

Ind 50 to 64

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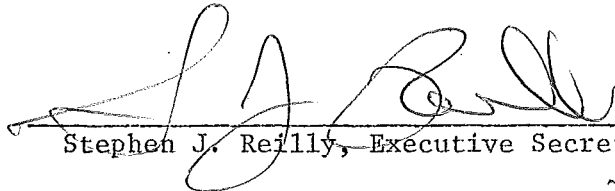
STATE OF WISCONSIN)
) SS
DEPARTMENT OF INDUSTRY,)
LABOR AND HUMAN RELATIONS)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Stephen J. Reilly, Executive Secretary of the Department of Industry, Labor and Human Relations, and custodian of the official records of said Department, do hereby certify that the attached rules to Wisconsin Administrative Code Chapters Ind 50-64--Building and Heating, Ventilating and Air Conditioning Code, were adopted by the Department of Industry, Labor and Human Relations on August 12, 1976.

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 the Capitol, in the City of Madison, this 12 day of August, A.D., 19 76.



Stephen J. Reilly, Executive Secretary

ORDER OF

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by sections 101.01 to 101.20, Wis. Stats., the Department of Industry, Labor and Human Relations hereby amends, creates, repeals, repeals and recreates, and adopts rules of Wisconsin Administrative Code Chapters Ind 50-64--Building and Heating, Ventilating and Air Conditioning Code.

The rules attached hereto shall become effective January 1, 1977, as provided in chapter 227, Wis. Stats.

Chapter Ind 50--Scope of Building Code, is repealed and recreated to read:

CHAPTER IND 50

ADMINISTRATION AND ENFORCEMENT

PART I--PURPOSE AND SCOPE

- Ind 50.01 Purpose of code
- Ind 50.02 Scope of code

PART II--APPLICATION OF BUILDING CODE

- Ind 50.03 Application
- Ind 50.04 Buildings exempt from code requirements
- Ind 50.05 Existing buildings code
- Ind 50.06 Local regulations

PART III--DESIGN AND SUPERVISION

- Ind 50.07 Design
- Ind 50.08 Plans, specifications and calculations prepared outside Wisconsin
- Ind 50.09 Changes to plans and specifications
- Ind 50.10 Supervision
- Ind 50.11 Owner's responsibility

PART IV--DEPARTMENT APPROVAL

- Ind 50.12 Plan examination and approval
- Ind 50.13 Footing and foundation approval
- Ind 50.14 Permit to start construction
- Ind 50.15 Evidence of plan approval
- Ind 50.16 Revocation of approval
- Ind 50.17 Department limitation and expiration of plan approval
- Ind 50.18 Inspections
- Ind 50.19 Approval of materials, equipment and devices
- Ind 50.20 Fees

PART V--FIRST CLASS CITY AND CERTIFIED CITIES APPROVALS

- Ind 50.21 First class city examination and approval
- Ind 50.22 Certified cities examination and approval

PART VI--ENFORCEMENT, PETITION FOR MODIFICATION, APPEALS, AND PENALTIES

- Ind 50.23 Enforcement
- Ind 50.24 Appeals
- Ind 50.25 Petition for modification
- Ind 50.26 Penalties

PART I--PURPOSE AND SCOPE

Ind 50.01 PURPOSE OF CODE. The purpose of this code is to protect the health, safety and welfare of the public and employes by establishing minimum standards for the design, construction, structural strength, quality of materials, adequate egress facilities, sanitary facilities, natural lighting, heating and ventilating, energy conservation, and fire safety for all public buildings and places of employment.

Note #1: The purpose as stated can be traced to the terms used in the "safe place" statutes, chapter 101, Wis. Stats.

Note #2: This code is intended for the protection of the public and is not intended as a design manual, a textbook or a construction manual.

Ind 50.02 SCOPE OF CODE. The provisions of this code shall apply to all public buildings and places of employment. The term "building or structure" as hereinafter used in this code shall mean public building or place of employment. The provisions of this code are not retroactive unless specifically stated in the administrative rule. Where different sections of this code specify different requirements, the most restrictive requirement shall govern. The appendix provides explanatory material related to specific code requirements.

Note: For a definition of "public building" and "place of employment," see subsections Ind 51.01 (102a) and 51.01 (104a) or section 101.01 (1), Wis. Stats.

SPECIAL NOTE

AN ASTERISK (*) FOLLOWING THE SECTION OR SUBSECTION NUMBER OR LETTER INDICATES EXPLANATORY MATERIAL ON THAT PARAGRAPH MAY BE FOUND IN APPENDIX A. EXAMPLE:
IND 51.01 (16)* -- SEE A-51.01 (16) IN APPENDIX A.

PART II--APPLICATION OF BUILDING CODE

Ind 50.03 APPLICATION.

- (1) New buildings and additions. The provisions of this code shall apply to all new buildings and structures, and also to additions to existing buildings and structures, except those indicated in section Ind 50.04.
- (2) Alterations to buildings. The provisions of this code shall apply to all remodeling or alterations in any building or structure which affect the structural strength, fire hazard, exits, natural lighting or replacement of major equipment. These provisions do not apply to minor repairs necessary for the maintenance of any building or structure nor to buildings exempt, as listed in section Ind 50.04.
- (3) Change of use.
 - (a) If the use of an existing building or structure is changed in accordance with the definition of subsection Ind 51.01 (87), and the requirements for the new use are more stringent than those for the previous use, the building or structure shall be made to comply with the requirements for the new use as provided in this code.
 1. Exception. Unless the requirements for the new use are modified subject to the written approval by the department.

2. Exception. An existing building undergoing a change of use will not be required to comply with the provisions of section Ind 52.04--barrier-free environments, unless the building undergoes physical remodeling in accordance with the percentages established in subsection Ind 52.04 (6).

(b) If, upon inspection of an existing building or structure, it is found that its use has changed and that it does not comply with the requirements of the building code in effect at the time of change, it shall be made to comply with the code requirements in effect at the time of change in use.

Ind 50.04 BUILDINGS EXEMPT FROM CODE REQUIREMENTS. This code does not apply to the following types of buildings:

- (1) One- and two-family dwellings and outbuildings in connection therewith such as barns and private garages.
- (2) Buildings used exclusively for farming purposes, which are not within the limits of a city or an incorporated village.

Note: For a definition of "farming," see section 102.04 (3), Wis. Stats.

- (3) Buildings used primarily for housing livestock or for other agricultural purposes, located on research or laboratory farms of public universities or other state institutions.
- (4) Temporary buildings, used exclusively for construction purposes, not exceeding 2 stories in height. and not used as living quarters.

Ind 50.05 EXISTING BUILDINGS CODE. Buildings and structures erected prior to the effective date of the first building code (October 9, 1914) shall comply with the general orders on existing buildings, Wis. Adm. Code chapters Ind 160-164, issued by the department. Buildings and structures constructed after October 9, 1914 shall comply with the code in effect at the time.

Ind 50.06 LOCAL REGULATIONS. This code shall not limit the power of cities, villages and towns to make, or enforce, additional or more stringent regulations, provided the regulations do not conflict with this code, or with any other rule of the department, or law.

PART III--DESIGN AND SUPERVISION

Ind 50.07 DESIGN. Every new building, or alteration to a building, shall be designed in compliance with this code.

- (1) Buildings containing not more than 50,000 cubic feet total volume. The plans and specifications for every new building, or alteration to a building, containing not more than 50,000 cubic feet total volume, or addition to a building in which the volume of the addition results in the entire building containing not more than 50,000 cubic feet total volume, may be prepared by a registered architect, engineer, designer, contractor or owner, or his [her] authorized agent.
- (2) Buildings containing more than 50,000 cubic feet total volume. The plans and specifications for every new building, or alteration to a building, containing more than 50,000 cubic feet total volume, or addition to a building in which the volume of the addition results in the entire building containing more than 50,000 cubic feet total volume, shall be designed as follows:

- (a) Building or structural design. The plans and specifications for the design of the building or structure shall be prepared by a Wisconsin registered architect or engineer.
- (b) Heating, ventilating and air conditioning design. The plans and specifications for the heating, ventilating and air conditioning system shall be prepared by a Wisconsin registered architect, engineer or designer.

Note #1: See subsection Ind 51.01 (139a) for definition of total volume.

Note #2: The above terms "registered architect, engineer or designer" mean registered architect, registered professional engineer or registered designer as defined by laws regulating the practice of engineering and architecture found in chapter 443, Wis. Stats. Registered designers are limited to the specific designations outlined in Wis. Adm. Code section A-E 1.20.

Note #3: According to section 87.30, Wis. Stats., the construction or placement of every building, structure, fill or development placed or maintained within any flood plain is required to satisfy local or state regulations.

Note #4: According to section 101.12 (4), Wis. Stats., every architect and every engineer, submitting plans for the construction of any building or structure using public funds, is required, prior to the letting of final bids on such buildings or structures, to submit a written report to the contracting agency indicating whether such building or structure meets, or does not meet, federal fallout shelter engineering standards.

Ind 50.08 PLANS, SPECIFICATIONS AND CALCULATIONS PREPARED OUTSIDE WISCONSIN. Plans, specifications and calculations for buildings and structures, in accordance with the requirements of subsection Ind 50.07 (2), may be prepared by an architect or engineer registered outside of the state of Wisconsin, provided the following conditions are satisfied:

- (1) Seal. The plans, specifications and calculations shall bear the signature and seal or stamp of the architect or engineer registered in a state other than Wisconsin.
- (2) Certificate. A certificate, dated, signed and sealed by an architect or engineer registered in Wisconsin, shall be attached to the plans, specifications and calculations. The certificate shall indicate that the plans, specifications and calculations were prepared in a state other than Wisconsin by an architect or professional engineer registered in that state; describe the work performed by the Wisconsin registered architect or engineer; and include statements to the effect that the plans and specifications have been reviewed and comply with all applicable local and state buildings codes, and that the reviewing architect or engineer will be responsible for the supervision of construction in accordance with the requirements of section Ind 50.10.

Ind 50.09 CHANGES TO PLANS AND SPECIFICATIONS. No change in plans or specifications, which involve any provisions of this code, shall be made unless such change is signed, sealed and dated by the architect, engineer or designer who made the change, and approved by the department.

Ind 50.10 SUPERVISION. All constructions or installations described in subsection Ind 50.07 (2) shall be supervised by a Wisconsin registered architect or engineer, except that a Wisconsin registered designer may supervise the installation of heating, ventilating and air conditioning systems. The person responsible for supervision shall also be responsible for the construction and installation being in substantial compliance with the approved plans and specifications. Should the supervising architect, engineer, designer, or the department, be confronted with a nonconformance to the code during, or at the end of, construction, said parties, together with the designing architect, engineer or designer shall effect compliance.

- (1) Definition. Supervision of construction is a professional service, as distinguished from superintending of construction by a contractor, and means the performance, or the supervision thereof, of reasonable on-the-site observations to determine that the construction is in substantial compliance with the approved plans and specifications.
- (2) Name of supervising architect, engineer or designer. Prior to the start of construction, the owner of the building or structure, whose name must be a part of, or accompany, all plans submitted for approval, as required by section Ind 50.12, or his [her] authorized agent, shall designate to the department, in writing, the name and registration number of the architect, engineer or designer retained to supervise construction of the building or structure.
- (3)* Completion statement. Upon completion of the construction, the supervising architect, engineer or designer shall file a written statement with the department certifying that, to the best of his knowledge and belief, construction has been performed in substantial compliance with the approved plans and specifications.

Ind 50.11 OWNER'S RESPONSIBILITY. No owner shall construct or alter any building or structure, or portion of a building or structure, or permit any building or structure to be constructed or altered except in compliance with the provisions of sections Ind 50.07, 50.08, 50.09, 50.10 and 50.12. Compliance with the provisions of this section does not relieve the owner from compliance with the administrative rules established in other related codes.

Note: For definition of owner, refer to chapter 101, section 101.02 (2) (i), Wis. Stats.

PART IV--DEPARTMENT APPROVAL

Ind 50.12 PLAN EXAMINATION AND APPROVAL.

- (1) Types of buildings. Plans and specifications for all buildings and structures in the following classifications shall be submitted to the department for examination and approved before commencing work:

Note #1: See the scope of the occupancy chapters for examples of specific types of buildings covered in the categories (a) through (f).

Note #2: Section 101.12 (3) (h), Wis. Stats., prohibits local issuance of permits or licenses for construction or use of public buildings or places of employment until drawings and calculations have been examined and approved by the department.

* See Appendix A for further explanatory material.

- (a) Factories, office and mercantile buildings (chapter Ind 54).
 - 1. Department examination and approval for factories, office and mercantile buildings containing less than 25,000 cubic feet total volume is waived; however, the buildings shall comply with the applicable requirements of this code.
- (b) Theaters, assembly halls, and places of outdoor assembly (chapter Ind 55).
- (c) Schools and other places of instruction (chapter Ind 56).
- (d) Apartment buildings, hotels and places of detention (chapter Ind 57).
- (e) Hazardous occupancies (sections Ind 54.50-54.53). Plan submission for hangars storing one airplane is waived.
- (f) Day care facilities (chapter Ind 60).
- (g) Structures [see Ind 51.02 (125)].
 - 1. Department examination and approval is waived for television and radio receiving antennas, outdoor theater screens, water tanks, display signs, observation towers, docks, piers, wharves, tents or inflatable structures used temporarily, and other similar structures; however, such structures and temporary tents shall comply with the applicable structural and other requirements of this code.

Note: Tents and inflatable structures, used temporarily, are those erected for a specific event such as a circus, a fair, etc., and are removed after the event. Tents and inflatable structures erected for a month, or longer, are not considered temporary structures.

- (2) Types of plan approval. The following types of plans shall be submitted to the department for examination and approval before construction is commenced:
 - (a) General building plans.
 - (b) Structural plans.
 - (c) Heating and ventilating plans.
 - 1. Approval is not required for the installation of air-cooling equipment when added to an approved heating system.
 - 2. The replacement of a major piece of heating equipment is subject to written approval by the department.
 - (d) Alteration plans for existing buildings.
 - (e) Revisions to previously examined plans.
 - (f) Exhaust system plans (government-owned buildings only).
 - (g) Spray booth plans (government-owned buildings only).

- (h) Footing and foundation plans (see section Ind 50.13).
 - (i) Stadium, grandstand and bleacher plans.
 - (j) Fire escape plans.
- (3) Plans and specifications. At least 3 complete sets of plans, which are clear, legible and permanent copies, and one copy of specifications shall be submitted for examination and approval before commencing construction. The plans and specifications shall contain the following information:
- (a) General. All plans shall contain the name of the owner and the address of the building. The name and seal of the architect(s), engineer(s) or person(s) who prepared the plans shall appear on the title sheet, in accordance with Wis. Adm. Code section A-E 1.04 (4)--registration seals.
 - (b) General building plans. The general building plans shall include the following:
 - 1. Plot plan. The location of the building with respect to property lines and/or lot lines and/or adjoining streets, alleys and any other buildings on the same lot or property shall be indicated on the plot plan. A small scale plot plan shall be submitted on a 8-1/2 x 11 sheet for projects containing multiple buildings.
 - 2. Floor plans. Floor plans shall be provided for each floor. The size and location of all rooms, doors, windows, firewalls, toilet facilities, structural features, exit passageways, exit lights, fire alarms, standpipes, stairs and other pertinent information shall be indicated. Schematic exit plans shall be provided for large buildings, indicating normal paths of egress.
 - 3. Elevations. The elevations shall contain information on the exterior appearance of the building and indicate the location and size of doors, windows, roof shape, chimneys, exterior grade, footings and foundation walls, and include information about the exterior materials.
 - 4. Sections and details. Sections and details shall include information to clarify the building design.
 - (c) Heating, ventilating and air conditioning plans. Heating, ventilating and air conditioning plans shall indicate the layout of the system, including location of equipment and size of all piping, ductwork, dampers (including fire dampers), chimneys, vents and controls. The quantity of outside air introduced to each zone, and the quantity of supply air and exhaust air for each room shall be listed on the plans. The type of equipment and capacity (including the input and output) shall be indicated on the plans or equipment schedules, unless indicated in the specifications.
 - (d) Specialty plans. Specialty plans for spray booths, special exhaust systems, stadiums, grandstands and bleachers, fire escapes and special structural systems shall include pertinent information with respect to the design and construction of the specialty.

- (e) Specifications. The specifications shall be properly identified with the drawings and describe the quality of the materials and the workmanship.
- (f) Schedules. Schedules shall be provided which contain information pertinent to doors, room finishes, equipment, and the use of all rooms and the number of occupants accommodated therein, unless this information is indicated on the plans.

Note #1: Original drawings are not considered a substitute for permanent prints.

