

CR 89-24

RULES CERTIFICATE

STATE OF WISCONSIN)
) SS
DEPT. OF INDUSTRY,)
LABOR & HUMAN RELATIONS)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Gerald Whitburn, Secretary of the Department of Industry, Labor and Human Relations, and custodian of the official records of said department, do hereby certify that the annexed rule(s) relating to safety and health standards for public employees were duly approved and adopted by this department on December 18, 1990.

(Subject)

(Date)

I further certify that said copy has been compared by me with the original on file in this department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the department at 8:00 a.m. in the city of Madison, this 18th day of December A.D. 1990.



Secretary

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3-1-91

ORDER OF ADOPTION

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section(s) 101.02 (1) and 101.055 (3)(a), Stats., the Department of Industry, Labor and Human Relations creates; amends; repeals and recreates; repeals and adopts rules of Wisconsin Administrative Code chapter ~~XX~~:

ILHR 32

(Number)

Safety and Health Standards for Public Employees

(Title)

The attached rules shall take effect on the first day of the month following publication in the Wisconsin Administrative Register pursuant to section 227.22, Stats.

Adopted at Madison, Wisconsin, this

date: December 18, 1990

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN
RELATIONS



Secretary

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The Wisconsin Department of Industry, Labor and Human Relations proposes an order to repeal chs. Ind 1, Ind 6, Ind 11, Ind 12, Ind 35, Ind 200, Ind 220, Ind 221, Ind 225, Ind 226 and Ind 1000-2000; and to repeal and recreate ch. ILHR 32, relating to safety and health standards for public employes.

* * * * *

Analysis of Proposed Rules

Statutory Authority: ss. 101.02 (1) and 101.055 (3) (a), Stats.
Statutes Interpreted: ss. 101.055 and 101.11, Stats.

Pursuant to section 101.055 (3) (a) of the Wisconsin Statutes, the Department of Industry, Labor and Human Relations is responsible for adopting standards to protect the safety and health of public employes. The adopted standards are to provide protection at least equivalent to that afforded to private sector employes under standards promulgated by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA).

Presently, the Department's safety and health standards for public employes are contained primarily in chapters Ind 1000-2000, and they parallel the OSHA standards 29 CFR Parts 1910 and 1926. Several other chapters, including chapter ILHR 32, also contain various safety and health standards for public employes. The proposed rules repeal all of these chapters and revise chapter ILHR 32 to consolidate all safety and health standards for public employes into one chapter. The chapters to be repealed are as follows:

- Ind 1 - Safety
- Ind 6 - Trench, Excavation and Tunnel Construction
- Ind 11 - Occupational Noise Exposure
- Ind 12 - Work Under Compressed Air
- Ind 35 - Safety in Construction
- Ind 200 - Reporting Occupational Injuries and Illnesses
- Ind 220 - Dust, Fumes, Vapors and Gases
- Ind 221 - Spray Coating
- Ind 225 - Sanitary Facilities in Railroad Terminals and Caboose
- Ind 226 - Railroad Employee Welfare Facilities
- Ind 1000-2000 - Safety and Health

The proposed rules incorporate by reference the latest editions of the OSHA standards contained in the following parts of 29 CFR:

- 1904 - Recording and Reporting Occupational Injuries and Illnesses
- 1910 - General Industry
- 1926 - Construction Industry
- 1915 - Shipyard Employment
- 1917 - Marine Terminals
- 1928 - Agriculture

In addition, the proposed rules incorporate changes to the OSHA standards that have been published in the Federal Registers. This results in the proposed rules reflecting the most current OSHA standards available.

The OSHA standards encompass a wide range of areas, including such topics as hazardous materials; personal protective equipment; general environmental controls; materials handling and storage; machinery and machine guarding; welding, cutting and brazing; ladders and scaffolding; power transmission and distribution; and rollover protective structures and overhead protection.



RULES in FINAL DRAFT FORM

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Rule: Chapter ILHR 32

Relating to: Safety and Health Standards for Public Employees

CLEARINGHOUSE RULE NO.: 89-24

In addition to incorporating the OSHA standards, the proposed rules include a number of supplemental requirements relative to ladders; exhaust ventilation and make-up air; spray finishing; machine controls; excavation; and compressed air.

The provisions of the proposed rules will apply to all places of employment and public buildings of a public employer including those existing prior to the adoption of the rules. The Division of Safety and Buildings within the Department will be responsible for the administration and enforcement of the proposed rules. The proposed rules will not supercede standards for those safety and health issues which are currently covered by other administrative codes, such as electrical and explosive materials.

* * * * *

SECTION 1. Chapters Ind 1, Ind 6, Ind 11, Ind 12, Ind 35, Ind 200, Ind 220, Ind 221, Ind 225, Ind 226 and Ind 1000-2000 are repealed.

SECTION 2. Chapter ILHR 32 is repealed and recreated to read:

CHAPTER ILHR 32
SAFETY AND HEALTH STANDARDS
FOR
PUBLIC EMPLOYES

Subchapter I
Scope, Application and Definitions

ILHR 32.001 PURPOSE. This chapter establishes minimum occupational safety and health standards for public employes.

ILHR 32.002 SCOPE. The provisions of this chapter apply to all places of employment and public buildings of a public employer.

ILHR 32.003 APPLICATION. (1) RETROACTIVITY. The provisions of this chapter shall apply to all places of employment and public buildings of a public employer whether existing prior to the effective date of this chapter or subsequently established or built, unless otherwise specified in this chapter.

(2) CONFLICTS. If requirements of the Statutes, this chapter or other Wisconsin Administrative Code chapters specify varying requirements, the most restrictive requirement shall govern.

ILHR 32.01 DEFINITIONS. In this chapter:

(1) "Agency", as defined in s. 101.055 (2) (a), Stats., means an office, department, independent agency, authority, institution, association, society or other body in state government created or authorized to be created by the constitution or any law, and includes the legislature and the courts.

(2) "Approved" means acceptable to the department.

(3) "Department" means the department of industry, labor and human relations unless otherwise specified.

(4) "Place of employment" means any place as defined in s. 101.01 (2) (f), Stats., and includes farms of a public employer where research or education takes place.

(5) "Public employe" or "employe", as defined in s. 101.055 (2) (b), Stats., means any employe of the state, of any state agency or of any political subdivision of the state.

