (R-TX) introduced H.R. 5515, the "New Employee Verification Act" (NEVA) to mitigate the number of unauthorized workers in the country. The bill would eliminate the use of I-9 Forms and replace the federal government's current employer verification process, E-Verify, with new more advanced electronic verification systems. The first system, the Electronic Verification System (EEVS), allows employers to confirm employment eligibility by entering employee identification data through their state's new hire reporting program. The second system, the Secure Electronic Employment Verification System (SEEVS), would allow the employer to complete a standard background check and collect biometric characteristics, such as a thumbprint, to secure an employee's identity and prevent the illegal use of a Social Security number, stolen or fraudulent licenses, or any other altered identification documents.

This legislation only applies to "new hires." Thus, existing employees need not be re-verified under the new verification systems. Employers are also not obligated to verify the status of the subcontractors' employees. Conversely, employers opting to forgo the use of either verification system for new hires or choose to use data collected from the new hires for any purpose not specified in the Act, will be subjected to penalties and possibly criminal charges.

B. Michigan Senate Approves Bill to Block MIOSHA's Proposed Ergonomics Rule

On February 20, the Senate passed SB 843 in an effort to shield Michigan businesses from the open-ended and potentially burdensome ergonomics standards under consideration by the Michigan Department of Labor.[18] The bill would amend the Michigan Occupational Safety

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[18] The critical provisions of the draft standard provide as follows:

Section B

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Training.

and Health Act to prohibit a department, board, or commission authorized to promulgate rules under the Act from promulgating a rule or establishing a standard regarding workplace ergonomics. A department, board, or commission, however, could provide guidance, best practices information, or assistance for the voluntary implementation or practice of a workplace ergonomics program. The bill is very similar to a voter referendum, adopted in the state of Washington, which eliminated that state's ergonomics standard.

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(1) All employees shall be given ergonomic awareness training that covers all of the following:
- (a) Ergonomic occupational risk factors.
- (b) Signs/symptoms that indicate an ergonomic hazard may be present.
- (c) Process for reporting that an ergonomic hazard may be present.
- (d) Process for assessing and responding to ergonomic occupational risk factors.

(2) Records to document training shall be kept.
(3) An employer may accept previous training through documentation for (1)(a) and (b).
(4) Employers with an effective ergonomic program established and documented by the effective date of these rules are exempt from the rules in this section.

Section D
Process for Assessing and Responding to Ergonomic Occupational Risk Factors.
(1) An employer shall establish and utilize an effective process that includes the following:
- (a) Employee involvement.
- (b) Assessment of ergonomic occupational risk factors.
- (c) Elimination, reduction, or control of ergonomic hazards where economically and technically feasible.

(2) Employers with an effective ergonomic program established and documented by the effective date of these rules are exempt from the rules in this section.

TAB 10

Legionella

TAB 11

Night Shift and Cancer

IARC MONOGRAPHS PROGRAMME FINDS CANCER HAZARDS ASSOCIATED WITH SHIFTWORK, PAINTING, AND FIREFIGHTING

After a thorough review and discussion of the published scientific evidence, an expert Working Group convened by the IARC Monographs programme has concluded that

- Shiftwork that involves circadian disruption is *probably carcinogenic to humans* (Group 2A).
- Occupational exposure as a painter is *carcinogenic to humans* (Group 1).
- Occupational exposure as a firefighter is *possibly carcinogenic to humans* (Group 2B).

These three occupations involve complex exposure patterns that make it difficult to attribute risk to specific factors. The Working Group, comprising 24 scientists from 10 countries, met at the International Agency for Research on Cancer (IARC), the cancer research agency of the World Health Organization.

A summary of these conclusions is being published in the December issue of The Lancet Oncology. Full results will be published next year as volume 98 of the IARC Monographs.

Shiftwork that involves circadian disruption is "probably carcinogenic to humans"

Epidemiological studies have found that long-term nightworkers have a higher risk of breast cancer risk than women who do not work at night. These studies have involved mainly nurses and flight attendants. The studies are consistent with animal studies that demonstrate that constant light, dim light at night, or simulated chronic jet lag can substantially increase tumour development. Other experimental studies show that reducing melatonin levels at night increases the incidence or growth of tumours.

These results may be explained by the disruption of the circadian system that is caused by exposure to light at night. This can alter sleep-activity patterns, suppress melatonin production, and disregulate genes involved in tumour development. Among the many different patterns of shiftwork, those that include nightwork are most disruptive to the circadian system.

"Nearly 20% of the working population in Europe and North America is engaged in shiftwork, which is most prevalent in the health-care, industrial, transportation, communications, and hospitality sectors: To date, most studies have focussed on breast cancer in nurses and flight attendants. Now more studies are needed to examine this potential risk in other professions and for other cancers," noted Dr Cogliano, Head of the IARC Monographs Programme.

Occupational exposure as a painter is "carcinogenic to humans"

Epidemiological studies of painters have consistently found small but significant increases in the risk of lung cancer and bladder cancer. In addition, several studies of painters have found increased levels of genetic damage.

Four of five case-control studies found significant increases in childhood leukaemia associated with maternal exposure before or during pregnancy, although findings were inconsistent for lymphatic and haematopoietic cancers in the painters themselves.

Painters are exposed to numerous chemical solvents, pigments, and additives. They can also be exposed to other workplace hazards such as asbestos and crystalline silica. The available information is not specific enough to identify particular agents as the cause of the excess lung or bladder cancers. It also cannot be determined whether the cancer risks have increased or decreased with changes in the solvents, pigments, and additives used in paints.