Note #2: Duplicate information need not be submitted when heating, ventilating, air conditioning and building plans are submitted simultaneously.

Note #3: For pit depth and overhead clearance requirements applicable to design of elevator hoistways, see Wis. Adm. Code chapter Ind 4, Elevator Code.

Note #4: Plans for plumbing systems and swimming pool installations are examined by the department of health and social services.

- (4) Data required. All plans submitted for approval shall be accompanied by sufficient data and information for the department to judge if the design of the building, the capacity of the equipment, and the performance of the system will meet the requirements of this code. The following data shall be submitted:
 - (a) Structural data. Sample structural calculations, including assumed bearing value of soil, live loads and itemized dead loads, unit stresses for structural materials, stress diagrams for trusses, typical calculations for slabs, beams, girders and columns, and diagrams indicating bracing and stability of the structure and components in rigid frames and other open-type buildings shall be submitted. Complete structural calculations shall be furnished upon request of the department or other authorized approving official.

Note: Diagrams are intended to apply to the appropriate final designs of buildings regardless of materials of construction. For job bracing of buildings, see Wis. Adm. Code chapter Ind 35, a supplement to chapters Ind 1000-2000, Wis. Safety and Health Code.
 - (b) Thermal performance data. Thermal performance calculations shall be submitted in accordance with the requirements of subsection Ind 51.02 (16).
 - (c) Heating and ventilating data. A description of the construction for the walls, floors, ceilings and roof, and the transmission coefficients of the construction materials shall be furnished. The calculations shall include heat losses for the individual rooms (including transmission and infiltration and/or ventilation losses, whichever are greater) and a summary of the total building heat loss expressed in Btu/hour or watts.

Note: The department will accept as the basis for calculations and design data, the methods and standards recommended by the Mechanical Contractors' Association of America; the American Society of Heating, Refrigerating and Air Conditioning Engineers; and the Institute of Boiler and Radiator Manufacturers.

- (d) Additional data. When requested, additional data pertaining to design, construction, materials and equipment shall be submitted to the department for approval.

(5)* Application for approval. A plans approval application form shall be included with the plans submitted to the department for examination and approval.

Note: See Appendix A for an example of the plans approval application (form SB-118).

- (a) Conditional approval. If, upon examination, the department determines that the plans and the application for approval substantially conform to the provisions of this code, a conditional approval, in writing, will be granted. All non-code-complying conditions stated in the conditional approval shall be corrected before or during construction. A conditional approval issued by the department shall not be construed as an assumption of any responsibility for the design or construction of the building.
- (b) Denial of approval. If the department determines that the plans or the application do not substantially conform to the provisions of this code, the application for conditional approval will be denied, in writing.

Note: A letter will be sent to the designer and the owner of record with a statement relating to the examination of the plans and citing the conditions of approval or denial. The plans will be dated and stamped "conditionally approved" or "not approved," whichever applies. At least 2 copies of the plans will be returned to the person designated on the plans approval application; one copy will be retained by the department.

Ind 50.13 FOOTING AND FOUNDATION APPROVAL. Upon submission of the plans approval application form, at least 3 sets of footing and foundation plans, a plot plan, schematic floor plans locating exits, elevations, itemized structural loads, structural foundation calculations, and a fee, the department may conditionally approve the footing and foundation plans to permit construction of the footings and foundations prior to the examination and approval of the complete plans.

Ind 50.14* PERMIT TO START CONSTRUCTION. Upon submission of the plans approval application form, 3 complete sets of building plans and one copy of specifications, a written request by the owner to start construction, and a fee, the department may issue a permit to start construction of the footings and foundations. The holder of the permit shall proceed at his [her] own risk without assurance that a conditional approval for the building will be granted.

Note: A permit to start construction (form SB-198) is illustrated in the Appendix.

Ind 50.15 EVIDENCE OF PLAN APPROVAL. The architect, engineer, designer, builder or owner shall keep at the building site one set of plans bearing the stamp of conditional approval and a copy of the specifications. The plans shall be open to inspection by an authorized representative of the department.

Ind 50.16 REVOCATION OF APPROVAL. The department may revoke any approval, issued under the provisions of this code, for any false statements or misrepresentation of facts on which the approval was based.

*See Appendix A for further explanatory material.

Ind 50.17 DEPARTMENT LIMITATION AND EXPIRATION OF PLAN APPROVAL.

- (1) Expiration of plan approval. Plan approval by the department or its authorized representative shall expire one year after the date indicated on the approved plans if construction has not commenced within that year.
- (2) Department limitation. A conditional approval of a plan by the department shall not be construed as an assumption of any responsibility for the design.

Ind 50.18* INSPECTIONS. Inspections shall be conducted by an authorized representative of the department to ascertain whether or not the construction or installations conform to the conditionally approved plans, the conditional approval letter, and the provisions of this code.

Note: See Appendix A for an example of the inspection progress report (form SB-224B) and inspection report and orders (form SB-2).

Ind 50.19 APPROVAL OF MATERIALS, EQUIPMENT AND DEVICES. All materials, equipment and devices not specifically mentioned in this code will be permitted if approved in writing by the department. Sufficient data, tests and other evidence to prove that the material, equipment or device is equivalent to the standards required in this code shall be submitted. Upon receipt of a fee and a written request, the department may issue an approval number for the material, piece of equipment or device.

Ind 50.20* FEES. Fees for petitions for modification, material approval, plan examination and approval, and for inspection of buildings, structures, and heating and ventilating shall be submitted in accordance with the provisions of Wis. Adm. Code section Ind 69.09. Fees shall be submitted at the time the application for approval is submitted. No plan examinations, approvals or inspections will be made until the fees are received.

Note: See Appendix A, plans approval application (form SB-118), for determination of plan examination and inspection fees.

PART V--FIRST CLASS CITY AND CERTIFIED CITIES APPROVALS

Ind 50.21 FIRST CLASS CITY EXAMINATION AND APPROVAL. Drawings, specifications and calculations for all buildings and structures, except state-owned buildings and structures, to be constructed within the city limits of Milwaukee shall be submitted to the inspector of buildings, Milwaukee, for examination and approval.

Ind 50.22 CERTIFIED CITIES EXAMINATION AND APPROVAL. Drawings, specifications and calculations for all new buildings and structures containing less than 50,000 cubic feet total volume and alterations to buildings containing less than 100,000 cubic feet total volume, except state-owned buildings and structures; shall be submitted to cities certified by the department for examination and approval according to requirements of this code. Drawings, specifications and calculations submitted to said cities for examination and approval need not be submitted to the department. The buildings must be located within the city limits of the certified city.

*See Appendix A for further explanatory material.

Note: The following cities have been certified by the department:

Appleton	Janesville	Sheboygan
Beloit	Kenosha	Stevens Point
Brookfield	La Crosse	Two Rivers
Cudahy	Madison	Waukesha
Eau Claire	Manitowoc	Wausau
Fond du Lac	Muskego	West Allis
Glendale	New Berlin	West Bend
Green Bay	Oshkosh	Wisconsin Rapids
Greenfield	Racine	

PART VI--ENFORCEMENT, PETITION FOR MODIFICATION, APPEALS, AND PENALTIES

Ind 50.23 ENFORCEMENT. The provisions of this code shall be enforced by the department, or by municipal officials or other local officials who are required by law to enforce the administrative rules of the department.

Ind 50.24 APPEALS. Any person affected by any local order which is in conflict with a rule of the department may petition the department for a hearing on the ground that the local order is unreasonable and/or in conflict with the rule of the department.

Note: Section 101.01 (1) (g), Wis. Stats., defines "local order" as any ordinance, order, rule or determination of any common council, board of aldermen, board of trustees or the village board, of any village or city, or the board of health of any municipality, or an order or direction of any official of such municipality, upon any matter over which the department has jurisdiction.

Ind 50.25* PETITION FOR MODIFICATION. The department will consider and may grant modification to an administrative rule upon receipt of a fee, a completed petition for modification form from the owner, and a position statement from the fire department having responsibility and an interest in the rule, provided an equivalent degree of safety is established in the petition for modification which meets the intent of the rule being petitioned.

Note #1: See Appendix A for an example of the petition for modification (form SB-8) and the fire department position statement (form SB-8A).

Note #2: Section 101.02 (6), Wis. Stats., outlines the procedure for submitting petitions to the department and the department procedures for hearing petitions.

Ind 50.26 PENALTIES. Penalties for violations shall be assessed in accordance with section 101.02, Wis. Stats.

Note #1: Section 101.02 (13) (a), Wis. 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. 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), Wis. 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.

For further explanatory material.

Subsection Ind 51.01 (7a) to be created to read:

- (7a) Automatic fire sprinkler system. An automatic fire sprinkler system is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply, such as a gravity tank, fire pump, reservoir or pressure tank or connection beginning at the building side of an approved check valve or approved backflow preventing device located at or near the property line where the pipe or piping system provides water used exclusively for fire protection and related appurtenances and to standpipes connected to automatic sprinkler systems. The portion of the sprinkler system above ground is a network of specially sized or hydraulically designed piping installed in a building, structure or area, generally overhead, and to which sprinklers are connected in a systematic pattern. The system includes a controlling valve and a device for actuating an alarm when the system is in operation. The system is usually activated by heat from a fire and discharges water over the fire area.

Subsection Ind 51.01 (41a) to be created to read:

- (41a) Factory. A factory is any premises wherein labor is used in manufacturing, making or altering or adapting articles for the purpose of trade or gain.

Subsection Ind 51.01 (125) to be amended to read:

- (125) Structure. A structure is an assembly of materials forming a construction for occupancy or use meeting the definition of place of employment or public building.

Note: Structures include, among others, buildings, stadiums, tents, reviewing stands, observation towers, radio and television towers, water tanks, piers, wharves, shelters, canopies, and display signs.

Subsection Ind 51.01 (139a) to be created to read:

- (139a) Volume (Total). The "total volume" (cube or cubage) of a building is the actual cubic space enclosed within the outer surfaces of the outside or enclosing walls and contained between the outer surfaces of the roof and 6 inches below the finished surfaces of the lower floors.

Note: The definition of total volume requires the cube of dormers, pent-houses, vaults, pits, enclosed porches and other enclosed appendages to be included as a part of the cube of the building. It does not include the cube of courts or light shafts, open at the top, or the cube of outside steps, cornices, parapets, or open porches or loggias.

Subsection Ind 51.01 (153a) to be created to read:

- (153a) Warehouse. A warehouse is a place adapted to the reception and storage of goods and merchandise.

Subsection Ind 51.02 (2) (c) to be created to read:

- (c) Fire-retardant treated wood exposed to high humidity or accelerated weathering shall be pressure impregnated and so identified. Subsequent to treatment, lumber 2 inches or less in thickness shall be dried to a moisture content of 19% or less, and plywood to a moisture content of 15% or less.

Note: The department will accept fire-retardant treated lumber and plywood which meet the standards of the American Wood Preservers Association, "Fire-Retardant Treatment by Pressure Processes," and ASTM D 2898, "Standard Methods of Test for Durability of Fire-Retardant Treatment of Wood."

Subsection Ind 51.047 (6) to be repealed and recreated to read:

- (6) Door closing devices. All labeled fire-rated doors, where required, shall be equipped with an approved automatic or self-closing device as defined in subsection Ind 51.01 (17).

- (a) All doors serving smokeproof towers and interior enclosed stairways shall be equipped with a self-closing device or an automatic closing device actuated by products of combustion or smoke density.

Note: The department will accept detectors installed in accordance with the Standard on Automatic Fire Detectors, NFPA No. 72-E [Ind 51.27 (7a)].

- (b) The requirements of subsection Ind 51.047 (6) (a) shall also be retroactive to existing buildings.
- (c) Doors provided with a self-closing device shall remain in a closed position.

Note: The intent of this rule is to accept normal usage of the door, but not permit doors with this closing device to be blocked open at any time.

- (d) Where a pilot weight is used, it shall be suspended from a chain or wire cable and shall be installed in a protective housing.

Note: For specific types of closing devices permitted, please refer to the sections dealing with classes of construction and/or the occupancy chapters.

Notice to Revisor: There will also be amendments to section Ind 51.14 (see 30-day notice in July issue of Wisconsin Administrative Register).

Section Ind 51.21 to be repealed and recreated to read:

Ind 51.21 STANDPIPE AND HOSE SYSTEMS.

- (1) General requirements. All required standpipe and hose systems shall meet the requirements of this section.

Note: The department will accept installations conforming to the latest edition of NFPA No. 14--Standard for Installation of Standpipe and Hose Systems.

- (2) Classes of service.

- (a) Class I - Fire department standpipes. For use by fire departments and those trained in handling heavy fire streams from a 2-1/2-inch hose.
- (b) Class II - First-aid standpipes. For use primarily by occupants of a building until the arrival of the fire department (1-1/2-inch hose).
- (c) Class III - Combination fire department and first-aid standpipes. For use by either fire departments and those trained in handling heavy hose streams or by the building occupants.

- (3) Class I - Fire department standpipes.

- (a) Where required. Fire department standpipes shall be provided for all buildings exceeding 60 feet in height.
1. Required standpipes shall be installed as construction progresses, to make them available for fire department use in the topmost floor constructed. Temporary standpipes may be provided in place of permanent standpipes during the period of construction when approved by the local fire department.
- (b) Number of standpipes. Standpipes shall be sufficient in number so that any part of every floor area can be reached within 30 feet by a nozzle attached to 100 feet of hose connected to the standpipe in an unsprinklered building and 150 feet of hose in a sprinklered building.
- (c) Cross connections. When 2 or more standpipes are required, they shall be cross connected and equipped with individual control valves. All control valves shall be of an approved indicating type valve. The valves shall be located so that the water supply to any standpipe riser can be shut off without interrupting the water supply to the remaining standpipes and be readily accessible to the fire department.
- (d) Location of outlets. Hose outlets shall be located in stairway enclosures. Where stairways are not enclosed, outlets shall be at the inside of outside walls, within one foot of a smokeproof tower, interior stairway or fire escape. In buildings containing large interior areas, standpipes may be located at accessible interior locations.
- (e) Protection of standpipes. Standpipes shall be protected against mechanical and fire damage. Dry standpipes shall be visible for inspection and not concealed.

Note: It is not the intent of this section to require standpipes to be protected with an hourly rated fire protection.

- (f) Size. No required standpipe shall be less than 4 inches in diameter, and not less than 6 inches in diameter for standpipes in excess of 100 feet in height unless the building is completely sprinklered and the standpipe system is hydraulically designed in accordance with the requirements of subsection Ind 51.21 (6).
- (g) Hose valves and connections. An approved 2-1/2-inch hose-connection valve shall be located at each story, not less than 3 feet nor more than 6 feet above the floor level. Hose-connection valves shall be equipped with a tight-fitting cap on a chain and having lugs for a spanner wrench. When the building is completely sprinklered, and class II service is omitted, each standpipe outlet location shall be equipped with a 2-1/2-inch hose valve, a 2-1/2-inch by 1-1/2-inch reducer, and a cap with an attached chain.
- (h) Hose threads. All threads on hose connections shall be of national standard dimensions.

Note: Section 213.15, Wis. Stats., requires that all hose connections be fitted with the national standard hose threads adopted by the National Fire Protection Association.

- (i) Fire department connection. An approved fire department siamese connection shall be installed on a 4-inch or larger pipe connection with each standpipe system. The connection shall be marked "To Standpipe". The elevation of the connection shall be not less than 18 inches nor more than 5 feet above the sidewalk or ground. In buildings with several standpipes, more than a single fire department siamese connection may be required by the local fire department.

Note: The department recommends that the fire department connection be located as close as possible to and within 150 feet of the fire department hydrant.

- (j) Automatic water supply. An automatic water supply for a wet standpipe system shall be designed to provide not less than the following capacity from top outlets at not less than 65 psi flowing pressure for a period of 30 minutes: 500 gpm for a single standpipe; 750 gpm for 2 interconnected standpipes; 1,000 gpm for larger systems. Any of the following supplies will be acceptable:
1. Public waterworks system where pressure and discharge capacity are adequate.
 2. Approved automatic fire pump (or pumps).
 3. Pressure tank.
 4. Gravity tank.
 5. Approved manually controlled fire pump operated by remote control devices at each hose outlet.
 6. Reservoirs.
- (k) Dry standpipes. If only one standpipe is required, a dry standpipe may be used. A dry standpipe shall be limited to a single riser and shall not exceed 150 feet in height.

(4) Class II - First-aid standpipes.

- (a) Where required. First-aid standpipes shall be provided as required by the occupancy chapters of this code.

Note: See sections Ind 54.15, 55.33, 56.20 and 57.21.