(6) "Public employe representative" or "employe representative", as defined in s. 101.055 (2) (c), Stats., means an authorized collective bargaining agent, an employe who is a member of a workplace safety committee or any person chosen by one or more public employes to represent those employes.

(7) "Public employer" or "employer", as defined in s. 101.055 (2) (d), Stats., means the state, any state agency or any political subdivision of the state.

(8) "Secretary" means the secretary of the department of industry, labor and human relations or appointed representative, unless otherwise specified. For the purpose of this chapter, the term secretary shall be substituted for the following titles referenced in the adopted standards of s. ILHR 32.50:

(a) Secretary of Labor;

(b) Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor;

(c) Director of the Office of Standards Development, Occupational Safety and Health Administration, U.S. Department of Labor;

(d) Area Director, Occupational Safety and Health Administration; and

(e) Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services.

Subchapter II Administration and Enforcement

ILHR 32.05 INSPECTIONS. (1) RIGHT OF ENTRY TO INVESTIGATE OR INSPECT. The authorized representatives of the department, upon presentation of the appropriate credentials to an employer, may:

(a) Enter without delay and at reasonable times any building, place of employment or workplace of a public employer, or an environment where work is performed by an employe of an employer; and

(b) Inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein, and to question privately any employer or employe.

(2) PARTICIPATION IN INSPECTIONS. Pursuant to s. 101.055 (5), Stats., a representative of the employer, an employe, or an employe representative shall be provided an opportunity to accompany a department inspector on any inspection made under this chapter.

(3) REQUESTS FOR INSPECTIONS. (a) Any person who believes a safety or health standard or variance is being violated, or that a situation exists which poses a recognized hazard likely to cause death or serious physical harm, may request the department to conduct an inspection.

(b) If an employe or employe representative requesting an inspection so designates, that person's name may not be disclosed to the employer or any other person, including any state agency except the department.

(c) When determined necessary by the department, a request for inspection shall be made on a form provided by the department.

Note: Copies of the request for inspection form (SBD-5907) may be obtained from the Safety and Buildings Division, P.O. Box 7969, Madison, Wisconsin 53707.

(4) ORDERS. The department shall issue orders for violation of this chapter in accordance with s. 101.055 (6), Stats.

ILHR 32.06 POSTING DEPARTMENT ORDER. (1) Upon issuance of an order of noncompliance, the employer shall post a copy of the order at or near the site of the violation.

(2) An order issued shall be posted for a period of 3 days, or until the violation is abated, whichever is longer.

(3) The employer shall ensure that the order is not altered, defaced or covered by other materials.

(4) An order issued shall be posted regardless of whether there has been a petition for variance or hearing.

ILHR 32.07 VARIANCES. Pursuant to s. 101.055 (4), Stats., the department shall consider and may grant a temporary variance, an experimental variance or a permanent variance in accordance with s. ILHR 3.04 for a safety and health issue affecting public employes.

ILHR 32.08 NOTICES. Every employer shall post a notice which summarizes the employe's protections and rights as granted under s. 101.055, Stats.

ILHR 32.09 PENALTIES. Penalties for violations of this chapter may be assessed in accordance with s. 101.02, Stats.

Note 1: Section 101.02 (13) (a), Stats., indicates penalties will be assessed against any employer, employe, owner or other person who fails or refuses to perform any duty lawfully enjoined, within the time prescribed by the department, for which no penalty has been specifically provided, or who fails, neglects or refuses to comply with any lawful order made by the department, or any judgment or decree made by any court in connection with ss. 101.01 to 101.25, Stats. For each such violation, failure or refusal, such employe, owner or other person must forfeit and pay into the state treasury a sum not less than \$10 nor more than \$100 for each violation.

Note 2: Section 101.02 (12), Stats., indicates that every day during which any person, persons, corporation or any officer, agent or employe thereof, fails to observe and comply with an order of the department will constitute a separate and distinct violation of such order.

Subchapter III
General Requirements

ILHR 32.15 OSHA SAFETY AND HEALTH STANDARDS. Except as provided in s. ILHR 32.16 and subch. IV, all places of employment and public buildings of an employer shall comply with the following federal occupational safety and health administration (OSHA) requirements:

- (1) Recording and Reporting Occupational Injuries and Illnesses, 29 CFR Part 1904, July 1, 1989.
- (2) Occupational Safety and Health Standards for General Industry, 29 CFR Part 1910, July 1, 1989.
- (3) Occupational Safety and Health Standards for Construction Industry, 29 CFR Part 1926, July 1, 1989. These requirements shall apply whether or not construction activities are involved.
- (4) Occupational Safety and Health Standards for Shipyard Employment, 29 CFR Part 1915, May, 1982.
- (5) Occupational Safety and Health Standards for Agriculture, 29 CFR Part 1928, June, 1981.
- (6) Occupational Safety and Health Standards for Marine Terminals, 29 CFR Part 1917, Federal Register, Vol. 48, No. 129, Tuesday, July 5, 1983.
- (7) Occupational Exposure to Lead, 29 CFR Parts 1910, 1915, 1917 and 1918, Federal Register, Vol. 54, No. 131, July 11, 1989.
- (8) Powered Platforms for Building Maintenance, 29 CFR Part 1910, Federal Register, Vol. 54, No. 144, July 28, 1989.
- (9) Control of Hazardous Energy Source (Lockout/Tagout), 29 CFR Part 1910, Federal Register, Vol. 54, No. 169, September 1, 1989.
- (10) Occupational Safety and Health Standards - Excavations, 29 CFR Part 1926, Federal Register, Vol. 54, No. 209, October 31, 1989.
- (11) Occupational Exposure to Hazardous Chemicals in Laboratories, 29 CFR Part 1910, Federal Register, Vol. 55, No. 21, January 31, 1990.
- (12) Safety and Health Standards: Welding, Cutting and Brazing, 29 CFR Part 1910, Federal Register, Vol. 55, No. 70, April 11, 1990.

ILHR 32.16 WISCONSIN ADMINISTRATIVE CODES. The following Wisconsin Administrative Codes shall supercede the standards specified in s. ILHR 32.15 for those safety and health issues which fall within the scope of the respective codes.