Occupational exposure as a firefighter is "possibly carcinogenic to humans"

Epidemiologic studies of firefighters have noted excess cancer risks compared with the general population. Consistent patterns are difficult to discern due to the large variations in exposure across different types of fires and different groups of firefighters. Relative risks were consistently increased, however, for three types of cancer: testicular cancer, prostate cancer, and non-Hodgkin lymphoma.

Acute and chronic inflammatory respiratory effects have been noted in firefighters, and this would provide a plausible mechanism for respiratory carcinogenesis. Firefighters are exposed to numerous toxic chemicals, including many known or suspected carcinogens. These intermittent exposures can be intense, and short-term exposure levels can be high for respirable particulate matter and for several carcinogens, notably benzene, benzo[*a*]pyrene, 1,3-butadiene, and formaldehyde.

What is new, and what do these results mean to me?

"These are IARC's first evaluations of shiftwork and firefighting. Because there is credible evidence linking these occupations with increased risks of cancer, it is important that further studies be conducted to better identify what it is about such occupations that may increase the risk of cancer so that preventive measures can be implemented to avoid such risks", concluded Dr Peter Boyle, Director of the International Agency for Research on Cancer.

Occupational exposure as a painter has been classified since 1989 as carcinogenic to humans, and this new evaluation has linked painting to lung cancer and bladder cancer. The new evaluation also suggests that maternal exposure may be associated with childhood leukaemia. It is important that further studies be conducted in this area to confirm whether this risk is real and to identify precautionary measures that are appropriate to consider.

ABOUT THE IARC MONOGRAPHS

What are the IARC Monographs?

The *IARC Monographs* identify environmental factors that can increase the risk of human cancer. These include chemicals, complex mixtures, occupational exposures, physical and biological agents, and lifestyle factors. National health agencies use this information as scientific support for their actions to prevent exposure to potential carcinogens. Interdisciplinary working groups of expert scientists review the published studies and evaluate the weight of the evidence that an agent can increase the risk of cancer. The principles, procedures, and scientific criteria that guide the evaluations are described in the Preamble to the IARC Monographs.

Since 1971, more than 900 agents have been evaluated, of which approximately 400 have been identified as carcinogenic or potentially carcinogenic to humans.

Definitions

Group 1: The agent is *carcinogenic to humans*.

This category is used when there is *sufficient evidence of carcinogenicity* in humans. Exceptionally, an agent may be placed in this category when evidence of carcinogenicity in humans is less than *sufficient* but there is *sufficient evidence of carcinogenicity* in experimental animals and strong evidence in exposed humans that the agent acts through a relevant mechanism of carcinogenicity.

Group 2.

This category includes agents for which, at one extreme, the degree of evidence of carcinogenicity in humans is almost *sufficient*, as well as those for which, at the other extreme, there are no human data but for which there is evidence of carcinogenicity in experimental animals. Agents are assigned to either Group 2A (*probably carcinogenic to humans*) or Group 2B (*possibly carcinogenic to humans*) on the basis of epidemiological and experimental evidence of carcinogenicity and mechanistic and other relevant data. The terms *probably carcinogenic* and *possibly carcinogenic* have no quantitative significance and are used simply as descriptors of different levels of evidence of human carcinogenicity, with *probably carcinogenic* signifying a higher level of evidence than *possibly carcinogenic*.

Group 2A: The agent is *probably carcinogenic to humans*.

This category is used when there is *limited evidence of carcinogenicity* in humans and *sufficient evidence of carcinogenicity* in experimental animals. In some cases, an agent may be classified in this category when there is *inadequate evidence of carcinogenicity* in humans and *sufficient evidence of carcinogenicity* in experimental animals and strong evidence that the carcinogenesis is mediated by a mechanism that also operates in humans. Exceptionally, an agent may be classified in this category solely on the basis of *limited evidence of carcinogenicity* in humans. An agent may be assigned to this category if it clearly belongs, based on mechanistic considerations, to a class of agents for which one or more members have been classified in Group 1 or Group 2A.

Group 2B: The agent is *possibly carcinogenic to humans*.

This category is used for agents for which there is *limited evidence of carcinogenicity* in humans and less than *sufficient evidence of carcinogenicity* in experimental animals. It may also be used when there is *inadequate evidence of carcinogenicity* in humans but there is *sufficient evidence of carcinogenicity* in experimental animals. In some instances, an agent for which there is *inadequate evidence of carcinogenicity* in humans and less than *sufficient evidence of carcinogenicity* in experimental animals together with supporting evidence from mechanistic and other relevant data may be placed in this group. An agent may be classified in this category solely on the basis of strong evidence from mechanistic and other relevant data.

Group 3: The agent is *not classifiable as to its carcinogenicity to humans*.

This category is used most commonly for agents for which the evidence of carcinogenicity is *inadequate* in humans and *inadequate* or *limited* in experimental animals.

Exceptionally, agents for which the evidence of carcinogenicity is *inadequate* in humans but *sufficient* in experimental animals may be placed in this category when there is strong evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans.

Agents that do not fall into any other group are also placed in this category.

An evaluation in Group 3 is not a determination of non-carcinogenicity or overall safety. It often means that further research is needed, especially when exposures are widespread or the cancer data are consistent with differing interpretations.

Group 4: The agent is probably not carcinogenic to humans.

This category is used for agents for which there is *evidence suggesting lack of carcinogenicity* in humans and in experimental animals. In some instances, agents for which there is *inadequate evidence of carcinogenicity* in humans but *evidence suggesting lack of carcinogenicity* in experimental animals, consistently and strongly supported by a broad range of mechanistic and other relevant data, may be classified in this group.

For more information, please contact Dr Kurt Straif, IARC Monographs Programme
or Dr Nicolas Gaudin, IARC Communications Group.

TAB 12

Recommended Topics for Next Meeting

TAB 13

Other Business