- (b) Number and location. Standpipes shall be sufficient in number so that any part of every floor area, including basements, can be reached within 30 feet by a nozzle attached to not more than 100 feet of hose connected to a standpipe.
1. Hose outlets shall be located in occupied areas and preferably in corridors or at interior columns.
- (c) Size. No required standpipe shall be less than 2 inches in diameter for buildings 4 or less stories or 50 feet in height, and not less than 2-1/2 inches in diameter for buildings exceeding 4 stories or 50 feet in height.
- (d) Hose valves and connections. An approved 1-1/2-inch hose valve shall be located not more than 5 feet above the floor level. Where the static pressure at any standpipe hose outlet exceeds 100 psi, an approved device shall be installed at the outlet to reduce the pressure with the required flow at the outlet to not more than 100 psi.
- (e) Hoses. Not more than 100 feet of hose shall be attached to each outlet. Hoses shall be of an approved type, 1-1/2 inches in diameter, with 1/2-inch solid stream or combination nozzle attached, and shall be located in approved cabinets, racks or reels. In locations where the use of a solid stream may contribute to the spread of fire by scattering the burning material or where the existence of flammable liquids make the use of spray stream desirable, combination nozzles which give a spray or a solid stream shall be provided instead of 1/2-inch nozzles.
- (f) Water supply. An automatic water supply shall be provided. The water supply shall be designed for 100 gpm for 30 minutes with 65 psi flowing pressure at the top outlet. The water supply may be from a city connection, gravity tank, pressure tank or pump.

Note #1: The department will permit the domestic water supply to service class II standpipes provided no intervening control valves are installed to interrupt the service of the standpipe and a check valve is installed to prevent contamination of the domestic water supply.

Note #2: The department will permit pumps, other than fire pumps, provided the water supply meets the requirements of subsection Ind 51.21(4)(f).

Note #3: See Plumbing Code, chapter H 62, rules of the department of health and social services, for requirements pertaining to cross connections.

(5) Class III - Combined fire department and first-aid standpipes.

- (a) Where permitted. The features of class I and II service may be combined in a single system if served by an acceptable automatic water supply conforming to the requirements of subsection Ind 51.21 (3) (j).

- (b) Requirements. Class III standpipes shall conform to the requirements of class I service except that 1-1/2-inch outlets with a hose and 2-1/2-inch outlets shall be provided on each floor and shall be installed to the requirements of the respective classes of service.

(6) Combined automatic sprinkler and standpipe system.

- (a) Definition. A combined system is a system where the vertical water piping serves both the automatic sprinkler system and the 2-1/2-inch hose outlets of the standpipes used by the fire department. The combined system shall comply with the automatic sprinkler requirements of section Ind 51.23 and the standpipe and hose requirements of section Ind 51.21.
- (b) Water supply and riser size. The minimum water supply and riser size for a combined system shall comply with the requirements of subsections Ind 51.21 (3) (f) and (j), except the minimum water supply for a combined system for a completely sprinklered, light hazard occupancy building shall be 500 gallons per minute. When the building is completely sprinklered, the risers may be sized by hydraulic calculations.

Note: NFPA No. 13--Standard for Installation of Sprinkler Systems, defines light hazard occupancy as occupancies where the quantity and/or combustibility is low and fires with relatively low rates of heat release are expected, such as: churches; clubs; educational; hospitals; institutional; libraries, except large stack rooms; museums; nursing or convalescent homes; offices, including data processing; residential; restaurant seating areas; theaters and auditoriums, excluding stages and prosceniums.

- (c) Connections. Each connection from a vertical riser of a combined system shall be provided with an individual control valve of the same size as the outlet.

- (7) Maintenance. Standpipe systems and equipment shall be maintained in an operable condition.

Subsection Ind 51.23 (7) (a) to be created to read:

- (a) Exception. The department will permit any partial sprinkler system containing 15 or less sprinkler heads to be connected to the domestic water supply service or a first-aid standpipe, provided the connection is equipped with an approved indicating valve and a check valve. The water pressure and volume shall be adequate to supply the required flow and the system shall be hydraulically calculated. An audible alarm is recommended. A fire department connection is not required.

Note: See Plumbing Code, chapter H 62, rules of the department of health and social services, for requirements pertaining to cross connections.

Subsection Ind 51.24 (1) (a) to be created to read:

- (a) In all buildings where a fire alarm system and a complete automatic sprinkler system are required, a water flow detecting device shall be provided to actuate the fire alarm system.

Subsection Ind 51.24 (2) to be amended to read:

- (2) Every fire alarm system shall be electrically operated or activated by noncombustible, nontoxic gas. Electrically operated systems shall be operated on closed circuit current under constant electrical supervision, so arranged that upon a circuit opening and remaining open or in case of a ground or short circuit in the undergrounded conductor, audible trouble signals will be given instantly. Gas-activated systems shall be mechanically supervised and under constant gas pressure, so arranged that in case of a pressure drop an audible trouble signal will be given instantly. Means shall be provided for testing purposes.

Subsection Ind 51.27 (2) to be amended to read:

- (2) American Institute of Steel Construction, 1221 Avenue of the Americas, New York, N. Y. 10020, SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, February 12, 1969; and COMMENTARY ON THE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, February 12, 1969.

Subsection Ind 51.27 (7) to be repealed.

Note preceding subsection Ind 52.01 (2) to be repealed.

Subsection Ind 52.01 (2) to be amended to read:

- (2) Additional requirements for high-rise buildings. The following requirements apply to all buildings more than 100 feet in height or having more than 10 stories. Buildings used for low hazard industrial processes, including the production and distribution of gas, steam or electric power, foundries and similar uses which require unusual heights to accommodate cranes, special machinery or equipment, are exempt from the provisions of this subsection.
- (a) Smoke control. Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story and shall consist of one or more of the following methods. Controlling devices may be automatic or manual as approved by the local fire department.
1. Panels or windows in the exterior wall which can be opened from a location other than the fire floor. Such venting facilities shall be provided at the rate of at least 20 square feet per 50 lineal feet of exterior wall in each story, and distributed around the perimeter at not more than 50-foot intervals. Such panels shall be clearly identified as required by the fire department.
 2. Openable windows in habitable rooms of residential units.
 3. When an automatic sprinkler system is installed in compliance with section Ind 51.23, the mechanical air-handling equipment may be designed to assist smoke removal. Under fire conditions, the return and exhaust air shall be taken directly to the outside without recirculation to other sections of the building.
 4. A mechanical ventilation system which will prevent the transfer of smoke from the fire source to other floors of the building. The design shall be substantiated by calculations or tests showing that a pressure differential of 0.10 inch of water column will be produced.
 5. Any other design which will produce equivalent results.
- (b) Exit stairways.
1. All stairways shall be pressurized. The pressure across each door shall be at least 0.15 but not more than 0.20 inch of water column with all doors closed. Pressurization shall be activated by the fire alarm system, the detection systems, and the sprinkler system. In lieu of pressurization, a smokeproof stair tower, as defined in section Ind 51.17, will be accepted.

Note: The department will accept alternate designs which will produce equivalent results.
 2. All stairway doors which are to be locked from the stairway side shall have the capability of being unlocked without unlatching upon a signal from the central control station.

- (c) Elevators. There shall be provided at least one elevator suitable for fire department access to any floor. If the building is not provided with an approved automatic sprinkler system, the elevator lobby at each level shall be separated from the remainder of the building by an effective smoke barrier.

Note: Refer to chapter Ind 4, Elevator Code, for additional requirements.

- (d) Fire alarm and detection system.

1. A manual fire alarm box shall be located adjacent to exit doors into stairway shafts and in every elevator lobby.
2. An approved system which will provide for automatic detection of products of combustion other than heat shall be installed in every air-handling equipment room, unless sprinklered, and in the return air portion of every air conditioning and mechanical ventilation system. Approved heat detectors may be installed in boiler rooms and furnace rooms in lieu of product of combustion detectors.
 - a. Detectors shall be located in the main return air and supply air ducts of each ventilation system and at each opening into a vertical vent shaft or duct.
 - b. The detectors shall actuate an alarm or signaling system and shut down the ventilation system except where automatic smoke control is incorporated in the system.
3. The manual alarm and automatic detection system shall conform to the Wisconsin State Electrical Code and one of the following standards [Ind 51.27 (7a)]:
 - a. Standard for Central Station Protective Signaling Systems, NFPA No. 71;
 - b. Standard for Auxiliary Protective Signaling Systems, NFPA No. 72B;
 - c. Standard for Remote Station Protective Signaling Systems, NFPA No. 72C;
 - d. Standard for Proprietary Protective Signaling Systems, No. 72D.
4. Detectors shall conform to the Standard for Automatic Fire Detectors, NFPA No. 72E.

- (e) Alarm and communication systems. The following alarm and communication systems shall be provided. The systems shall be supervised and exposed wiring shall be encased in a metal conduit.

1. Voice alarm system. The detection system, sprinkler water flow device and the fire alarm system shall actuate a prerecorded message or voice alarm capable of being operated from the central control station on a general as well as a selective basis to the area involved. The alarm shall be designed to be heard by all occupants within the building or designated portions.

2. Voice communication system. There shall be a voice communication system between the central control station and the following areas:

Note: The department will accept systems installed in accordance with the Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems for Watchmen, Fire Alarm and Supervisory Service, NFPA No. 72A.

- a. Elevators, elevator lobbies, in stairways at every fifth floor, and all fire alarm operating stations (2-way communication system).
 - b. Every office area exceeding 1,000 square feet in area (one-way address system).
 - c. Each dwelling unit and hotel guest room (one-way address system).
3. Fire department communication system. A system providing 2-way communication shall be provided at all floor levels, stairways, the central control station, and other locations required by the fire department.
 - a. The system shall be designed so the fire department communication system will override the other communication systems.
 - b. Wiring shall be arranged so that open circuits or short circuits on individual floors will not interfere with communications on another floor.
 4. Combined system. When approved by the local fire department, the fire department communication system may be combined with the voice communication system and the voice alarm system.
- (f) Central control station. A central control station for fire department operations shall be provided in a location approved by the fire department. It shall contain the voice communication systems panel; fire detection and alarm system panels; status indicators and controls for elevators, smoke venting and air handling systems; controls for unlocking stairway doors; a public telephone; sprinkler valve and water flow detectors; and standby power controls. All fire alarm and water flow signals shall be transmitted directly to the systems indicated in Ind 52.01 (2) (d) 3.
- (g) Standby power and light. An approved permanently installed standby power generating system shall be provided. The system shall be equipped with suitable means for automatically starting the generator set upon failure of the normal electrical service and for automatic transfer and operation of the required electrical functions at full power within 60 seconds of such normal service failure. System supervision with manual start and transfer features shall be provided at the central control station.
1. An on-premise fuel supply sufficient for not less than 2 hours full demand operation of the system shall be provided.
 2. The power requirement shall be determined so as to provide service to, but not limited to the following:
 - a. Fire alarm system.
 - b. Exit and other emergency lighting.

c. Fire protection equipment.

Note: Standby power to service fire pumps may be omitted if approved by the local fire department.

d. Mechanical ventilation required by this section.

e. Fire department elevator.

f. Communication systems.

(h) Maintenance. All life safety systems required under this section shall be tested and maintained in an operable condition. A copy of the test report shall be kept on the premises. The local fire department shall be notified whenever the life safety systems are shut down for repair.

Section Ind 52.04, Table 52.04, to be amended (see following page)

Subsection Ind 52.04 (6) (e) to be amended to read:

(e) Change of use. If the use of an existing building is changed to a new use and the building undergoes physical remodeling, the building shall comply with the percentages established in section Ind 52.04 (6).

TABLE 52.04

REQUIREMENTS FOR NEW CONSTRUCTION

Occupancy and Type of Construction	Access to Primary Floor	Interior Circulation	Toilet Facilities
I. All public buildings and places of employment not listed in categories II-XI.	Yes	Yes ¹	Yes
II. Government-owned buildings	Yes	Yes ¹	Yes ²
III. Factories, office and mercantile buildings	Yes	Yes	Yes
A. Dental and medical clinics and offices.	Yes	Yes	Yes
IV. Theaters and assembly halls.	Yes	Yes ¹	Yes
A. Churches (Ch. Ind 54 and 55).	Yes ³	Yes ^{4, 6}	Yes ⁵
B. Auditoriums, theaters, stadiums and permanent bleachers	Yes	Yes ⁶	Yes
C. Night clubs, bars, restaurants and recreational facilities (Ch. Ind 54 and 55)	Yes	Yes ^{1, 7}	Yes
V. Schools and other places of instruction.	Yes	Yes ^{1, 7}	Yes
VI. Libraries, museums and art galleries	Yes	Yes ¹	Yes
VII. Residential occupancies.	Yes	Yes ¹	Yes
A. Apartments.	Yes ⁸	Yes ⁹	Yes ¹⁰
B. Row houses.	Yes ¹¹	Yes ⁹	Yes ¹⁰
C. Hotels and motels	Yes	Yes ^{7, 12}	Yes ¹³
D. Group foster homes.	Yes	Yes ¹⁴	Yes
E. Garden apartments	Yes ¹⁵	Yes ⁹	Yes ¹⁰
F. Condominiums.	Yes ¹⁶	Yes ⁹	Yes ¹⁰
VIII. Day care centers ¹⁷	Yes	Yes	Yes
IX. Hospitals and other health care facilities	Yes	Yes	Yes ¹⁸
X. Places of detention.	Yes	Yes ^{1, 19}	Yes
XI. Garage occupancies	Yes	Yes ¹	Yes
XII. Mechanical equipment rooms, maintenance equipment and other storage rooms, janitor closets, storage warehouses, saw and feed mills, motion picture booths, portable bleachers and similar occupancies determined by the department.	No	No	No

¹If the total gross area of the building, including all floors, is greater than 20,000 square feet, interior circulation is required to all floors. If the total gross area of the building, including all floors, is less than 20,000 square feet, interior circulation is required only on the primary floor.

²In buildings accommodating 15 or less employees and 25 or less patrons, a separate toilet room, accessible to the physically disabled, will be acceptable if the toilet room is located on an accessible floor, contains one lavatory and water closet, and is provided with a privacy lock.

³Churches require access to the principal nave and chapel. Access is required to a primary floor in remodeling and/or adding to existing churches, except that access is not required to a primary floor if the remodeling is less than 1000 square feet.

Heading preceding section Ind 52.50 to be amended to read:

SANITATION REQUIREMENTS

Section Ind 52.50 to be repealed and recreated to read:

Ind 52.50 TOILET ROOMS. Every place of employment and public building shall have toilet rooms as provided in the occupancy classifications of this code, completely enclosed and arranged to ensure privacy, unless otherwise exempted.

Section Ind 52.51 to be repealed.

Section Ind 52.52 to be amended to read:

Ind 52.52 SEX DESIGNATION. Where separate toilet rooms for each sex are required by this code, each toilet room shall be marked with regard to the sex which uses it; words such as MEN or WOMEN, in letters not less than one inch high, or symbols may be used.

Subsection Ind 52.59 (3) Note to be repealed.

Subsection Ind 52.59 (4) to be created to read:

(4) Pay toilets and locking of toilet rooms prohibited. No admission fee shall be charged for the use of any toilet facility in a public building or place of employment. Key-locking of toilet rooms is prohibited in all buildings except service stations and filling stations having exterior toilet room access.

Note: Section 146.085, Wis. Stats., prohibits charging a fee for the use of toilet facilities and imposes a fine of \$10 to \$50 for violations.

Subsection Ind 52.60 (1) to be amended to read:

Ind 52.60 FIXTURES.

(1) Water closets. Only water closets of porcelain, vitreous china, stainless steel or other nonabsorbent materials shall be used. All water closets in public buildings and places of employment shall have elongated bowls and hinged, open-front seats without cover. Water closets in apartments, day care centers, individual executive offices, and sleeping units of hotels and motels may be of the round bowl type, provided with a hinged, closed-front seat, with or without cover.

Subsection Ind 52.60 (2) (b) to be repealed and recreated to read:

(b) Wall type. Wall-hung urinals may be installed in all buildings except elementary schools (kingergarten through 8th grade).

Note #1: The definitions and general classifications for schools are found in section 115.01, Wis. Stats.

Note #2: The department recommends that wall-hung urinals be installed at a height between 22 inches to 24 inches above the floor.

Subsection Ind 52.60 (2) (d) to be amended to read:

- (d) Multiple urinals. Batteries of urinals shall be spaced not less than 30 inches center-to-center. The center line of a single urinal shall be at least 16 inches from the nearest sidewall or partition.

Subsection Ind 52.60 (2) (f) to be created to read:

- (f) Floor drain. A stall-type urinal, or floor drain located not more than 12 inches from a wall supporting wall-hanging urinals, shall be provided for each group of 4, or less, urinals.