- (1) Chapter ILHR 7, Explosive Materials;
- (2) Chapter ILHR 8, Mines, Pits and Quarries;
- (3) Chapter ILHR 9, Manufacture of Fireworks;
- (4) Chapter ILHR 11, Liquefied Petroleum Gases;
- (5) Chapter ILHR 12, Liquefied Natural Gas;
- (6) Chapter ILHR 13, Compressed Natural Gas;
- (7) Chapter ILHR 14, Fire Prevention;
- (8) Chapter ILHR 15, Cleaning and Dyeing;
- (9) Chapter ILHR 16, Electrical, Volume 2;
- (10) Chapter ILHR 18, Elevator;
- (11) Chapter ILHR 30, Fire Department Health and Safety;
- (12) Chapter ILHR 31, Confined Spaces;
- (13) Chapter ILHR 33, Tramways, Lifts and Tows;
- (14) Chapter ILHR 34, Amusement Rides and Attractions;
- (15) Chapters ILHR 41 and 42, Boiler and Pressure Vessel;
- (16) Chapter ILHR 43, Anhydrous Ammonia;
- (17) Chapter ILHR 45, Mechanical Refrigeration;
- (18) Chapters ILHR 50 to 64, Building and Heating, Ventilating and Air Conditioning;
- (19) Chapters ILHR 81 to 86, Plumbing;
- (20) Chapter Ind 8, Flammable and Combustible Liquids; and
- (21) Chapter Ind 19, Illumination.

Subchapter IV
Amendments
To OSHA Standards

ILHR 32.20 AMENDMENTS TO OSHA STANDARDS. The substitutions, additions or omissions to the adopted OSHA standards as specified in this subchapter are rules of the department and not federal standards of OSHA.

Note: The referenced or corresponding OSHA section or subsection is located in the brackets following the ILHR designation and preceding the text of the rule. Example: ILHR 32.21 [29 CFR 1910.22].

ILHR 32.21 [29 CFR 1910.22] GENERAL REQUIREMENTS. (1) HOUSEKEEPING. This department rule is in addition to the requirements of 29 CFR 1910.22 (a):

Insofar as the nature of the work will permit, floors, passageways, gangways and areas around machinery shall be even, kept in good repair, free from obstructions over which persons may trip, and provide secure footing.

(2) DOUBLE-SWINGING DOORS; WINDOWS. This department rule is in addition to the requirements of 29 CFR 1910.22:

Every double-swinging door shall be equipped with a window the bottom of which shall be not more than 54 inches above the floor. The windows shall be kept free from dust or other obstruction. One window shall be provided for each section of double-swinging doors. Each side of every double-swinging door shall be illuminated in accordance with ch. Ind 19. The area of the window shall be not less than 200 square inches.

Note: Effective July 6, 1977, requirements for safety glazing are under the jurisdiction of the Consumer Products Safety Commission (CPSC) and are contained in the CPSC Standard for Architectural Glazing Material. Copies of this standard are available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

ILHR 32.22 [29 CFR 1910.23] GUARDING FLOOR AND WALL OPENINGS AND HOLES. This department rule is in addition to the requirements of 29 CFR 1910.23 (d) (1):

Exterior stairways or steps having 4 or more risers shall be equipped with standard railings or standard handrails on each side. Exterior stairways or steps more than 50 feet wide shall be provided with one or more intermediate handrails.

ILHR 32.23 [29 CFR 1910.25] PORTABLE WOOD LADDERS. (1) USE. (a) Substitute the following wording for 29 CFR 1910.25 (d) (2) (xv):

No portable ladder may be used to gain access to a roof, floor, or platform, unless the top of the ladder extends at least 3 feet above the point of support.

(b) Substitute the following wording for 29 CFR 1910.25 (d) (2) (xix):

All portable rung ladders shall be equipped with nonslip bases when there is a hazard of slipping.

Note: Nonslip bases are not intended as a substitute for care in safely placing, lashing or holding a ladder that is being used upon oily, metal, concrete, or other slippery surfaces.

(2) CARE AND USE OF LADDERS. This department rule is in addition to 29 CFR 1910.25 (d):

An attendant shall hold the stepladder when it is in use if the ladder is more than 10 feet in height, unless it is securely lashed or blocked.

ILHR 32.24 [29 CFR 1910.26] PORTABLE METAL LADDERS. (1) USE OF LADDERS. Substitute the following wording for 29 CFR 1910.26 (c) (3) (iii):

The ladder base section shall be placed with a secure footing. Safety shoes shall be installed on all ladders. Where ladders are used on hard, slick surfaces, a foot-ladder board shall be employed.

(2) CARE AND MAINTENANCE OF LADDERS. This department rule is in addition to 29 CFR 1910.26 (c):

An attendant shall hold the stepladder when it is in use if the ladder is more than 10 feet in height, unless it is securely lashed or blocked.

ILHR 32.25 [29 CFR 1910.27] FIXED LADDERS. This department rule is in addition to 29 CFR 1910.27 (e) (2):

Fixed ladders of a substandard pitch shall be equipped with handrails on both sides. The handrails shall be installed 30 to 34 inches vertically above the rung or the nose of the tread.

ILHR 32.26 [29 CFR 1910.37] MEANS OF EGRESS, GENERAL. These department rules are in addition to 29 CFR 1910.37 (h):

When a doorway or corner of a building is located near a railway, trolley track or driveway, so that a person is likely to walk into the path of any moving vehicle, a barrier shall be installed as follows:

(1) A swinging barrier located at the door opening or corner, extending across the doorway or from the corner;

(2) A fixed barrier situated outside the building parallel to the door opening and not less than 36 inches away from it;

(3) A fixed barrier situated at the corner parallel to the tracks or driveway and extending for a distance of not less than 6 feet outward from the corner; or

(4) Any other device approved by the department.

ILHR 32.27 [29 CFR 1910.94] VENTILATION. These department rules are in addition to 29 CFR 1910.94:

(1) APPROVAL OF PLANS. (a) Plans and specifications for exhaust ventilation equipment installed, remodeled or moved under this chapter shall be submitted to the department in quadruplicate for approval before the affected work is commenced, and all work shall be executed according to the approved plans and specifications.

(b) A complete set of plans bearing the stamp of approval shall be kept at the building at all times.

Note 1: Extra copies of the plans may be filed for the approval stamp, but they should accompany the quadruplicate plans.

Note 2: Section 101.19, Stats., authorizes the department to fix and collect fees for the approval of plans.

(2) EXHAUST VENTILATION AT SOURCE OF CONTAMINATION AND MAKE-UP AIR. (a) Exhaust ventilation shall be provided in connection with all equipment and processes which create harmful exposure of dusts, fumes, vapors or gases that equal or exceed the permissible exposure limits in 29 CFR 1910.1000.

(b) The exhaust ventilation shall be designed and installed to remove the harmful dusts, fumes, vapors and gases at the source to prevent their entrance into the breathing zone of an operator or other persons in the vicinity.

(c) A volume of tempered outside air shall be supplied to replace the air exhausted if the total volume of air exhausted exceeds one air change per hour. The quantity of make-up air shall equal at least 90% of the air exhausted.

(3) SEPARATION OF EXHAUST SYSTEMS. There shall be no connection between exhaust systems or ducts which convey different materials from separate operations, the combination of which may produce explosive, heat generating, corrosive, poisonous or otherwise dangerous mixtures.

(4) PROTECTION AGAINST INTERFERENCE OF EXHAUST SYSTEMS. Where 2 or more local exhaust systems operating at different branch duct velocities are installed in the same room or ventilated area, and any system is affected by this arrangement, tempered outside air shall be supplied to the room in a volume not less than that exhausted under simultaneous operation of all the exhaust systems in the room except where the separate exhaust systems are so arranged that they cannot be operated simultaneously.

(5) CAPACITY OF LOCAL EXHAUST VENTILATION SYSTEMS. (a) Exhaust systems for the control of dusts from woodworking operations shall be designed and operated to maintain a velocity of not less than 4000 feet per minute in the branch ducts and not less than 3500 feet per minute in the main ducts. Branch duct connections of exhaust systems serving woodworking machines shall provide air volumes not less than that specified in Table 32.27.

Table 32.27

MINIMUM AIR VOLUMES
FOR
BRANCH DUCT CONNECTIONS
(in cubic feet per minute [cfm])

TABLE SAWS - RIP, MITER & VARIETY

<u>Saw Diameter</u>	<u>Exhaust Volume</u>
Up to 16 inches	350 cfm
Over 16 to 24 inches	440 cfm
Over 24 inches	550 cfm
Variety saw with dado head	550 cfm

BAND SAWS

<u>Blade Width</u>	<u>Exhaust Volume</u>	
	<u>Top Run</u>	<u>Bottom Run</u>
Up to 2 inches	350 cfm	350 cfm
Over 2 to 3 inches	550 cfm	350 cfm
Over 3 to 4 inches	790 cfm	550 cfm
Over 4 to 6 inches	1070 cfm	550 cfm
Over 6 to 8 inches	1400 cfm	550 cfm

JOINTERS

<u>Knife Size</u>	<u>Exhaust Volume</u>
Up to 6 inches	350 cfm
Over 6 to 12 inches	440 cfm
Over 12 to 20 inches	550 cfm
Over 20 inches	800 cfm

SINGLE PLANERS

<u>Knife Size</u>	<u>Exhaust Volume</u>
Up to 20 inches	785 cfm
Over 20 to 26 inches	1100 cfm
Over 26 to 32 inches	1400 cfm
Over 32 to 38 inches	1765 cfm
Over 38 inches	2200 cfm

Table 32.27
(Continued)

DISC SANDERS

<u>Size</u>	<u>Exhaust Volume</u>
Up to 12 inches	350 cfm
Over 12 in. to 18 in.	440 cfm
Over 18 in. to 26 in.	550 cfm
Over 26 in. to 32 in.	700 cfm 2 Bottom Branches
Over 32 in. to 38 in.	900 cfm 2 Bottom Branches
Over 38 in. to 48 in.	1250 cfm 1 Top and 2 Bottom Branches

HORIZONTAL BELT SANDERS (When Bottom Run of Belt is Used)

<u>Size</u>	<u>Exhaust Volume</u>	
	<u>Tail End</u>	<u>Head End</u>
Up to 6 in. wide	350 cfm	440 cfm
Over 6 in. to 9 in.	350 cfm	550 cfm
Over 9 in. to 14 in.	440 cfm	800 cfm
Over 14 inches wide	550 cfm	1100 cfm

OTHER WOODWORKING MACHINES

Woodshapers and variety machines	400 cfm to 1400 cfm
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(b) Exhaust systems shall be provided for the control of dust from the following operations and shall maintain the specified air movements and velocities:

1. 'Abrasive Blasting Rooms'. a. An abrasive blasting room shall be exhausted at a rate of at least 80 cubic feet per minute per square foot of the room's floor area for a down draft exhaust system or 80 cubic feet per minute per square foot of cross sectional area for a cross draft exhaust system.

b. Exhaust systems for abrasive blasting rooms shall have a minimum duct velocity of at least 4500 feet per minute.

c. All air inlets provided for an abrasive blasting room shall provide a minimum air velocity of at least 500 feet per minute.

2. 'Mixer and Muller.' Mixer and muller operations shall be provided with an exhaust system that will operate at a velocity of not less than 150 feet per minute through all openings. Mixer and muller operations shall be housed in a complete enclosure.

(6) VENTILATION FOR KILNS. (a) General. 1. Local exhaust ventilation shall be provided for all fuel-fired and electric kilns. Ventilation systems shall be designed in accordance with the best practices of the industry and are subject to acceptability by the department.

Note: Examples of acceptable local exhaust ventilation systems include, but are not limited to, Vent-A-Kiln and Skutt Enviro Vents.

2. Local exhaust ventilation need not be provided where the kilns can be isolated in a separate room and the room is ventilated by means of a dedicated system at the rate of 10 air changes per hour.

Note #1: Ventilation capacity for 10 air changes per hour can be calculated as follows:

$$\frac{\text{Room volume (cu. ft.)} \times 10}{60} = \text{cfm needed}$$

Note #2: Reduced atmosphere firing produces high concentrations of carbon monoxide and caution should be exercised when entering the kiln room.

3. Canopy hood exhaust systems shall be designed in accordance with the requirements specified in par. (b) and Figure 32.27.

4. Movable kilns shall be positioned under an exhaust hood during the firing cycle.

(b) Canopy hood ventilation. 1. The height of a canopy hood above the top surface of a top-loading kiln shall be limited to that which is necessary for loading of the kiln. Canopy hoods over side- or front-loading kilns shall be located as close to the top edge of the kiln as possible, and side curtains shall not be required.