Subsections Ind 52.60 (3), (4) and (5) to be created to read:

- (3) Hand-washing and drying facilities. Hand-washing facilities shall be provided in all places of employment and public buildings in accordance with the requirements of this subsection.
- (a) Lavatories. Lavatories shall be of an approved type and shall be provided with hot and cold running water. The lavatories may be equipped with a hot and cold regulating device. If a multiple-use lavatory is installed, 24 lineal inches of wash sink or 20 inches measured along the edge of a circular basin will be considered equivalent to one lavatory.
- (b) Hand-drying facilities. Individual hand towels, sections of cloth or paper, or clean individual sections of continuous toweling, convenient to the lavatories, shall be provided. Hand-drying facilities shall be provided at the ratio of at least one unit for every 3 lavatories. Warm-air blowers may be substituted for up to one-half of the required hand-drying units. Warm-air blowers shall provide air at not less than 90° F, nor more than 140° F.
- Note: The department will accept the qualified blowers listed by Underwriters' Laboratories, Inc.
- (c) Toilet soap. Soap or similar cleansing agents shall be provided.
- (d) Receptacles. Receptacles shall be provided for the disposal of used towels and other waste materials.
- (4) Drinking facilities. Drinking facilities shall be provided in all buildings except in areas where food and drinks are served. Drinking facilities shall not be installed in toilet rooms, except in residential occupancies. Drinking fountains, coolers or individual cups at a potable water source may be provided. Common drinking cups are prohibited.

Note: Where running water is not available, a covered drinking water container, equipped with a faucet or bubbler, may be provided. The container should be cleaned and sanitized at frequent intervals.

- (5) Bathing facilities. Bathing facilities shall be provided for the specific occupancies outlined in the occupancy chapters of this code.
- (a) Showers. Shower compartments shall have at least 1,024 square inches of floor area and shall be at least 30 inches in the minimum dimension. Each shower room or compartment shall be constructed of material impervious to moisture. The floor of the shower room or compartment shall be provided with a slip-resistant finish.
 - (b) Hot and cold water. Bathing facilities shall be provided with hot and cold water and be equipped with a hot and cold water regulating device. The device shall be plainly marked. Supply or feed pipes to showers shall be placed overhead or protected to avoid the probability of a person coming in contact with the hot water pipes.
 - (c) Toilet soap and towels. Employees who use showers shall be provided with soap or other appropriate cleansing agents and clean individual towels.

Note: See chapter H 62, rules of the department of health and social services, for special fixture requirements.

Subsection Ind 53.12 (2) to be amended to read:

- (2) Uplift and suction forces. Buildings and structures, including attachment of roof to building or structure and anchorage of building or structure to the foundation, shall be designed and constructed to withstand a wind pressure acting outward normal to the surface equal to the values set forth in Ind 53.12 (1). These suction and uplift forces need not be considered as additive to the design wind loads in the overall analysis of the building or structure. Roof overhangs, eaves, cornices, canopies and buildings open on one or more sides shall be designed and constructed to withstand an upward pressure of at least 30 PSF, unless a higher value is indicated in Ind 53.12 (1).

Subsection Ind 53.21 (2) (b) to be amended to read:

- (b) Confirmation. The presumed soil bearing values shall be confirmed by exploring the type of soil to a depth of at least 5 feet below the footings during or before construction. The designer shall submit a report of confirmation to the department upon request.

Section Ind 53.22 Note to be created to read:

Note: The decomposition of organic material in landfill sites established for the disposal of organic wastes may produce odorous, toxic and explosive concentrations of gas which may seep into buildings through storm sewers and similar underground utilities unless provisions are taken to release the gases to the atmosphere.

Section Ind 53.26 to be repealed.

Subsections Ind 53.28 (2) and (3) to be amended to read:

- (2) Design--nonrestrained poles. The following formula shall be used in determining the depth of embedment required to resist lateral loads where no restraint is provided at the ground surface, unless other methods are approved by the department.

$$d = \frac{A}{2} \left(1 + \sqrt{1 + \frac{4.36 h}{A}} \right)$$

where: d = depth of embedment, ft.

$$A = \frac{2.34 P}{S_1 B}$$

P = applied horizontal force on pole, lb.

S_1 = $pd/3$, see Table 53-III

Note: For first approximation of "d", the following formula may be used:

$$d = \sqrt[3]{\frac{12 h P}{B p}}$$

B = diameter of concrete casing, ft.; when nonencased in concrete, diameter or diagonal dimension of square of rectangular pole, ft.

h = height above the ground, in feet, at which the force "P" is applied. If the pole has fixity at the top, such as provided by a knee brace, the force "P" acts at the inflection point. The inflection point may be assumed at 2/3 of the distance from the ground to the knee brace for round poles, or 1/2 of the distance from the ground to the knee brace for square poles.

p = allowable lateral passive soil pressure, † psf.

† Unless a more exact soil analysis method is used, the allowable passive soil pressure shall be determined as follows:

TABLE 53-III
ALLOWABLE LATERAL SOIL PRESSURE

Soil Types (see Table 53-II)	Allowable Passive Soil Pressure, psf per foot of depth below grade††	S ₁ and S ₃ values shall not exceed, psf
1 and 2 (not well drained)	100	1,500
3 and 4 (well drained)	200	2,500
5 and 6 (well drained)	400	6,000

†† Values may be increased 33-1/3% for wind loads.

(3) Design--restrained poles. Where restraint is provided at the ground surface, such as a rigid floor or pavement, the depth of embedment shall be in accordance with the following formula:

$$d = \sqrt{\frac{4.25 h P}{S_3 B}}$$

where: S₃ = pd, see Table 53-III.

Subsection Ind 53.28 (4) to be created to read:

(4) Moisture. A preservative treatment shall be applied to poles subjected to moisture.

Note: The department will accept poles treated in accordance with the standards of the American Wood Preservers Association for preservative treatments.

Subsection Ind 53.322 (3) (c) 2. to be amended to read:

2. Where a pilaster is needed to carry a concentrated load from a flexural element, the least dimension shall be not less than 1/40 of the span of such an element and the height of the pilaster shall not exceed 12 times the least dimension of the pilaster. All voids, within and between masonry units, shall be fully grouted.

Note: The intent of this rule is to permit the empirical method of design for masonry pilasters carrying concentrated loads provided the pilaster details eliminate the eccentricity and provided the actual stresses are less than or equal to the allowable stresses. Pilasters may also be designed through engineering analysis in accordance with section Ind 53.323.

Subsection Ind 53.322 (5) (b) 3. to be amended to read: /

3. Single wythe exterior concrete masonry walls. Where units are laid in running bond, such masonry wall shall be reinforced by a continuous tie assembly, as defined in Ind 53.316 (2), at vertical intervals not exceeding 24 inches. The requirement for tie assemblies is waived when the spacing of control joints is reduced to 80% of the values indicated in Table 53-XII, or if the spacing between the control joints is 20 feet or less.

Subsection Ind 53.40 (1) (c) Note to be amended to read:

Note: The following standards and recommendations (1) through (13) are recognized by the department as being good engineering practice: (1) "Commentary on Building Code Requirements for Reinforced Concrete," ACI Report 318; (2) "Recommended Practice for Selecting Proportions for Concrete," ACI Std. 211.1; (3) "Recommended Practice for Selecting Proportions for Structural Lightweight Concrete," ACI Std. 211.2; (4) "Recommended Practice for Hot Weather Concreting," ACI Std. 605; (5) "Recommended Practice for Cold Weather Concreting," ACI Std. 306; (6) "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACI Std. 315; (7) "Recommended Practice for Evaluation of Compression Test Results of Field Concrete," ACI Std. 214; (8) "Recommended Practice for Measuring, Mixing and Placing Concrete," ACI Std. 614; (9) "Recommended Practice for Concrete Formwork," ACI Std. 347; (10) "Specification for the Design and Construction of Reinforced Concrete Chimneys," ACI Std. 505; (11) "Suggested Design of Joints and Connections in Precast Structural Concrete," ACI Report 512; (12) "Guide for Cellular Concretes Above 50 pcf, and for Aggregate Concretes Above 50 pcf with Compressive Strengths Less than 2500 psi," ACI JOURNAL, February 1975 (Copies of above standards and recommendations may be obtained from American Concrete Institute, P. O. Box 19150, Redford Station, Detroit, Michigan 48219); (13) "Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction," AWS Std. 12.1 (American Welding Society, 2501 NW 7th St., Miami, Florida 33125).

Subsection Ind 53.61 (5) (a) Note 2 to be created to read:

Note 2: The department will accept plywood treated in accordance with the standards of the American Wood Preservers Association.

Subsection Ind 53.63 (6) (intro. par.) to be amended to read:

- (6) Decay prevention. Where wood is used in parts of a building exposed to moisture that causes the moisture content of wood to exceed 19%, the wood shall be adequately ventilated or treated with preservative.

Note: The department will accept wood products treated in accordance with the standards of the American Wood Preservers Association and the American Wood Preservers Bureau.

Section Ind 54.12 to be repealed and recreated to read:

Ind 54.12 SANITARY FACILITIES.

(1) Toilet rooms. The occupancies included under the scope of this chapter shall be provided with toilet rooms as outlined in this section.

(a) Factories, office and mercantile buildings. All factories, office and mercantile buildings shall be provided with separate toilet rooms for each sex, except as follows:

1. Where not more than 5 employes or 25 patrons are accommodated, one toilet room, shared in common, may be provided if the door of the toilet room is equipped with a lock to ensure privacy.
2. Separate toilet rooms for the employes and the general public need not be provided if the toilet rooms are accessible to both employes and the general public.
3. Toilet facilities need not be provided in buildings and structures which provide service to people in automobiles, such as drive-in bank teller booths, photography and film service booths, or parking lot attendant booths, but not including drive-in restaurants, provided that a written statement is submitted to the department showing proof that convenient toilet facilities are available during all periods of operation. The requirement for toilet facilities is also waived for mobile crews and for unattended buildings, provided the employes have access to available toilet facilities.

(b) Shopping centers. In shopping centers, separate toilet rooms for each sex shall be provided for use by the general public. The toilet rooms may be located in the public mall or in the individual stores. Separate toilet rooms for each sex shall be provided for the employes in each store. In stores which accommodate not more than 5 employes and 25 patrons, one toilet room to accommodate both sexes will be acceptable. A store which has a net area of 750 square feet or less is not required to be provided with toilet rooms for the employes if the employes have access to the public toilet rooms located in the mall.

Note #1: The department recommends that public toilet rooms in the mall be conveniently located for patron use and that the travel distance between sets of public toilet rooms be less than 400 feet.

Note #2: See sections Ind 54.12 (1) (d) and Ind 55.32 for requirements for toilet rooms for other use groups which may also be included in shopping centers.

(c) Places of worship. Places of worship which are included under the scope of this chapter shall be provided with separate toilet rooms for each sex.

(d) Places for entertainment, recreation and seated dining. Restaurants, taverns, and places for entertainment and recreation which are included under the scope of this chapter shall be provided with separate toilet rooms for each sex. Separate toilet rooms for employes and the general public are not required.

Note: See chapter H 96, rules of the department of health and social services, for supplementary requirements for toilet room facilities in restaurants.

- (e) Garages, parking ramps, service stations and filling stations. Toilet rooms shall be provided in accordance with the requirements of this subsection.
1. Garages. Separate toilet rooms for each sex shall be provided in all service and repair garages, body shops, automobile tire and battery shops, and buildings of similar use, except that a single toilet room, shared in common, may be provided in buildings which accommodate not more than 5 employes or 25 patrons. Separate toilet rooms for employes and patrons need not be provided if toilet rooms are accessible to both employes and patrons.
 2. Service stations and filling stations. Separate toilet rooms for each sex shall be provided in service stations and filling stations, including self-service stations. Separate toilet rooms for employes and patrons need not be provided if toilet rooms are accessible to both employes and patrons.
 3. Parking ramps. Toilet rooms need not be provided in unattended parking ramps.
- (2) Sanitary fixtures. The number of fixtures required for the total number of persons of each sex shall be determined in accordance with the ratios established in Table 54.12. The number of fixtures required for the general public shall be added to the number of fixtures required for the employes in all buildings, except in buildings which accommodate not more than 5 employes or 25 patrons or in filling stations and service stations. The total number of persons will be considered equally divided between men and women unless a different ratio is approved by the department. The requirements of this section do not apply to the buildings exempt from toilet rooms under Ind 54.12 (1).

Note to Revisor: Under a separate order, Chapter Ind 22---Sanitation, is repealed.

Section Ind 54.13 to be renumbered Ind 54.14.
Section Ind 54.14 to be renumbered Ind 54.15.
Section Ind 54.15 to be renumbered Ind 54.16.
Section Ind 54.16 to be renumbered Ind 54.17.
Section Ind 54.17 to be renumbered Ind 54.18.
Section Ind 54.18 to be renumbered Ind 54.19.
Section Ind 54.19 to be renumbered Ind 54.20.
Section Ind 54.20 to be renumbered Ind 54.21.

Section Ind 54.13 to be created to read:

Ind 54.13 CHANGE ROOMS AND LUNCHROOMS.

- (1) Change rooms. Change rooms equipped with storage facilities for street clothes shall be provided where employes are required to wear protective clothing due to the nature of the employment and where employes are exposed to toxic materials and industrial poisons. Separate storage facilities for street clothes and work clothes shall be provided for employes who work with industrial poisons.

Note: See also chapter H 96, rules of the department of health and social services, for requirements for dressing rooms and lockers in restaurants.

TABLE 12
NUMBER OF FIXTURES REQUIRED FOR EMPLOYEES AND PATRONS
EMPLOYEES¹

Type of Occupancy	Type of Fixture					
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Showers (S) ²	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)			
<u>Places of employment (employees/shift)</u>						
0- 5 employes	1		0			
3- 9 employes of each sex	1	1	0			
10- 15 employes of each sex	1	1	1	One (L) for each 2 (WC) and/or (U), or fraction	One (S) for each 10 employes of each sex, or fraction	One (DF) for each 100 persons, or fraction
16- 35 employes of each sex	1	2	1			
36- 55 employes of each sex	2	3	1			
56- 80 employes of each sex	2	4	2			
81-110 employes of each sex	3	5	2			
111-150 employes of each sex	4	6	2			
Over 150 employes of each sex	One additional fixture for each additional 40 employes of each sex; 2/3 of the additional water closets for males may be urinals.					

GENERAL PUBLIC¹

<u>All public buildings, except restaurants and taverns</u>						
0- 25 persons of each sex	1	1	0	One (L) for each 2 (WC) and/or (U), or fraction	0	One (DF) for each 150 persons up to 600
26-100 persons of each sex	1	1	0			
101-200 persons of each sex	1	2	1			
201-300 persons of each sex	1	3	2			
301-400 persons of each sex	2	4	2			
401-500 persons of each sex	2	5	3			
501-600 persons of each sex	2	6	4			
Over 600 persons of each sex	One (WC) for each additional 600 (M), or fraction	One (WC) for each additional 275 (F), or fraction	One (U) for each additional 500 (M), or fraction			One additional (DF) for each additional 3000 persons
<u>Taverns and restaurants</u>	One (WC) for each 75 (M), or fraction	One (WC) for each 30 (F), or fraction	One (U) for each 50 (M), or fraction ³		0	0

EMPLOYEES AND THE GENERAL PUBLIC

<u>Public buildings & places of employment</u>						
0-25 patrons and 0-5 employes/shift	1		0	1	0	1
Filling stations and service stations with not more than 5 employes/shift	1	1	0	1	0	1

¹Requirements for the general public must be added to the number of fixtures required for employees.

²Showers shall be provided in public pool facilities and where occupational hazards, such as poisons, infectious or irritating materials are present.

³Urinal may be omitted in restaurants which accommodate less than 25 males and do not serve alcoholic beverages.

Note #1: See also rules of the department of health and social services for sanitary fixtures for public swimming places, mobile home parks, camping grounds, camping resorts, recreational camps and educational camps.

Note #2: See Wis. Adm. Code Ch. Ind 1000-2000--Wis. Safety and Health Code, for additional washing facilities.

- (2) Lunchrooms. A space for eating lunches shall be provided in all places of employment where there is exposure to injurious dusts, toxic material and industrial poisons. Such space shall be physically separate from any location where there is exposure to toxic materials. Toilet rooms shall not be permitted to serve as lunchrooms.

Section Ind 54.15 (renumbered from 54.14) to be repealed and recreated to read:

Ind 54.15 STANDPIPES.