2. Canopy hoods over top-loading kilns shall be provided with noncombustible side curtains on 3 sides. If the kiln is located against a wall, only 2 side curtains shall be required. Side curtains shall extend down from the bottom edge of the canopy hood to the top edge of the kiln. Side curtains shall not be required for retractable hoods which can be positioned directly over the top of the kiln after loading.

(c) Location of kilns. 1. All fuel-fired kilns located inside of a building shall be enclosed in a fire-resistive enclosure as specified in s. ILHR 56.15.

2. Kilns shall not be located in boiler or furnace rooms.

3. Fuel-fired kilns located outside of buildings shall be exempt from the ventilation requirements of this subsection. They shall be located to minimize the products of combustion from entering the building, but in no case shall the distance be less than 10 feet measured in any direction from a wall opening or air intake.

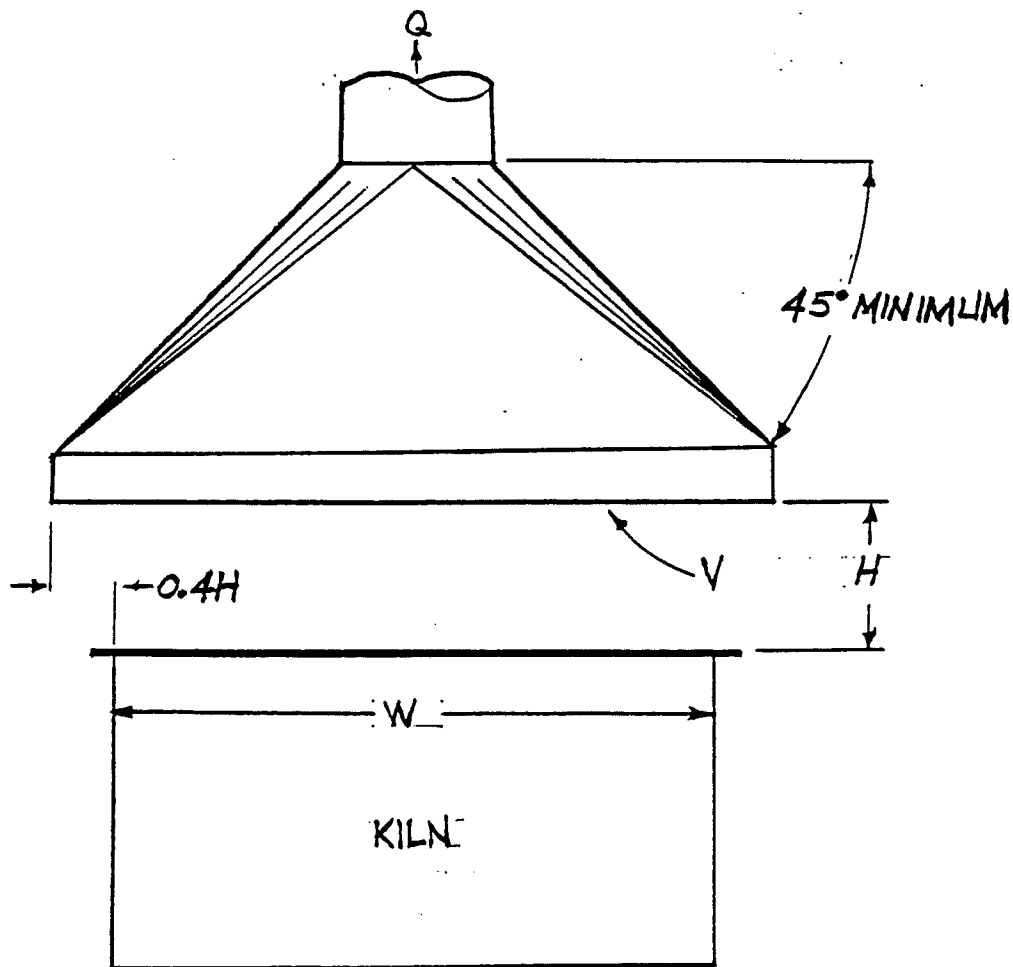
4. Kilns shall be installed in accordance with the manufacturer's specifications for distance to walls.

Note: Wall-to-kiln distance may vary from 12 to 18 inches, depending on the type of kilns.

5. Kilns shall be located to minimize the possibility of burns.

Note: The outside temperature of kilns may vary from approximately 250 to 450 degrees F, depending on the type of kiln.

FIGURE 32.27
CANOPY HOOD



$$Q = W \times H \times V$$

Where Q = Volume, in cubic feet per minute
 W = Width of kiln, in feet
 H = Height of canopy hood above kiln, in feet
 V = Velocity through area between source and canopy, in feet per minute
100 fpm min - 500 fpm max

Entry loss = .25 duct velocity pressure
Duct velocity = 1000 - 3000 fpm

(7) DISPOSAL OF EXHAUST MATERIAL. (a) All dusts, fumes, vapors and gases from exhaust systems installed under this section shall be disposed of in a manner to eliminate the health hazards from occupied areas. Dust collecting systems shall be provided with dust separators, arresters, collectors or precipitators to separate the dust from the air before the air is discharged from the exhaust system.

(b) All exhaust systems shall discharge to the outside atmosphere, except as provided in par. (c).

(c) Recirculation of contaminated air may be permitted where the exhaust system washes, scrubs or filters the air. Systems of this type shall be designed in accordance with the criteria established in part 2 of the National Institute for Occupational Safety and Health (NIOSH) standard "Recirculation of Exhaust Air", HEW Publication (NIOSH) #76-186.

Note: "A Recommended Approach to Recirculation of Exhaust Air", HEW Publication (NIOSH) #78-124 may be used as a guideline in designing the exhaust systems.

(d) Combustible solids or fluids, including gases, unless immediately destroyed, shall be delivered to containers which will isolate the fire and explosion hazard from all occupied areas and structures. Collectors, or settling chambers, for combustible solids or fluids shall not be placed within an occupied building, or at any point where the ignition of the contents will be a direct life or fire hazard unless the collector or settling chamber is housed in a room or enclosure of 2-hour fire-resistive construction or better.

(8) MAINTENANCE AND OPERATION OF EQUIPMENT. (a) Every exhaust ventilation system and other protective equipment installed under this chapter shall be maintained in working order and shall be operated to provide the results required by this chapter.

(b) All power equipment, ducts, housing and other parts of an exhaust ventilation system shall be kept clean.

ILHR 32.28 [29 CFR 1910.101] COMPRESSED GASES. This department rule is in addition to 29 CFR 1910.101:

All compressed gas cylinders shall be secured to prevent falling.

ILHR 32.29 [29 CFR 1910.107] SPRAY FINISHING. These department rules are in addition to 29 CFR 1910.107:

(1) PLAN SUBMITTAL. Plans in quadruplicate and one set of specifications shall be submitted to the department for approval before installing any spray booth in all places of employment and public buildings.

Note 1: Extra copies of the plans may be filed for the approval stamp, but they should accompany the quadruplicate plans.

Note 2: Section 101.19, Stats., authorizes the department to fix and collect fees for the approval of plans.

(2) DEFINITIONS. In this section:

(a) "Atomizing pressure" means the force of the air used to atomize or break up the paint or other coating material.

(b) "Booth" means an enclosure with an exhaust system and is of the following types:

1. 'Cabinet booth' means an enclosure open on one side only and equipped with an independent exhaust system.

2. 'Canopy booth' means an overhead dome enclosure open on all sides at the bottom and equipped with an independent exhaust system.

3. 'Room booth' means a room or enclosure equipped with an independent exhaust system.

4. 'Tunnel booth' means an enclosure with both ends open equipped with an independent exhaust system.

(c) "Chemical cartridge respirator" means a respirator which is equipped with a chemical cartridge or cannister which mechanically removes solid particles and chemically removes vapors from air being breathed.

(d) "Exhaust system" means all equipment connected with the removal of air from the spray zone.

(e) "Paint pressure" means the force in a closed tank bearing on the paint or other coating material to raise it to the spray gun level.

(f) "Pressure regulator" means an instrument or device for regulating or controlling air pressure.

(g) "Spray gun" means a mechanical device employing pressure for the application of paints, varnishes, lacquers and similar coating materials.

(h) "Vacuum type spray gun" means a type of spray gun with a materials container in which the liquid is drawn into the atomizing air stream by a partial vacuum created by the flow of air over the paint chamber outlet opening.

(3) OUTDOOR SPRAYING. (a) Scope. The requirements of this subsection shall apply to all spray coating operations on buildings, ships and structures of any kind or nature, and to all outdoor spray coating operations, but these requirements do not apply to spray coating operations in approved booths.

(b) Equipment. 1. 'Type of Equipment'. Any type of equipment may be used except the vacuum type spray gun of more than one quart capacity.

2. 'Character of Equipment'. All spraying equipment shall be complete in all details essential to the operation and prevention of excessive mist.

(c) Operation. 1. 'Nozzle Distance from Surface'. During operation, the nozzle of the spray gun shall not at any time be more than 13 inches from the surface being spray coated.

2. 'Maximum Allowable Paint Pressure'. The paint pressure shall at no time exceed that necessary to produce a free flow of paint at the nozzle when the gun is operated independent of atomizing pressure.

Note: During exterior spray coating, the operator should at all times take advantage of draft and wind conditions, spraying with the air current whenever possible.

3. 'Operation at Different Levels'. At no time shall 2 or more operators working at elevations differing more than 8 feet use paint from the same supply tank unless spray guns are equipped with paint pressure regulators.

Note: If this maximum allowable difference in working elevations were exceeded, the operators working at the lower levels would be subjected to excessive mist.

4. 'Exclusion of Others'. No one but spray operators and their helpers shall be permitted within a zone where a mist or deposit is apparent, unless such a person is protected the same as operators and helpers.

5. 'Contamination of Adjacent Areas'. Precautionary measures shall be taken to prevent contamination of the atmosphere in adjacent occupied areas.

(d) Personal protection. 1. 'Nose and Mouth Protection'. a. The nose and mouth of each operator and of any other person in the area contaminated by spray, shall be protected with an approved respirator or other approved device furnished and maintained in a clean and efficient condition by the employer.

b. Where air is supplied from outside the contaminated area, such air shall be supplied and conveyed as specified in 29 CFR 1910.134 (d) (2) (ii) so as to prevent the introduction of any hazardous gases, dusts, fumes or vapors into the respirator.

2. 'Cleansing of Respirators'. Every respirator shall be cleansed at least once each day. Where the filter type respirator is used, the filter shall be replaced not less than twice each working day, or as often as necessary. In case of intermittent use of a filter type respirator, it shall be cleansed and the filter replaced at least once each calendar day of use, unless sterilized provisions shall be made to insure that the cleansed respirators are returned to the same individuals who used them prior to the cleansing.

3. 'Approval of Respirators'. Every respirator or other such device used shall meet the approval of the department.

Note: The chemical cartridge respirator is the only one of the filter type that will be approved for use in spray coating.

4. 'Head Protection'. The head shall be covered with a low fitting cap with visor.

5. 'Body Protection'. The body shall be covered with clothing as close fitting as possible consistent with comfort, paying particular attention to the fit at neck and wrists.

6. 'Hand Protection'. The hands shall be protected by gloves, preferably of the gauntlet type.

7. 'Responsibility and Maintenance'. All protective clothing shall be furnished and maintained in a sanitary condition by the employer. A complete change shall be furnished at least once a week or as often as necessary.

8. 'Face and Neck Anointed'. All exposed parts of the body shall be kept anointed with nonirritating, protective oil, grease or cream during spray coating operations.

9. 'Washing Facilities'. Clean rags shall be furnished by the employer and washing facilities shall be provided in compliance with chs. ILHR 50 to 64.

Note: The purpose of this is to eliminate the necessity of washing with turpentine or naphtha, the continued use of which is extremely irritating to the skin.

(4) SPRAY COATING OPERATIONS INSIDE OF BUILDINGS. All spray coating operations inside of buildings, except the spray coating of walls, structural members and fixtures of a building or other structure, shall comply with the regulations of 29 CFR 1910.94 (c).

ILHR 32.30 [29 CFR 1910.156] FIRE BRIGADES. Section 29 CFR 1910.156 is not included as part of this chapter.

ILHR 32.31 [29 CFR 1910.176] HANDLING MATERIALS, GENERAL. These department rules are in addition to 29 CFR 1910.176:

(1) CONVEYORS. (a) The nipping and shearing points of conveyors, when exposed to contact, shall be guarded as specified in 29 CFR 1910.212 and Table O-10 of 29 CFR 1910.217.