- (1) Fire department standpipes. Fire department standpipes shall be provided in all buildings exceeding 60 feet in height.
- (2) First-aid standpipes. First-aid standpipes shall be provided in all buildings 3 stories or more in height in which the floor area of each story is more than 3,000 square feet, unless the floor area is divided with noncombustible 0-hour or 3/4-hour rated partitions into 3,000 square foot areas, or unless an approved automatic sprinkler system is installed.

Following section Ind 54.21 (renumbered from 54.20) create heading:

HAZARDOUS OCCUPANCIES

Section Ind 57.50 to be renumbered Ind 54.50.

Section Ind 57.51 to be renumbered Ind 54.51.

Section Ind 57.52 to be renumbered Ind 54.52.

Section Ind 57.53 to be renumbered Ind 54.53.

Note to Revisor: Wherever the reference to Ind 57.50 is made, substitute Ind 54.50. (Ind 54.51(2)(f)4. Note and 54.52 (1) and (2).) Also, in 54.50(3)(a), the reference to section Ind 64.27 should be Ind 64.22.

Section Ind 55.32 to be repealed and recreated to read:

Ind 55.32 SANITARY FACILITIES.

- (1) Toilet rooms. All occupancies included under the scope of this chapter shall be provided with separate toilet rooms for each sex. Separate toilet rooms for the employes and the general public need not be provided if the toilet rooms are accessible to both the employes and the general public.
 - (a) Toilet rooms in connection with stage. In theaters and assembly halls which are equipped for the showing of stage productions, separate toilet rooms for each sex, furnished with at least one water closet and one lavatory, shall be provided in connection with the stage.
 - (b) Toilet room in connection with motion picture booth. In theaters where motion picture machines are run continuously for a period of more than 2 hours without at least 10 minutes intermission for the motion picture machine operator for each 2-hour period, a toilet room, furnished with one water closet and one lavatory, shall be provided in direct connection with the motion picture booth.
- (2) Sanitary fixtures. The number of fixtures required for the total number of patrons of each sex shall be determined in accordance with the ratios established in Table 55.32. The number of fixtures required for the employes in accordance with Table 54.12 shall be added to the number of fixtures required for the general public. The total number of persons will be considered equally divided between men and women unless a different ratio is established.

TABLE 55.32

Type of Occupancy	Type of Fixture				
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)		
<u>Places of assembly</u>					
0-100 persons of each sex	1	1	0	One (L) for each 2 (WC) and/or (U), or fraction	One (DF) for each 150 persons up to 600
101-200 persons of each sex	1	2	1		
201-300 persons of each sex	1	3	2		
301-400 persons of each sex	2	4	2		
401-500 persons of each sex	2	5	3		
501-600 persons of each sex	2	6	4		
Over 600 persons of each sex	One (WC) for each additional 600 (M), or fraction	One (WC) for each additional 275 (F), or fraction	One (U) for each additional 500 (M), or fraction		One additional (DF) for each additional 3000 persons
Taverns and restaurants	One (WC) for each 75 (M), or fraction	One (WC) for each 30 (F), or fraction	One (U) [†] for each 50 (M), or fraction		0

[†] Urinal may be omitted in restaurants which accommodate less than 25 males and do not serve alcoholic beverages.

(Note: See also rules of the department of health and social services for sanitary fixtures for public swimming places, mobile home parks, camping grounds, camping resorts, recreational camps and educational camps.

Section Ind 55.33 to be repealed and recreated to read:

Ind 55.33 STANDPIPES.

- (1) Fire department standpipes. Fire department standpipes shall be provided in all buildings exceeding 60 feet in height.
- (2) First-aid standpipes. First-aid standpipes shall be provided in all buildings having theaters and assembly halls with an occupancy load of more than 300 persons, unless an approved automatic sprinkler system is installed. First-aid standpipes shall also be provided on the stage of every theater and assembly hall where a fire curtain is required.

Subsection Ind 56.06 (2) (intro. par.) to be amended to read:

- (2) Type of exits. At least 2 exits from all floor levels shall lead directly to grade through standard exit doors, stairs, interior enclosed stairs, smokeproof stair towers, fire-rated exit corridors, passageways, or ramps. One-half of the remaining required exits may be horizontal exits or fire escapes. Fire escapes are prohibited as required exits in pre-school, elementary, middle and high schools. In no case will fire escapes be permitted above the second story.

Subsection Ind 56.06 (2) (g) to be created to read:

- (g) Horizontal exits. Horizontal exits shall be constructed in accordance with the requirements of section Ind 51.19 and shall be of at least 4-hour rated construction.

Subsection Ind 56.16 (1) to be renumbered Ind 56.16 (2) and create heading:

- (2) Sanitary fixtures.

Subsection Ind 56.16 (1) to be created to read:

Ind 56.16 SANITARY FACILITIES.

- (1) Toilet rooms. Separate toilet rooms for each sex shall be provided for all occupancies included under the scope of this chapter. The toilet rooms shall be completely enclosed and arranged to ensure privacy, except that in elementary schools (kindergarten through grade 8) the doors to the toilet rooms may be eliminated if the entrance to the toilet room is located in the wall of a public corridor.

Section Ind 56.20 to be created to read:

Ind 56.20 STANDPIPES.

- (1) Fire department standpipes. Fire department standpipes shall be provided in all buildings exceeding 60 feet in height.
- (2) First-aid standpipes. First-aid standpipes shall be provided in all buildings 3 stories or more in height, unless an approved automatic sprinkler system is installed.

Section Ind 57.13 to be repealed and recreated to read:

Ind 57.13 SANITARY FACILITIES.

- (1) Toilet rooms. Every building included under the scope of this chapter shall be provided with separate toilet rooms for each sex, except that a common toilet room may be provided in individual living or sleeping units.
- (2) Sanitary fixtures. The number of sanitary fixtures required for each sex shall be determined in accordance with the ratios established in Table 57.13.
- (3) Employes. Sanitary facilities for employes who do not sleep in the building shall be provided in accordance with the requirements of Table 54.12, unless the employes have access to the facilities provided for the residents.
- (4) General public. Sanitary facilities for the general public shall be provided in accordance with the requirements of Table 54.12, unless the general public has access to the facilities provided for the residents.
- (5) Kitchen sink. One kitchen sink, equipped with hot and cold running water, shall be provided in living units equipped for food preparation.

Note: See chapter H 24--general and special hospitals, and chapter H 32--nursing homes, rules of the department of health and social services, for special requirements and locations for water closets, lavatories and bathing facilities.

Section Ind 57.14 to be repealed.

Section Ind 57.21 to be repealed and recreated to read:

Ind 57.21 STANDPIPES.

- (1) Fire department standpipes. Fire department standpipes shall be provided in all buildings exceeding 60 feet in height.
- (2) First-aid standpipes.
 - (a) Institutional occupancies. First-aid standpipes shall be provided in all buildings used as hospitals, homes for the aged, nursing homes, asylums, places of detention, and buildings with similar uses, unless an approved automatic sprinkler system is installed.
 - (b) Residential occupancies. First-aid standpipes shall be provided in all apartment buildings, rooming houses, hotels, motels, and buildings with similar uses, 3 stories or more in height which accommodate more than 20 occupants, unless an approved automatic sprinkler system is installed.

TABLE 57.13

Type of Occupancy	Type of Fixture					
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Bathtubs or Showers	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)			
Occupancies having individual unit toilet rooms, such as hotels, motels, apartments, row houses, town houses, condominiums	One (WC) for each living unit		0	One (L) for each living unit	One for each living unit	0
Occupancies requiring communal use of sanitary facilities, such as dormitories, camps, rooming houses, jails, hospitals, nursing homes, foster care homes	One (WC) for each 10 (M), or fraction	One (WC) for each 10 (F), or fraction	Urinals may be substituted for up to 2/3 of the required no. of (WC)	One (L) for each 10 persons	One for each 20 persons	One (DF) for each 100 persons

Section Ind 60.15 to be repealed and recreated to read:

Ind 60.15 SANITARY FACILITIES.

- (1) Toilet rooms. Separate toilet rooms for each sex shall be provided in day care centers serving 9 or more children. One toilet room, shared in common by both sexes, may be provided in day care centers serving not more than 8 children. The staff and the children may use the same toilet rooms. If separate toilet rooms are provided for the staff, the toilet rooms for the children need not be provided with water closet compartments and the doors to the toilet rooms may be eliminated.
- (2) Sanitary fixtures. One water closet and one lavatory for the first 10 children and one water closet and one lavatory for every 15 children in excess of 10 shall be provided. Urinals may be substituted for water closets provided the water closets are not reduced to less than two-thirds of the required number of water closets. Separate fixtures for the staff need not be provided.

Section Ind 64.01 to be amended to read:

Ind 64.01 SCOPE. All heating, ventilating and air conditioning systems shall be designed, installed, maintained and operated so as to provide the service and results required within the provisions of this chapter. The minimum requirements established in each part of this chapter shall be complied with as they apply to that specific public building or place of employment. The administrative rules pertaining to energy conservation may be applied retroactively to existing buildings.

Note: Compliance with this code shall not constitute assurance of proper installation or operation of the heating, ventilating and air conditioning system. This code is not to be used as a design manual, but it is established as a minimum standard for safety, health and general welfare of the public.

Section Ind 64.02 to be amended to read:

Ind 64.02 APPROVAL OF DRAWINGS AND SPECIFICATIONS. All drawings and specifications shall be submitted to the department in accordance with the provisions of sections Ind 50.07 and Ind 50.12.

Section Ind 64.05, Table 1, to be amended to read: (See Table 1, following 2 pages)

Subsection Ind 64.05 (1) (a) to be created to read:

- (a) Spot heating. Spot heating may be used to heat individual fixed work stations in large industrial buildings where it is impractical to provide heat to the entire space as described in (1) above, provided the inside design temperature at the fixed work station is at least 60° F.

Subsections Ind 64.05 (2) (a) and (b) to be created to read:

- (a) Outdoor air requirement waived. If a mechanical air supply system is provided and the requirement for outdoor air determined in accordance with Table 1 is less than 5% of the code required air movement of 6 air changes per hour, the requirement for outdoor air may be eliminated.
- (b) Outdoor air requirement and percent of openings waived. The requirement for outdoor air or percent of openings may be omitted in large volume spaces if 5,000 cubic feet of air per occupant is provided.

Subsection Ind 64.06 (3) to be renumbered Ind 64.06 (6).

Subsection Ind 64.15 (2) to be renumbered Ind 64.06 (3).

Subsection Ind 64.06 (3) (c) to be created to read:

- (c) Air movement requirement waived. The air movement requirement for 6 air changes per hour may be omitted in spot heating applications. The air movement requirement may also be omitted in buildings containing large volume spaces of at least 5,000 cubic feet of air per occupant and where the requirement for outside air is waived in accordance with section Ind 64.05.

Subsection Ind 64.15 (3) to be renumbered Ind 64.06 (4).

Subsection Ind 64.06 (5) to be created to read:

(5) Recirculation and transfer of air.

- (a) Recirculation. No air contaminated by any source other than human occupancy shall be recirculated, except within the same ventilation classification.
- (b) Transfer. Air in a volume equal to the outside air required for a room may be transferred through a corridor and exhausted through a locker room, toilet room, kitchen, janitor closet or a similar area. Air shall not be transferred through elevator shafts and stairwells where doors are required at any floor level.

TABLE 1

Use or Occupancy	Minimum Inside Temp. (Deg. F)	Ventilation Requirements ¹				Applicable Occupancy Code Section (Ind No.)
		Ventilation Classification ²	Basis of Capacity		CFM/net sq. ft. Floor Area	
			Determination of No. of Persons ³ Net sq. ft. per Person	% of Openings ⁴		
<u>Factories, office and mercantile buildings</u>						
Barber and beauty salons	67	(b)	20	3	--	64.54
(where hair spray is used)	67	(d)	20	--	--	64.18
Canning factories	60	(b)	75	3	--	64.54, 64.68
Conference rooms	67	(b)	7	3	--	64.54
Court rooms	67	(b)	6	3	--	64.54
Factories and machine shops	60	(b)	75	3	--	64.54
First aid rooms	67	(b)	6	3	--	64.54
Flammable liquids storage	NMR	(d)	--	--	--	64.18
Foundries and boiler shops	50	(b)	75	3	--	64.13, 64.54
Funeral homes:						
Chapel	67	(b)	6	5	--	64.54
Embalming room	67	(d)	--	--	2	64.54
Offices	67	(b)	75	3	--	64.54
Places of worship, entertainment and recreation which accommodate less than 100 persons	†	(b)	†	3	--	64.54
Printing establishments	60	(b)	--	3	--	64.18, 64.54
Retail establishments (basement)	65	(b)	40	3	--	64.54
(other floors)	65	(b)	60	3	--	64.54
(shopping malls)	65	(b)	40	3	--	64.54
Security vaults (occupied)	65	(a)	300	--	--	64.54
Warehouses	NMR	--	--	--	--	64.18, 64.54
<u>Theaters and places of assembly (which accommodate more than 100 persons)</u>						
Arenas and field houses (use seated area)	60	(a)	6	--	--	64.55
Armories (drill halls)	55	(a)	30	--	--	64.55
Assembly halls (other than church)	67	(a)	6	--	--	64.55
Bowling alleys	67	(a)	15	--	--	Based on occupied areas
Cafeterias, dining areas, restaurants, billiard rooms	67	(a)	15	--	--	64.55
Churches and places of worship:						
Chapels	67	(b)	6	3	--	64.55 (3)
Dining and social rooms	67	(b)	15	3	--	64.55 (3)
Nave or auditorium	67	(b)	6	3	--	64.55 (3)
Sunday school rooms	67	(b)	20	3	--	64.55 (3)
Club rooms (seated)	67	(a)	6	--	--	64.55
(unseated)	67	(a)	15	--	--	64.55
Dance halls	67	(a)	15	--	--	64.55
Lodge halls	65	(a)	15	--	--	64.55
Roller and ice skating rinks (indoor)	50	(a)	15	--	--	64.55
Ice resurfacing	NMR	(d)	--	--	--	64.18
Taverns	67	(a)	20	--	--	64.55
Tennis courts (indoor)	65	(a)	--	--	--	64.55
Theaters	67	(a)	6	--	--	64.55
Lobbies	65	(a)	15	--	--	64.55
Lounge rooms	67	(a)	15	--	--	64.55
Motion picture booths	60	(a) or (c)	--	--	2	64.55 (5)
<u>Hospitals and nursing homes</u>						
Autopsy rooms	60	(d)	--	--	2	64.57

TABLE 1 (CONTINUED)

Use or Occupancy	Minimum Inside Temp. (Deg. F)	Ventilation Classification ²	Ventilation Requirements ¹			Applicable Occupancy Code Section (Ind No.)
			Basis of Capacity			
			Determination of No. of Persons ³	% of Openings ⁴	CFM/net sq. ft. Floor Area	
			Net sq. ft. per Person			
<u>Schools and other places of instruction</u>						
Administrative office space	67	(b)	75	3	--	64.56
Arts, crafts, drafting rooms	67	(a)	30	--	--	64.56 (3)
Classrooms	67	(a)	20	--	--	64.56
Gymnasiums, field houses, auditoriums, theaters (fixed seats)	55-67	(a)	6	--	--	64.56
Bleachers	--	(a)	2.75 or 18"/LF	--	--	64.56
Locker and shower rooms	70	(c) or (d)	--	--	2	64.65
Natatoriums	70	(c)	--	--	1 or 2/pool sf	64.66
Chlorine storage rooms	NMR	(d)	--	--	1	64.65
Home economics (cooking)	67	(a)	30	--	--	64.56
Kitchens	67	(d)	--	--	200/CA	64.67
Laboratories (science)	60	(c) or (d)	--	--	2	64.67
Lecture halls	67	(a)	30	--	--	64.18
Libraries and resource centers	67	(a)	6	--	--	64.56
Reading rooms	67	(a)	20	--	--	64.56
Stack areas	67	(a) or (d)	100	--	1/4	64.56
Lunchrooms	65	(a)	10	--	--	64.56
Museums and art galleries	67	(a)	40	--	--	64.56
Music rooms (instrumental)	67	(a)	20	--	--	64.56
(vocal)	67	(a)	10	--	--	64.56
Special education	67	(a)	35	--	--	64.56
Study halls, common areas with nonfixed seating	67	(a)	10	--	--	64.56
Toilet rooms	65	(d)	--	--	2 or 60/TF	64.56
Vocational shops:						
With vehicle service and repair	60	(c) or (d)	--	--	3/4	64.18
Without vehicle service and repair	60	(a)	50	--	--	64.18
Wardrobes	NMR	(d)	--	--	2	64.65
<u>Penal institutions and places of detention</u>						
Cells	67	(a)	--	--	--	64.58
<u>Residential occupancies</u>						
Living and sleeping areas	67	(f)	--	5	--	64.59
<u>Day care facilities</u>						
	67	(b)	35	5	--	64.60
<u>Garages and service stations</u>						
Automobile showrooms	60	(b)	--	2	--	64.56, 64.58
Garages: 6 or more vehicles	NMR	(c) or (d)	--	--	1/2	64.63
Repair areas	60	(c) or (d)	--	--	3/4	64.61
Vehicle service buildings	60	(c) or (d)	--	--	1/2	64.62
<u>General sanitation and service areas</u>						
Chlorine storage rooms	NMR	(d)	--	--	1	64.65
Cloak rooms	NMR	(d)	--	--	2	64.65

Subsection Ind 64.06 (6) [renumbered from 64.06 (3) to 64.06 (6)] Note #1 to be amended to read:

Note #1: This rule permits the opening of outside air intakes in schools, offices and retail establishments to be delayed one hour after initial occupancy and permits the closing of outside air openings one hour prior to the termination of the occupancy.