(b) The tops of screw conveyor troughs, where the screw is exposed to contact, shall be kept covered. Openings into which persons may step, reach or fall shall be protected by standard guardrails as required by 29 CFR 1910.23, or other approved protection.

(c) Conveyor systems passing through more than one room, or from one working level to another, shall be provided in each room, or working level, where exposed to contact, with means to disconnect the power.

(d) When a conveyor passes over passageways, aisles or working areas and is so constructed that it is reasonable to expect materials on the conveyor to be dislodged and be hazardous to persons in such areas, guards shall be provided.

(2) STAKES AND BINDERS. Stakes or binders used on logging cars or trucks to hold the load of logs in place when being transported, shall be so designed as to make it possible for the operator to loosen or disengage the stakes and binders when standing in a safe position.

ILHR 32.32 [29 CFR 1910.179] OVERHEAD AND GANTRY CRANES. These department rules are in addition to 29 CFR 1910.179:

(1) DESIGN. (a) Every overhead trolley and every monorail crane operating with a load on a horizontal track, or on a track having a slope less than 15°, shall be constructed and maintained so as to prevent its leaving the track.

(b) Where trolleys are operated without a load, and in all cases where the slope of the track is 15° or more, a guard rail shall be installed which will prevent the trolley from falling if it leaves the track.

Note: No guard rail is required on overhead trolley tracks operating with a load on the trolley unless the slope of the track is 15° or more.

(2) SAFETY STOP. In all installations, a safety stop shall be provided and maintained at all switches and at the ends of all rails to prevent the trolley from leaving the rail at these points.

ILHR 32.33 [29 CFR 1910.212] GENERAL REQUIREMENTS FOR ALL MACHINES. These department rules are in addition to 29 CFR 1910.212 (a):

(1) MACHINE CONTROL. (a) Disconnection from source of power. 1. Every machine shall be equipped with a loose pulley, clutch, switch or other adequate means within reaching distance of the normal operating positions of the operator for the purpose of disconnecting the machine from the source of power.

2. Machines on which 2 or more persons work shall be equipped with one or more controls so located that more than one of these persons can quickly disconnect the machine from the source of power.

(b) Tripping device. Every machine set in motion by a tripping device shall be guarded against accidental tripping. Where a cover guard is used it shall completely protect the treadle bar and its linkage. A treadle that will automatically lock may be used in lieu of a cover.

(c) Lockouts. Machines shut down for oiling or maintenance shall be so locked out or otherwise protected so as to prevent starting the machine while such work is in progress.

(d) Guarding of moving parts. Any moving part of a machine which at any time leaves a space of less than 18 inches between it and any fixed object not a part of the machine, or between it and a moving or stationary part of the machine or of any other machine, shall be guarded.

(e) Quick stopping devices. Where it is impractical to install fixed guards in the case of revolving machine parts, a positive quick stopping device shall be provided which can be operated from any work position of the machine.

(f) Food grinders. All power driven food grinders of the worm type shall be so constructed that meat or other foods can be safely fed to the worm by one of the following methods:

1. By a mechanical method of feeding the worm;
2. By the use of a permanently attached feed throat to the cylinder enclosing the worm which shall have an opening not exceeding 2 inches in diameter at a distance of at least 6 inches above the worm; or
3. By other approved means which shall make it impossible for any operator to reach the worm while it is in motion.

(g) Counterweights, tension weights and springs. 1. Every counterweight, where exposed to contact, shall be enclosed or be equipped with a safety chain attached independent of the counterweight support, that shall prevent the weight from falling to a point of less than 7 feet from the floor or working level.

2. Every tension weight exposed to contact shall be enclosed or securely fastened to the tension bar.

3. All springs shall be guarded or otherwise equipped to eliminate any hazard due to breakage of spring or failure of the mounting.

(h) Revolving stock. All revolving stock projecting from machines shall be guarded by a pipe enclosure or other approved means to prevent contact with the stock.

(i) Prevention of automatic restarting. On applications where injury to the operator might result if motors were to restart after power failures, provision shall be made to prevent machines from automatically restarting upon restoration of power.

(2) GUARDING OF PIPES; HOT MATERIALS. All pipes carrying steam or other hot materials within 7 feet of the floor or working platform, that are exposed to contact, shall be covered with an insulating material, or guarded so that contact will not cause personal injury.

(3) MAINTENANCE. All equipment, machine tools, guards and power-driven machinery shall be maintained in safe condition.

ILHR 32.34 [29 CFR 1910.213] WOODWORKING MACHINERY. (1) RADIAL ARM SAWS. These department rules are in addition to 29 CFR 1910.213 (h):

(a) Limit stop. A stop shall be provided to prevent the forward travel of the blade beyond the front of the table.

(b) Return device. Every radial arm saw shall be equipped with a device to return the saw automatically to the back of the table when released at any point of its travel; the device shall prevent the saw from rebounding and shall not depend on fibre rope or cord for this function.

(2) TILTED EQUIPMENT. Subsection 29 CFR 1910.213 (h) (4) is not included as part of this chapter.

(3) JOINTERS. This department rule is in addition to 29 CFR 1910.213 (j):

Jointers used for surfacing work shall be equipped with an automatic floating guard over the knives.

ILHR 32.35 [29 CFR 1910.219] MECHANICAL POWER-TRANSMISSION APPARATUS. This department rule is in addition to 29 CFR 1910.219:

All machines lubricated while in motion and having lubricating devices so located as to make it hazardous to reach them shall be equipped with an automatic lubricating device or other approved means to protect the employe.

ILHR 32.36 [29 CFR 1910.266] LOGGING. This department rule is in addition 29 CFR to 1910.266:

The regulations of 29 CFR 1910.266 shall apply to all logging operations and not just to those involving pulpwood timber.

ILHR 32.37 [29 CFR 1926.20] GENERAL SAFETY AND HEALTH PROVISIONS. This department rule is in addition to 29 CFR 1926.20:

No person may work on the surface of any structural member, floor, or other working platform which has become slippery from ice, snow, frost, paint or other cause, unless such surface is cleaned, sprinkled with sand or made nonslippery insofar as the nature of the work will permit.

ILHR 32.38 [29 CFR 1926.451] SCAFFOLDING. This department rule is in addition to 29 CFR 1926.451 (u):

Support shall be provided for all workers who are required to work on inclined surfaces having a slope of more than 4 inches rise in 12 inches of horizontal run.