Subsection Ind 64.08 (4) to be created to read:

(4) Exhaust vents. All exhaust vents shall be ducted to the exterior of the building.

Section Ind 64.09 to be repealed and recreated to read:

Ind 64.09 COMBUSTION AIR INTAKES. Any room in which burners are located shall be supplied with combustion air for proper burner operation.

(1) Combustion air for burners. All burners shall be provided with combustion air by one of the following methods:

(a) Combustion air by gravitational means. Where combustion air is introduced by gravitational means, the minimum free area for combustion air intakes shall be calculated in square inches as indicated in Table 64.09. The values are based on the fuel input of the heating equipment

TABLE 64.09

Atmospheric burners	Combustion Air Intakes Ducted from the Outside to an Interior Room	Combustion Air Intakes Located at the Outside Wall of an Exterior Room
Gas-fired, all occupancies except industrial	1 sq.in./1000 Btu/hr.	1 sq.in./2000 Btu/hr.
Gas-fired, industrial occupancies	1 sq.in./1000 Btu/hr.	1 sq.in./5000 Btu/hr.
Oil-fired, all occupancies	1 sq.in./1000 Btu/hr.	1 sq.in./2000 Btu/hr.

(b) Combustion air by mechanical means. Combustion air furnished by mechanical systems, such as makeup air units, may be used when complete design data is submitted and approved by the department.

(c) Combustion air by infiltration. If the heating equipment is not required to be located in a fire-resistive room, combustion air may be provided by means of infiltration where the total area of the outdoor openings (doors and windows) is greater than 3% of the floor area in which the burner is located.

Note: See section Ind 64.22 for special conditions.

(2) Dampers.

(a) Manually operated dampers are prohibited.

(b) Motorized dampers are acceptable when interlocked with the burner. Dampers shall be open when the burner is in operation. A safety interlock switch shall be installed to insure that the damper is in an open position before the burner is permitted to operate.

- (3) Ductwork. Where ductwork is required to bring combustion air into the building, the duct shall have the same cross-sectional area as the free area of the combustion air openings.
- (4) Segregation of combustion air. The combustion air path shall be completely segregated from the outside air ventilation ductwork.
- (5) Burners in negative pressure locations. An atmospheric burner shall not be installed where the space in which the burner is located is under negative pressure due to an exhaust system.
- (6) Mounting height. Mounting height of the combustion air intakes shall be as required in section Ind 64.19 (1) (c).
- (7) Air-handling equipment located in a boiler or furnace room. If the fuel input to the burner exceeds 400,000 Btu/hour, the air-handling equipment and the burner shall be interlocked to shut off the burner and the blower when any service door to the air-handling equipment is opened, unless a barrier physically separates the burner from the air-handling equipment.

Subsection Ind 64.15 (4) to be repealed.

Subsection Ind 64.19 (5) (a) to be amended to read:

- (5) Dampers. (a) Intake. All required outside air intakes shall be equipped with a damper with automatic controls which will close the damper and prevent the intake of outside air into the building when the ventilating unit is not in operation.

Section Ind 64.20 to be repealed and recreated to read:

Ind 64.20 EQUIPMENT RATINGS AND SAFETY CONTROLS.

- (1)* Test and installation standards. Oil and gas-fired heating equipment, electric heating equipment, and accessory equipment or devices shall be tested and installed in accordance with standards recognized by the department.

Note: For a list of standards acceptable to the department, refer to Appendix A.

- (2) Safety controls.
 - (a) General. The complete safety control package for the heating and ventilating equipment shall comply with standards accepted by the department.
 - (b) Limits and controls. Oil and gas-fired heating equipment and electric heating equipment shall be equipped with primary (flame safeguard) safety controls, safety limit switches, and burners or electric elements that comply with standards accepted by the department.

Note: The department recognizes UL 296--Oil Burners, and UL 795--Commercial-Industrial Gas-Heating Equipment, as acceptable standards that satisfy the requirements of Ind 64.20 (1) and (2).

*See Appendix A for further explanatory material.

- (3) Listed equipment. Complete factory assembled heating units shall be labeled by listing agencies approved by the department.

Note: The department accepts heating equipment listed by American Gas Association and Underwriters' Laboratories.

- (4) Unlisted equipment. If the heating equipment is unlisted, the following provisions shall be taken:
- (a) Manufacturer's statement. A statement from the equipment manufacturer shall be provided indicating the national standard with which the equipment complies.
 - (b) Tests. A test by a Wisconsin registered engineer shall be conducted on the output and safety controls, in accordance with the national standard used by the manufacturer. A statement regarding the test of the rating and safety controls shall be furnished for each installation unless an approval for the equipment is obtained from the department in accordance with (5) below.
- (5) Equipment approval. Equipment approval may be obtained from the department upon submission of a technical report, based on the test required in (4) (b) above, together with \$100 approval review fee.

Section Ind 64.21 to be repealed and recreated to read:

Ind 64.21 LOCATION OF EQUIPMENT. The various types of heating equipment and the corresponding types of occupancies in which the equipment may be located are shown in Table 64.21. The footnotes below the table designate special requirements for the listed equipment.

Section Ind 64.22 to be repealed and recreated to read:

Ind 64.22 SPECIAL REQUIREMENTS.

- (1) Boilers and pressure vessels.
- (a) Construction standards. Boilers and pressure vessels shall be constructed and installed in compliance with the standards of the American Society of Mechanical Engineers, as adopted under the Wis. Adm. Code chapters Ind 41-42--Boiler and Pressure Vessel Code.
 - (b) Installation registration. Installation registration form SB-257 shall be filed with the department, in accordance with the requirements of section Ind 41.05, before the boiler or pressure vessel is put into operation.
- (2) Furnaces. Forced-air heating systems shall be designed to prevent a negative pressure on the heat exchanger.
- (3) Suspended equipment. Suspended gas or oil-fired heating and ventilating equipment shall be visible to persons within the room where it is suspended and in no way hidden and shall comply with the following:
- (a) If the entering air to the heat exchanger of all gas-fired equipment is 30° F or lower, the heat exchanger and burners shall be constructed of corrosion-resistive materials.

TABLE 64.21--LOCATION OF EQUIPMENT

Location and Type of Occupancy	VENTED UNITS				UNVENTED UNITS			ELECTRIC	WATER-LOW PRES. STEAM
	Gas or Oil Furnace		Gas or Oil Unit Heater	Gas or Oil Infrared	Gas or Oil Space Heater	Gas Dir. Fired Makeup Air ¹	Gas Infrared	Furnaces, Unit Heaters, Heat Pumps, Basebrd Heaters, etc.	Unit Ventilators, Heaters, Makeup Air Units, Baseboard Heaters, etc.
	Central	Suspended							
Location	Rated Enclosure	7' above floor	7' above floor	7' above floor		7' above floor	7' above floor		
Type of occupancy									
Factories, office & mercantile bldgs.								PERMITTED IN ALL OCCUPANCIES	PERMITTED IN ALL OCCUPANCIES
Factories	Yes	Yes	Yes	Yes	N.P.	Yes	Yes		
Mercantile	Yes	Yes	Yes	N.P.	N.P. ²	N.P.	N.P.		
Offices	Yes	Yes	Yes	N.P.	Yes	N.P.	N.P.		
Places of assembly, entertainment, recreation and dining (less than 100 persons)	Yes	Yes	Yes	Yes	N.P.	Yes	Yes		
Tennis courts	Yes	Yes	Yes	Yes	N.P.	N.P.	Yes		
Theaters and places of assembly, entertainment, and worship (100 persons or more)	Yes	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.		
Restaurants	Yes	N.P.	N.P.	N.P.	N.P.	N.P. ³	N.P.		
Tennis courts	Yes	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.		
Schools & other places of instruction	Yes	N.P. ⁴	N.P. ⁴	N.P.	N.P.	N.P.	N.P.		
Hospitals, nursing homes and penal institutions	Yes	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.		
Residential occupancies (apartments, hotels, motels, etc.)	Yes	N.P.	N.P.	N.P.	N.P. ⁵	N.P.	N.P.		
Hazardous occupancies									
Garages	Yes	Yes ⁶	Yes ⁶	Yes ⁶	N.P.	Yes ⁶	Yes ⁶		
Aircraft hangars	Yes	Yes ⁷	Yes ⁷	Yes ⁷	N.P.	Yes ⁷	Yes ⁷		
Day care centers	Yes	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.		

N.P. = Not permitted.

¹ Direct-fired makeup air units shall be mechanically exhausted in the range of 90% to 110% of the air supplied.

² Permitted in retail stores less than 1500 square feet gross area with combustion air ducted to unit.

³ Permitted in kitchens to provide makeup air for kitchen exhaust systems if located outside building or in a rated enclosure.

⁴ Permitted only in shops with a 4-hour separation from other parts of the building.

⁵ Gas-fired, direct-vent wall furnaces are permitted in apartments and motels.

⁶ Suspend heating units in garages at least 8 feet off the floor.

⁷ Suspend unit 10 feet above the upper surface of the wings or engine enclosure of the aircraft.

Unlisted occupancies - Use the above occupancy that is most similar to the listed occupancy.

Clearances - Equipment shall be installed in accordance with the clearances from combustibles indicated on the name plate of the unit.

- (4) Gas or oil-fired radiant heaters. Gas or oil-fired radiant heaters are subject to the following provisions:
- (a) The heaters shall be equipped with an automatic pilot of the complete shutoff type or with a 100% shutoff electric ignition.
 - (b) If unvented radiant heaters are used, gravity or mechanical means shall be provided to exhaust at least 4 CFM per 1000 Btu per hour input of installed heaters. Provisions shall be made for an equal supply of outside air.
 - (c) Exhaust openings for removing products of combustion shall be provided above the level of the radiant heaters.
 - (d) Oil-fired radiant heaters shall not be suspended over combustible materials.
 - (e) Oil-fired radiant heaters shall be equipped with mechanical pressure-atomizing burners.
- (5) Space heaters. Space heaters shall comply with the following provisions:
- (a) The burner of the appliance shall be enclosed with a metal housing so constructed that there will be no open flame and the burner housing shall be effectively guarded against personal contact. The arrangement shall be such that the shield will prevent any combustible material in the vicinity of the appliance from coming in contact with the flame or with the housing that encloses the burner. Oil-fired space heaters shall be equipped with a mechanical pressure atomizing burner.
 - (b) Space heaters shall not be equipped with duct extensions beyond the vertical and horizontal limits of the metal enclosure.
- (6) Equipment in hazardous locations. The types of heating and ventilating equipment that may be installed in hazardous locations (as defined in Article 500 of the National Electrical Code) are as follows:
- (a) Listed low-pressure steam or hot water unit heaters and makeup air units;
 - (b) Listed electric units.

Note: The department will accept equipment listed by Underwriters' Laboratories, Inc.

Section Ind 64.23 to be repealed and recreated to read:

Ind 64.23 PIPING.

- (1) Pipe sizes and arrangement. All steam and hot water supply and return piping, air-line piping and auxiliary equipment shall be of appropriate sizes, elevations and arrangements to accomplish the calculated services in practical operation, without undue noise, stress or other detriment.
- (2) Expansion and contraction. The piping for the heating system shall be equipped with anchors, expansion swings or joints, supports and similar devices to relieve stress and strains caused by temperature change of the pipe material.

- (3) Pipe insulation. Steam, hot water supply and return piping shall be covered with insulating material where the pipes pass through occupied areas and the surface temperature exceeds 180° F, unless guarded.
- (4) Steam and hot water pipes. No pipe carrying hot water or steam at a surface temperature exceeding 250° F shall be placed within one inch of any woodwork, pass through a combustible floor, ceiling or partition unless the pipe is protected by a metal tube one inch larger in diameter than the pipe or with approved pipe covering.
- (5) Gas or oil installations.
 - (a) Piping installations. All gas piping and oil piping shall comply with the standards accepted by the department.

Note: The department will accept gas piping installations which conform to NFPA No. 54 (ANSI Z223.1), National Fuel Gas Code; and oil piping installations which conform to NFPA No. 31, Oil-Burning Equipment.
 - (b) Oil tank installations. All oil-burning equipment shall be supplied with oil from a supply tank having a capacity of not less than 250 gallons. The fuel oil tank shall be equipped with a fill pipe, vent pipe and oil gauge. The vent pipe and fill pipe shall terminate outside of the building.

Sections Ind 64.24 through Ind 64.30 to be repealed.

Section Ind 64.31 Note to be amended to read:

Note: The department will accept air duct velocities designed in accordance with the standards of the ASHRAE Handbook of Fundamentals, published by the American Society of Heating, Refrigerating and Air Conditioning Engineers.

Subsection Ind 64.34 (2) Note to be amended to read:

Note: The department will accept the standards for ducts in the ASHRAE Handbook of Fundamentals, published by the American Society of Heating, Refrigerating and Air Conditioning Engineers, or as illustrated in the Low Velocity or High Velocity Duct Construction Standards published by the Sheet Metal and Air Conditioning Contractors National Association, Inc.

Subsection Ind 64.34 (3) (a) Note to be amended to read:

Note: The department accepts Class 1 air ducts tested (Standards for Safety, UL 181) and listed by Underwriters' Laboratories, Inc., and constructed in accordance with fibrous glass duct construction standards published by the Sheet Metal and Air Conditioning Contractors National Association, Inc.

Section Ind 64.40 to be amended to read:

Ind 64.40 RELIEF VENTS.

- (1) Barometric relief vents permitted. The use of barometric relief vents is permitted for type (a) and (b) ventilation classifications designated in Table 1. Where barometric relief vents are installed on the roof, the discharge openings shall be not less than 2 feet above the roof.
- (2) Barometric relief vents prohibited. The use of barometric relief vents is prohibited for type (c), (d) and (e) ventilation classifications designated in Table 1.

Section Ind 64.41 to be amended to read:

Ind 64.41 SUSPENDED CEILING PLENUM. Plenums above ceilings used for the supply, return and transfer of air shall be of noncombustible construction, as defined in subsection Ind 51.01 (86) (a). The installation of hazardous piping and cables is prohibited. Openings into the plenum that would affect the fire-resistive rating of the roof and ceiling are prohibited.

Note: This section permits the use of steel, painted steel bar joists and metal decking, concrete, plaster, control tubing and other inorganic materials and prohibits the use of plastic wire sheathing, plastic thermal insulation, plastic pipe, intumescent paint and organic materials which will not pass ASTM test procedure E-136 [Ind 51.25 (50)].

Subsection Ind 64.42 (1) (a) to be repealed.

Subsection Ind 64.42 (1) (b) to be renumbered (1) (a).

Subsection Ind 64.42 (1) (c) to be renumbered (1) (b).

Subsection Ind 64.51 (2) to be amended to read:

- (2) Guarding of surfaces. Equipment located in occupied areas and installed less than 7 feet above the floor shall be guarded to prevent contact with:

- (a) Any surface temperatures that exceed 180° F;

Note: For electrical equipment, the department will accept the surface temperature defined in UL 1042--Standard for Safety, Electric Baseboard Heating Equipment, published by Underwriters' Laboratories, Inc.

- (b) Surfaces that are likely to cause lacerations.

Subsection Ind 64.56 (2) Note to be created to read:

Note: This rule does not apply to corridors furnished with coat hooks.

Subsection Ind 64.56 (3) to be amended to read:

- (3) School shop equipment and laboratory exhaust. An exhaust system in accordance with the requirements of subsection Ind 64.54 (3) shall be provided for all equipment and processes that create dust, fumes, vapors and gases injurious to health. Makeup air may be transferred from other areas of the building to replace the air exhausted from the equipment or process.

Subsection Ind 64.57 (2) (intro. par.) Note to be created to read:

Note: The department of health and social services requires a positive pressure relationship, with respect to adjacent areas, in corridors, operating rooms, delivery rooms, nurseries, day room areas, laboratories with media transfer, and nurses stations which are located in corridors.

Subsection Ind 64.59 (3) to be amended to read:

- (3) Return air ducts. Unlined wood joists and stud spaces will be permitted to be used as return air ducts in individual living units provided with individual heating and ventilating systems.

Subsection Ind 64.63 (2) (b) Note to be amended to read:

Note #1: A live storage area is any area used for storage of fire trucks, tractors, automobiles, trucks, and similar self-propelled vehicles which are driven in and out of the storage area under their own power; it does not include areas where vehicles and equipment are stored for seasonal periods, or areas where vehicles are displayed without batteries and where the gasoline tanks of the vehicles are empty and free of fumes.

Subsection Ind 64.63 (2) (b) Note #2 to be created to read:

Note #2: The department will permit the use of a mechanical exhaust system in conjunction with openings in the exterior walls to provide the ventilation required by Table 1.

Subsection Ind 64.64 (1) Note to be created to read:

Note: A live storage area is any area used for storage of fire trucks, tractors, automobiles, trucks, and similar self-propelled vehicles which are driven in and out of the storage area under their own power; it does not include areas where vehicles and equipment are stored for seasonal periods, or areas where vehicles are displayed without batteries and where the gasoline tanks of the vehicles are empty and free of fumes.

Subsection Ind 64.65 (1) to be amended to read:

- (1) Scope. This classification shall include toilet rooms, locker rooms, shower rooms and janitor closets.

Note #1: A janitor closet is a service closet with one or more plumbing fixtures.

Note #2: For exhaust ventilation requirements in hospital service areas, see section Ind 64.57.

Note #3: For exhaust ventilation requirements in places of employment, see section Ind 64.54.

Subsection Ind 64.65 (3) (c) to be created to read:

- (c) Locker, shower and toilet room ventilation. Adjoining locker, shower and toilet rooms shall be exhausted at the rate of 2 cubic feet per minute per square foot of area, based on the floor area of the largest space. The rooms shall be provided with tempered makeup air supplied directly from the outside or transferred from other areas of the building in accordance with the requirements of section Ind 64.18. A negative pressure relationship shall be maintained in the shower and toilet room with respect to the locker room.

Subsection Ind 64.65 (4) to be repealed.

Section Ind 64.66 to be renumbered Ind 64.67.

Section Ind 64.67 to be renumbered Ind 64.68.

Section Ind 64.66 to be created to read:

Ind 64.66 NATATORIUMS.

- (1) Pool ventilation. In natatoriums, a volume of tempered outside air supply and exhaust shall be provided at the rate of at least 2 cubic feet per minute per square foot of pool surface. The volume of tempered outside air and exhaust may be reduced to a minimum of one cubic foot per minute per square foot of pool surface provided humidity controls are used to limit the relative humidity to 60%.
- (2) Air movement. The air movement in a natatorium shall be not less than 6 air changes per hour unless mechanical cooling is provided to satisfy the heat gain requirement for the space.

Subsection Ind 64.67 (5) ^{(a) to (d)} to be repealed and recreated to read:

(5) Exhaust hood requirements.

- (a) Size of hood. The horizontal inside dimensions for canopy hoods shall be sized to effectively capture grease vapors, but in no case shall these dimensions be less than the overall horizontal dimensions of the grease-producing equipment. The horizontal inside dimensions for noncanopy, pre-fabricated backshelf hoods may be less than the overall horizontal dimensions of the grease-producing equipment.
- (b) Exhaust rates. The kitchen exhaust hood shall be provided with a capture velocity to effectively capture the grease vapors and may be designed through engineering analysis or the empirical design formulas stated below:

1. Canopy hood. Hood open on all 4 sides: $Q = 150 A$ (area).

2. Wall hood. Hood open on 3 sides or less: $Q = 100 A$ (area).
3. Slotted-type hood. $V = 350$ feet per minute through the slot opening. The slot shall be at least 3 inches in width.
4. Noncanopy hood. The minimum volume of exhaust air for noncanopy type hoods (prefabricated backshelf) shall be not less than $Q = 300 L$ (length).

Note: Q equals the exhaust air in cubic feet per minute; A equals the area of the hood over the grease-producing equipment in square feet; V equals the velocity in feet per minute; and L equals the total length in feet of the cooking appliance(s) being ventilated, and measured parallel to the front edge of the appliance(s).

- (c) Materials. Hoods shall be constructed and supported by steel not less than .0478 inch U.S. standard gage (No. 18 manufacturers standard gage) or stainless steel not less than .0359 inch U.S. standard gage (No. 20 manufacturers standard gage) or other materials of equivalent strength, fire and corrosion resistance.

Note: The department will permit hoods constructed of aluminum, the thickness of which is not less than .050 inch.

Subsection Ind 64.67 (5) (e) to be renumbered Ind 64.67 (5) (d)
Subsection Ind 64.67 (5) (f) to be renumbered Ind 64.67 (5) (e).
Subsection Ind 64.67 (5) (g) to be renumbered Ind 64.67 (5) (f).
Subsection Ind 64.67 (5) (h) to be renumbered Ind 64.67 (5) (g).
Subsection Ind 64.67 (5) (i) to be renumbered Ind 64.67 (5) (h).

Subsection Ind 64.67 (6) (b) to be amended to read:

- (b) Materials. Ducts shall be constructed of and supported by steel not lighter than .0598 inch U.S. standard gage (No. 16 manufacturers standard gage) or stainless steel not lighter than .0478 inch U.S. standard gage (No. 18 manufacturers standard gage) or other materials of equivalent strength, fire and corrosion resistance.

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section 227.02 (1) (b), Wis. Stats., the Department of Industry, Labor and Human Relations hereby amends as follows, which amendments do not require notice or hearing:

Table 51.03-B, footnote #3, to be amended to read:

³Fire windows shall be as required for moderate fire exposure---see Ind 51.048.

Subsection Ind 51.24 (intro. par.) to be amended to read:

Ind 51.24 Fire alarm systems. Interior fire alarm systems required under Wis. Adm. Code sections Ind 54.19, 56.19 and 57.22 shall be designed and constructed in conformity with the following requirements:

Subsection Ind 51.24 (3) (intro. par.) to be amended to read:

- (3) In buildings more than 3 stories in height, coded fire alarm systems shall be provided, and the systems shall be so arranged that the code transmitted shall indicate the location and the story of the structure in which the signal originated.

Subsection Ind 52.03 (1) (intro. par.) to be amended to read:

Ind 52.03 Window cleaning. (1) Where the tops of windows to be cleaned are more than 20 feet above the floor, ground, flat roof, balcony, or permanent platform, one of the following means shall be provided to protect the window cleaners.

Subsection Ind 52.04 (4) (c) 2. to be amended to read:

2. One accessible toilet room is required in buildings accommodating 5 or less employes and less than 25 patrons per Ind 54.12 (1).

Subsection Ind 52.04 (4) (d) to be repealed. [This is a repeat of (5).]

Subsection Ind 52.04 (9) (c) 2. to be amended to read:

2. The international symbol for barrier-free environments shall be placed at all entrances indicating the location of the nearest accessible entrance(s) and accessible toilet facilities. The symbol at the exterior of the building shall be legible from adjacent streets, driveways or public walks.

Subsection Ind 52.05 (1) to be amended to read:

Ind 52.05 Size of courts. (1) In applying the following requirements, a building from 30 to 43 feet high shall be considered as having at least 3 stories, and each additional 13 feet shall be considered an additional story.

Section Ind 52.18 to be repealed. (See note following section Ind 52.06.)

Index for Chapter Ind 53---Structural Requirements. Ind 33.316 should be Ind 53.316.

Subsection Ind 53.312 (2) (b) 3. to be amended to read:

3. Water. See Ind 53.315.

Subsection Ind 53.312 (2) (c) (intro. par.) to be amended to read:

- (2) Requirements. Mortar for masonry shall conform to the property requirements of Table 53-VI and to the requirements of ASTM C-270 [Ind 51.25 (34)] unless otherwise noted in this section. If approved laboratory testing is not conducted to indicate compliance with Table 53-VI, the mortar mix shall be restricted to the provisions of Table 53-VII.

Subsection Ind 53.316 (2) (c) to be amended to read:

- (c) Assembly. Ties shall consist of the equivalent of at least 2 No. 9 steel wire gage longitudinal wires or rods with No. 9 steel wire gage cross wires or rods spaced not over 16 inches apart along each longitudinal wire or rod electrically flush or butt welded to ~~the~~ tie the outside wires or rods together and provide mechanical bond.

Subsection Ind 53.32 (1) to be amended to read:

Ind 53.32 Design. (1) GENERAL REQUIREMENTS. Design of plain (non-reinforced) masonry shall be based either on the empirical method and limitations of section Ind 53.322 or on a detailed engineering analysis according to the provisions of section Ind 53.323. Design of reinforced masonry shall be based on the provisions of section Ind 53.323.

Subsection Ind 53.321 (5) (a) to be amended to read:

- (5) SPECIAL WALLS. (a) Stack or chimney walls. See section Ind 64.46 and Table 53-VIII for general requirements.

Subsection Ind 53.322 (5) (b) 2. to be amended to read:

2. Stack bond. In each wythe of masonry with units laid in stack bond, the masonry shall be reinforced by a continuous tie assembly, as defined in Ind 53.316 (2), at vertical intervals not ~~exceed~~ exceeding 16 inches. For interior non-load-bearing partitions this spacing may be increased to 24 inches. (For load-bearing walls, see also Ind 53.34 (3) (b) 4.)

Also, Table 53-XI is not a part of this subsection; it is referred to in subsection Ind 53.322 (4) and should follow (4) as closely as possible.

Subsection Ind 53.322 (5) (d) 2. b. to be amended to read:

- b. Use details which are designed to permit differential movement at the intersection of interior and exterior masonry, provided such details are consistent with the requirements for lateral stability of the masonry.

Section Ind 53.56 to be amended to read:

Ind 53.56 Other metals. The design, fabrication and erection of other metals or metal alloys not specifically listed in this section shall be in accordance with the provisions of section Ind 50.18.

Subsection Ind 53.61 (1) (a) d. to be amended to read:

- d. Section 102-D₇. Refer to section Ind 53.11. The combination of full snow load with wind load shall be taken into consideration.

Index to Chapter Ind 55--Theaters and Assembly Halls. Ind 55.33 Standpipes.

Section Ind 55.001 to be amended to read:

Ind 55.001 Theaters. In the theater classification are included all buildings, or parts of buildings, containing as an assembly hall, having a stage which may be equipped with curtains or permanent or movable scenery, or which is otherwise adaptable to the showing of plays, operas, motion pictures or similar forms of entertainment.

Subsection Ind 55.06 (2) (j) to be amended to read:

- (j) Lodge halls. 6 sq. ft. per person
for seated space.
15 sq. ft. per person
for unseated space.

Subsection Ind 55.13 (3) (a) to be amended to read:

- (a) The number of seats in a row may be increase to 100 where self-raising seats are provided which leave an unobstructed passageway between rows of not less than 18 inches in width leading to a side aisle on each side of the auditorium in which exit doorways are located at not more than 20 feet intervals to an exit corridor or exit court.

Subsection Ind 55.29 (1) (b) Note to be amended to read:

Note: For definition of "owner", see section 101.01 (2) (i), Wis. Stats.

Section Ind 55.41 to be amended to read:

Ind 55.41 Construction of booth. The floor of each motion picture booth shall be constructed on of masonry or reinforced concrete, or shall be covered with not less than 2 inches of fire-resistive material. The walls and ceilings shall be not less than 2-hour fire-resistive construction as specified in section Ind 51.04.

Subsection Ind 55.43 (2) to be amended to read:

- (2) Each opening shall be provided with an approved gravity shutter set into guides not less than one inch at sides and bottom, and overlapping the top of the opening by at least one inch when closed. Shutters shall be not less than No. 10 U.S. standard gauge iron or equivalent, arranged to move freely in guides of like material and thickness bolted to the wall. Each shutter shall be suspended by a cord and shall be so arranged that closing is by gravity action. A fusible link shall be provided in the cord over each shutter. A link shall also be provided over each magazine, which on operating will close all shutters. A manual release shall be provided near each exit door by which all shutters can be closed simultaneously. Shutters shall not be blocked open nor held open in any manner except by the harness of cords and links as herein described.

Section Ind 55.45 to be amended to read:

Ind 55.45 Relief outlets. Every booth or room housing projection, sound or other equipment which constitutes a fire, smoke, explosion or fuming hazard shall be equipped with one or more gravity outlets extending upward from the ceiling through the roof. The net area of such gravity relief outlets shall be equal to one per cent of the room or booth floor area, but not less than 12 inches in diameter. Such outlets shall be constructed as sheet metal ducts having double walls with 1/2-inch air space between, or better construction. Where a relief outlet passes through, or is within 18 inches of any combustible construction, or passes through any other occupancy, approved masonry flues as specified for chimneys, section Ind 64.46, shall be used. The relief outlets shall be equipped, at the booth or room outlets, with a gravity shutter which will open automatically under excessive heat conditions. The automatic shutter shall normally be tightly closed where mechanical exhaust ventilation is required in the same room.

Section Ind 55.67 to be amended to read:

Ind 55.67 Toilet facilities. Separate toilets shall be provided for each sex in connection with all places of outdoor assembly. Toilet rooms and equipment shall comply in all respects with the requirements of sections Ind 52.50-Ind 52.64, inclusive, of this code.

Subsection Ind 56.13 (2) (a) Note 2 to be amended to read:

2. See allowable occupant space capacity under subsection Ind 56.07 (2) (b). For exception see Ind 56.13 (2) (b) 3.

Section Ind 56.18 to be amended to read:

Ind 56.18 Fire extinguishers. In every building, standard fire extinguishers, as specified in Wis. Adm. Code section Ind 51.22, shall be provided in the proportion of one extinguisher to each 2,500 square feet, or fraction, of floor area, but there shall be at least ~~the~~ one fire extinguisher on each floor including basement. In addition to the fire extinguishers for general protection there shall be at least one extinguisher of appropriate type and size in each laboratory, art, shop or other vocational room. Every fire extinguisher shall be prominently exposed to view and always accessible.

Subsection Ind 57.18 (7) (intro. par.) Note #2 to be amended to read:

Note #2: See Ind 50.07 (2) Note #3 for reference to flood plane requirements.

Subsection Ind 57.18 (7) (b) Note #2 to be amended to read:

Note #2: See Ind 50.12 (4) (c) 2. "Note" for the acceptance of nationally recognized association methods and standards as a basis for calculations and design data.

Subsection Ind 60.10 (1) (intro. par.) to be amended to read:

(1) Where centers are located in conjunction with an assembly hall or a hazardous occupancy, the requirements of sections Ind 54.50 (2) and Ind 55.05, respectively, shall be applicable. If there is no requirement, a one-hour fire-resistive separation shall be provided.

APPENDIX A

Intro. par. to be amended to read:

The material contained in this appendix is for clarification purposes only. The notes, illustrations, etc. are numbered to correspond to the number of the rule as it appears in the text of the code.

A-50-10-50.25 to be created to read:

A-50.10-50.25 FORMS. The following forms (SB2, 8, 8A, 118, 198, 224B and SBD-4927) are referred to in sections Ind 50.10, 50.12, 50.14, 50.18, 50.20 and 50.25. Copies of these forms are available from the Division of Safety and Buildings, P. O. Box 7398, Madison, Wisconsin 53707.

Department of Industry, Labor and Human Relations

Inspection Report and Orders

INSPECTION DATE		FILE NO. E --		
OWNERS NAME		OCCUPANCY INSPECTED		
MAILING ADDRESS		LOCATED AT (STREET ADDRESS)		
CITY	STATE	ZIP CODE	CITY	COUNTY

An Inspection of the above occupancy discloses violations of orders of the Dept. of Industry, Labor & Human Relations promulgated under authority of Chapter 101 of the Revised Statutes of Wisconsin.

SEE REVERSE SIDE FOR APPLICABLE WISCONSIN STATUTES

NOTE	ITEM	ORDER	REQUIREMENTS:	<input type="checkbox"/> Building	<input type="checkbox"/> Safety

IMPORTANT

- Please report when orders are completed • Avoid Delay
- Forfeiture for violations are \$10 to \$100 each day for each violation.
- Keep us informed.

"Failure of an employer reasonably to enforce compliance by employees with such statute or order of the Department shall constitute failure by the employer to comply with such statute or order." Sec. 102.57 Wis. Stats.

COMPLIANCE DATE	VIOLATIONS EXPLAINED TO:	TITLE
By _____ Deputy		DISTRICT NO. _____ Safety & Buildings Division.