ILHR 32.39 [29 CFR 1926.601] MOTOR VEHICLES. Substitute the following wording for 29 CFR 1926.601 (b) (10):

Trucks with dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done or when the vehicle is left unattended.

ILHR 32.40 [29 CFR 1926.650] GENERAL PROTECTION REQUIREMENTS FOR EXCAVATION. These department rules are in addition to 29 CFR 1926.650:

(1) **GUARDING.** A standard railing as specified in 29 CFR 1926.500 (f) or other approved guard or barricade shall be provided at or near the edge of an excavation as soon as possible, except where the installation of the safeguard will interfere with the excavation or other work.

(2) **NIGHT GUARDING.** All excavations to which persons may be exposed at night shall be provided with yellow warning lights placed at unbarricaded points and along the exposed side where the excavation adjoins a public thoroughfare or sidewalk.

(3) **SOLITARY EMPLOYMENT.** No person may work in any trench, shaft, tunnel, caisson or appurtenance over 5 feet in depth without another person being present at the surface.

Note: Any casual entrance into an excavation such as retrieving fallen objects will not be construed as work under this subsection.

ILHR 32.41 [29 CFR 1926.803] COMPRESSED AIR. (1) **MEDICAL LOCK READINESS.** Substitute the following wording for 29 CFR 1926.803 (b) (10) (iii):

Be kept ready for immediate use for at least 8 hours subsequent to the emergence of any person from the working chamber.

(2) **COMMUNICATIONS.** Substitute the following wording for 29 CFR 1926.803 (c) (1):

There shall be effective voice communication at all times between the following locations:

- (a) The working chamber face;
- (b) The working chamber side of the man lock near the door;
- (c) The interior of the man lock;
- (d) Lock attendant's station;
- (e) The compressor plant;
- (f) At the surface or shaft opening;

- (g) The first-aid station;
- (h) The emergency lock, if one is required; and
- (i) The special decompression chamber, if one is required.

(3) LOCK DOORS. Substitute the following wording for 29 CFR 1926.803 (g) (1) (xv):

When locks are not in use and persons are in the working chamber, lock doors shall be kept closed to the working chamber except where there are separate man and muck locks. In this case at least one door to the working chamber shall be closed.

Subchapter V
Incorporation of
Standards by Reference

ILHR 32.50 INCORPORATION OF STANDARDS BY REFERENCE. (1) AUTHORITY. Section 101.055 (3) (a), Stats., permits the department to incorporate by reference the standards adopted in sub. (4).

(2) COPIES. Copies of the adopted standards are on file in the offices of the department, the Secretary of State and the Revisor of Statutes. Copies also may be purchased through the respective organizations.

(3) INTERIM AMENDMENTS. Interim amendments of the adopted standards shall have no effect in the state until the time that this section is correspondingly revised to reflect the changes.

(4) STANDARDS. The standards listed in the following tables are hereby incorporated by reference into this chapter.

Table 32.50-1

OSHA Occupational Safety and Health Administration
 Superintendent of Documents
 U.S. Government Printing Office
 Washington, D.C. 20402

1. Recording and Reporting Occupational Injuries and Illnesses, 29 CFR Part 1904, July 1, 1989.
2. Occupational Safety and Health Standards for General Industry, 29 CFR Part 1910, July 1, 1989.
3. Occupational Safety and Health Standards for Construction Industry, 29 CFR Part 1926, July 1, 1989.
4. Occupational Safety and Health Standards for Shipyard Employment, 29 CFR Part 1915, May, 1982.
5. Occupational Safety and Health Standards for Agriculture, 29 CFR Part 1928, June, 1981.
6. Occupational Safety and Health Standards for Marine Terminals, 29 CFR Part 1917, Federal Register, Vol. 48, No. 129, Tuesday, July 5, 1983.
7. Occupational Exposure to Lead, 29 CFR Parts 1910, 1915, 1917 and 1918, Federal Register, Vol. 54, No. 131, July 11, 1989.
8. Powered Platforms for Building Maintenance, 29 CFR Part 1910, Federal Register, Vol. 54, No. 144, July 28, 1989.
9. Control of Hazardous Energy Source (Lockout/Tagout), 29 CFR Part 1910, Federal Register, Vol. 54, No. 169, September 1, 1989.
10. Occupational Safety and Health Standards - Excavations, 29 CFR Part 1926, Federal Register, Vol. 54, No. 209, October 31, 1989.
11. Occupational Exposure to Hazardous Chemicals in Laboratories, 29 CFR Part 1910, Federal Register, Vol. 55, No. 21, January 31, 1990.
12. Safety and Health Standards: Welding, Cutting and Brazing, 29 CFR Part 1910, Federal Register, Vol. 55, No. 70, April 11, 1990.

Table 32.50-2

NIOSH National Institute for Occupational Safety and Health
 Superintendent of Documents
 U.S. Government Printing Office
 Washington, D.C. 20402

1. Recirculation of Exhaust Air, HEW (NIOSH) Publication #76-186.
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(END)

EFFECTIVE DATE

Pursuant to s. 227.22 (2) (intro.), Stats., these rules shall take effect on the first day of the month following publication in the Wisconsin Administrative Register.

00081

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DEC 18 1990
Revisor of Statutes
Bureau

Tommy G. Thompson
Governor
Gerald Whitburn
Secretary



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State of Wisconsin Department of Industry, Labor and Human Relations

December 18, 1990

Gary Poulson
Assistant Revisor of Statutes
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Douglas LaFollette
Secretary of State
10th Floor
30 West Mifflin Street
Madison, Wisconsin 53703

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Revisor of Statutes
Bureau

Dear Messrs. Poulson and LaFollette:

TRANSMITTAL OF RULE ADOPTION

CLEARINGHOUSE RULE NO. 89-24

RULE NO. Chapter ILHR 32

RELATING TO: Safety and Health Standards for Public Employees

Pursuant to section 227.20, Stats., agencies are required to file a certified copy of every rule adopted by the agency with the offices of the Secretary of State and the Revisor of Statutes.

At this time, the following material is being submitted to you:

1. Order of Adoption.
2. Rules Certificate Form.
3. Rules in Final Draft Form.

Pursuant to section 227.114, Stats., a summary of the final regulatory flexibility analysis is also included.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Gerald Whitburn".

Gerald Whitburn
Secretary