PETITION REVIEW FEE – \$50.00

Name of Owner	Building Occupancy or Use	Agent, Architect or Engineering Firm
Company	Tenant Name, if any	Street & No.
Street & No.	Building Location, Street & No.	City State & Zip
City State & Zip	City County	Phone

1. Rule Ind. _____ of the Wisconsin Administrative code cannot be entirely satisfied because:

2. In lieu of complying exactly with the rule, the following alternative is proposed as a means of providing an equivalent degree of safety:

3. Supporting arguments are:

Verification by owner

_____, being duly sworn, says he is the petitioner herein, thus he has read the foregoing petition and that the same is true, as he verily believes.

 signature of owner

subscribed and sworn to me this ____ day of _____, 19____, in _____ County, Wisconsin.

 Notary Public

My commission expires: _____

Commission Action	
Secretary	Date

POSITION STATEMENT:
 To be compiled by
 Chief of Fire Department
 SB 8-A(9-75)

WISCONSIN DEPARTMENT OF
 INDUSTRY, LABOR AND HUMAN RELATIONS
 DIVISION OF SAFETY & BUILDINGS
 P.O. BOX 2209 MADISON WI 53701

Name of Owner	Building Occupancy or Use	Agent, Architect or Engineering Firm
Company	Tenant Name, if any	Street & No.
Street & No.	Building Location, Street & No.	City State & Zip
City State & Zip	City County	Phone

1. I have read the petition for modification of rule: Ind

2. I recommend (Check appropriate box)	Denial	Approval	Conditional Approval	No Comment*
---	--------	----------	----------------------	-------------

3. Explanation for Recommendation:

* If desired, Fire Departments may indicate "No Comment" on non-fire safety issues such as sanitary, energy conservation, structural, barrier free environments, etc.

4. I find no conflict with local rules and regulations
 I find that the petition is in conflict with local rules and regulations

Explanation

Signature of Fire Chief	Date
-------------------------	------

PLEASE COMPLETE AND SUBMIT PROMPTLY TO DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS AT THE ADDRESS SHOWN ABOVE

**PLANS APPROVAL
APPLICATION**
SB-118 (Rev. 5/76)

Department of
INDUSTRY, LABOR AND HUMAN RELATIONS

Safety & Building Division
Box 7398
201 E. Washington Avenue
Madison, Wisconsin 53707

INSTRUCTIONS: Fill in all applicable data. Submittal of Plan Approval Application form is required with each plan submittal. Examination and inspection fees, as determined on back of form, are required to be submitted with a minimum of three sets of plans. Data required on plans is described in code section Ind 50.10.
Codes can be purchased from the Department of Administration, Document Sales, 202 S. Thornton Ave., Madison, 53703

1. THIS APPLICATION IS FOR: Building Plan Approval Heating Plan Approval Other _____

2. PLANS FOR: New Building Addition Alteration Structural Footing & Foundation
 Revision to previously approved plans Other _____

3. PROJECT INFORMATION

Name of Owner		Building Occupancy or Use		Designer or Design Firm	
Company		Tenant Name, if any		Street & No.	
Street & No.		Building Location, Street & No.		City State & Zip	
City State & Zip		City <input type="checkbox"/> Village <input type="checkbox"/> Town <input type="checkbox"/>		County Phone	
Previous Owner If any		Return Plans to <input type="checkbox"/> Owner <input type="checkbox"/> Designer			

**4. DETERMINATION OF FEES SEE CHAP. IND. 69 FOR FULL FEE SCHEDULE
SEE BACK OF PAGE FOR FEE CALCULATION AND ABBREVIATED FEE SCHEDULE**

FOR OFFICE USE ONLY

Total Volume _____	4a Building Plan Fee	\$ _____
	4b Heating-Ventilation Fee	\$ _____
	4c Other	\$ _____
	4d Inspection	\$ _____
	4e TOTAL	\$ _____

Amount Rec'd _____
Date Rec'd _____
Receipt No. _____

5. OTHER INFORMATION

5a Type of Construction

- Fire Resistive-Type A Metal Frame Protected Exterior Masonry Wood Frame Protected
 Fire Resistive-Type B Heavy Timber Metal Frame Unprotected Wood Frame Unprotected

5b Mechanical Information: Type of Heating _____ Net Rating of Heating Units _____

5c SOIL BEARING CAPACITY (See Ind. 53.21)

Method used to determine capacity:

- Check One- Verified Presumptive
Check Value Used- PSF 2000 , 3000 , 4000
6000 , 12000 , Other _____

- | | |
|--------------------------|---|
| Yes | No |
| <input type="checkbox"/> | <input type="checkbox"/> Sprinkler System Provided? |
| <input type="checkbox"/> | <input type="checkbox"/> Fire Alarm Provided? |
| <input type="checkbox"/> | <input type="checkbox"/> Other Detection System Provided? |
| <input type="checkbox"/> | <input type="checkbox"/> Emergency Power Provided? |

6. DESIGN AND SUPERVISION (IND 50.13)

The design, plans, computations and specifications for this project have been prepared under my supervision. I am registered as an Architect Engineer Designer in Wisconsin as provided in Section 443.01 of the Wisconsin Statutes. I am not registered. If this building, existing and additions, contains over 50,000 cu. ft. total volume, it must be designed by a registered person.

Signature of designer	Registration Number	Date
-----------------------	---------------------	------

If this building, existing and additions, contains over 50,000 cu. ft. total volume, the construction of this project shall be under the supervision of a Wisconsin registered architect, engineer or in the case of heating and ventilating, designer.

Plans for buildings over 50,000 cu. ft. will not be approved until the name of the supervising professional is known.

Name of Supervising Professional	Registration Number
----------------------------------	---------------------

NOTE: The supervising professional shall file a written report with the Department upon completion of construction. [Ind 50.13 (3) (c)]

4. DETERMINATION OF FEES

INSTRUCTIONS:

1. Refer to fee schedule shown below.
2. Enter area of each floor in appropriate space.
3. Enter height of each floor (Height includes attic and space between floors).
4. Compute volume of each floor/attic space and total volume for building.*
5. Compute building and/or heating fee per building.
6. Enter other fee (if any) in space per building.
7. Compute inspection fees per building.
8. Total fees and transfer information to front page.

*The "total volume" is determined by the overall outside dimensions of length, width and height.

EXAMINATION FEES PER BUILDING:

Building Plan Fee: Fee .35 per 1000 cu. ft.
 Minimum Fee \$20.00
 Heating & Ventilating Plan Fee: Fee .25 per
 1000 cu. ft. Minimum Fee \$12.00
 Alterations to bldgs.: Fee \$1.50 per \$1,000
 est. cost. Minimum fee \$10.00

*Structural Plans - \$20.00

Revision to Approved Plan \$10.00

*Exhaust Systems \$25.00 per plan

*Spray Booths \$15.00 per plan

Permit to Start Construction (SB 198) \$26.00

Footings & Foundations Plans \$20.00 per Bldg.

Stadium, Grandstand, Bleacher \$8.00/1000

Seats Minimum Fee \$8.00

*Fire Escapes \$20.00 per fire escape

INSPECTION FEES PER BUILDING:

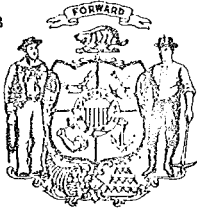
Building Volume/Alt. cost	Fee
Up to 25,000 cu. ft./dollars	\$15.00
25,001 - 100,000 cu. ft./dollars	\$30.00
100,001 - 500,000 cu. ft./dollars	\$45.00
500,001 - 1,000,000 cu. ft./dollars	\$60.00
In excess of 1,000,000 cu. ft./dollars	\$75.00

NOTE

- (1) Heating & Ventilating plans submitted separately require an inspection fee of \$25.00
- *(2) Plans other than building or heating require an inspection fee of \$15.00.

No. of Floors	Area	Height	Total each Floor	Total Vol./1000	x	Exam Fee	=	Building Plan Fee
Basement/Ground	x	=	cu.ft.	x	.35	=	\$	
1st Floor	x	=	cu.ft.	Total Vol./1000	x	Exam Fee	=	Heating Ventilating Fee
2nd	x	=	cu.ft.	x	.25	=	\$	
3rd	x	=	cu.ft.	<input type="checkbox"/> Structural \$20.00	<input type="checkbox"/> Alteration \$1.50/1000			Other
4th & 5th attic & etc.	x	=	cu.ft.	<input type="checkbox"/> Permit to start \$26.00	<input type="checkbox"/> Exhaust \$25.00			\$
	Total Volume or Total Cost of Alteration		=					Inspection Fee
								\$
								Total
								\$

TRANSFER ALL DOLLAR AMOUNTS AND VOLUME TO FRONT PAGE



DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS
INDUSTRIAL SAFETY & BUILDINGS DIVISION
P.O. BOX 2209
MADISON, WISCONSIN 53701

PERMIT TO START CONSTRUCTION
FEE \$26.00 IN ADDITION TO EXAMINATION/INSPECTION FEES

Location of Project:

Owner: _____ E. _____

Street: _____ Plan File Number _____

City: _____ Date Plans Rec'd _____

County: _____

Occupancy: _____

We, the undersigned, request to begin footing and foundation work prior to approval of the plans.

Complete plans have been submitted to the Department of Industry, Labor and Human Relations, Division of Industrial Safety and Buildings, and all information requested by Code Ind 50.10 has been included with the submittal.

We have reviewed the specific code requirements for the building or structure, including Ind 54.01 (construction, height, and allowable area), Ind 50.12, Ind 51.03, Ind 53, Ind 55.02, and Ind 57.50 when applicable and have shown compliance on the drawings.

We agree to make any changes required after the plans have been reviewed and to remove or replace noncode complying parts of the foundation and/or footings.

We agree to proceed with the footings and foundation only and will not continue with the remainder of the building or structure until approval has been received.

Owner's Signature _____ Date _____

Name: _____

Address: _____

Designer's Signature _____ Date _____

Name: _____

Address: _____

Accepted By _____ Date _____

Dept. of Ind., Labor & Human Relations
Div. of Industrial Safety & Buildings

Not Accepted Because _____

Plans will be examined within the next _____ days.

NOTE: Footing and foundation plans submitted prior to final building plans will not be accepted for this permit.

CERTIFICATE OF COMPLETION

Date _____

TO: Department of Industry, Labor and Human Relations
Safety and Buildings Division
P. O. Box 7398
201 E. Washington Avenue
Madison, WI 53707

Gentlemen:

RE: File Number: _____

Plan Number: _____

Owner: _____

Occupancy: _____

Building Street Address: _____

City: _____ County: _____

This is to certify that construction of the referenced project was under my supervision, in accordance with Ind 50.10, and that to the best of my knowledge and belief it has been completed in substantial compliance with the approved plans and specifications with the following exceptions: (IF NONE, STATE NONE)

This certificate covers: Building
Heating & Ventilation
Structural
Other (Specify) _____

Name: _____

Registration Number: _____

Address: _____

A-64.20 to be created to read:

A-64.20 EQUIPMENT RATINGS AND SAFETY CONTROLS. The department recognizes the following reference standards for the testing and installation of heating and ventilating equipment:

- (1) National Fire Protection Association, 470 Atlantic Ave., Boston, Mass. 02210:
 - (a) OIL-BURNING EQUIPMENT, NFPA No. 31;
 - (b) NATIONAL FUEL GAS CODE, NFPA No. 54.
- (2) American National Standards Institute, Inc., 1430 Broadway, New York, N. Y. 10018:
 - (a) GAS-FIRED ROOM HEATERS, Vol. 1, ANSI Z21.11.1;
 - (b) GAS-FIRED LOW PRESSURE STEAM AND HOT WATER BOILERS, ANSI Z21.13;
 - (c) GAS UNIT HEATERS, ANSI Z21.16;
 - (d) DOMESTIC GAS CONVERSION BURNERS, ANSI Z21.17;
 - (e) GAS APPLIANCE PRESSURE REGULATORS, ANSI Z21.18;
 - (f) AUTOMATIC GAS IGNITION SYSTEMS AND COMPONENTS, ANSI Z21.20;
 - (g) AUTOMATIC GAS VALVES, ANSI Z21.21;
 - (h) RELIEF VALVES AND AUTOMATIC GAS SHUTOFF DEVICES FOR HOT WATER SYSTEMS, ANSI Z21.22;
 - (i) GAS APPLIANCE THERMOSTATS, ANSI Z21.23;
 - (j) GAS-FIRED DUCT FURNACES, ANSI Z21.34;
 - (k) GAS FILTERS ON APPLIANCES, ANSI Z21.35;
 - (l) GAS-FIRED GRAVITY AND FAN TYPE DIRECT VENT WALL FURNACES, ANSI Z21.44;
 - (m) GAS-FIRED GRAVITY AND FORCED AIR CENTRAL FURNACES, ANSI Z21.47;
 - (n) GAS-FIRED GRAVITY AND FAN TYPE FLOOR FURNACES, ANSI Z21.48;
 - (o) GAS-FIRED GRAVITY AND FAN TYPE VENTED WALL FURNACES, ANSI Z21.49;
 - (p) VENTED DECORATIVE GAS APPLIANCES, ANSI Z21.50;
 - (q) GAS-FIRED SINGLE FIREBOX BOILERS, ANSI Z21.52;
 - (r) GAS-FIRED HIGH PRESSURE STEAM AND HOT WATER BOILERS (Inputs not over 400,000 Btu/hour), ANSI Z21.59;
 - (s) DECORATIVE GAS APPLIANCES FOR INSTALLATION IN VENTED FIREPLACES, ANSI Z21.60;
 - (t) DIRECT GAS-FIRED MAKE-UP AIR HEATERS, ANSI Z83.4;
 - (u) GAS-FIRED HEAVY DUTY FORCED AIR HEATERS, ANSI Z83.5;
 - (v) GAS-FIRED INFRARED HEATERS, ANSI Z83.6.
- (3) Underwriters' Laboratories, Inc., 207 East Ohio St., Chicago, Illinois 60611:
 - (a) OIL BURNERS, UL 296;
 - (b) CONTROLS, PRIMARY SAFETY FOR GAS- AND OIL-FIRED APPLIANCES, UL 372;
 - (c) HEATING APPLIANCES, ELECTRIC, UL 499;
 - (d) HEAT PUMPS, UL 559;

- (e) OIL-FIRED BOILER ASSEMBLIES, UL 726;
- (f) OIL-FIRED CENTRAL FURNACES, UL 727;
- (g) HEATERS, AIR, AND DIRECT-FIRED HEATERS, OIL-FIRED, UL 733;
- (h) COMMERCIAL-INDUSTRIAL GAS HEATING EQUIPMENT (Inputs over 400,000 Btu/hour), UL 795;
- (i) HEATERS, ELECTRIC, FOR USE IN HAZARDOUS LOCATIONS; Class I, Groups A, B, C and D, and Class II, Groups E, F and G, UL 823;
- (j) ELECTRIC BOILERS, UL 834;
- (k) HEATERS, ELECTRIC DRY BATH, UL 875;
- (l) FAN COIL UNITS AND ROOM FAN HEATER UNITS, UL 883;
- (m) HEATERS, ELECTRIC AIR, UL 1025;
- (n) HEATING EQUIPMENT, ELECTRIC BASEBOARD, UL 1042;
- (o) HEATING EQUIPMENT, ELECTRIC CENTRAL AIR, UL 1096.

Note: The table on the following page is a tabular summary of UL 296 and UL 795.

TABULAR SUMMARY UL STANDARD 296 AND UL STANDARD 795

FUNCTION/BURNER INPUTS	OIL BURNERS UL 296				COMMERCIAL/INDUSTRIAL GAS UL 795				
	3 GPH	7 GPH	20 GPH	Over 20 GPH	Mechanical Draft Burners				ATM Draft
	400,000 Btu or less	1 million Btu or less	3 million Btu or less		Over 400,000 to 2,500,000	Over 2,500,000 to 5,000,000	Over 5,000,000 to 12,500,000	Over 12,500,000	
Prepurge timing	--	--	--	--	4	4	4	4	90 sec ³
Air changes	--	--	--	--	4	4	4	4	--
Interlock Controls (Recycle)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Proven combustion air	8	8	8	3	Yes	Yes	Yes	Yes	--
Valve seal overtravel ⁹	--	--	--	--	--	Optional	Yes	Yes	13
Low gas pressure	--	--	--	--	--	Yes ²⁰	Yes ²⁰	Yes ²⁰	13
High gas pressure	--	--	--	--	--	Yes ²⁰	Yes ²⁰	Yes ²⁰	13
Low fire start	11	11	11	11	11	11	11	11	13
High limit (press. or temp.)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Low water cutoff	Boilers ²¹	Boilers ²¹	Boilers ²¹	Boilers ²¹	Boilers	Boilers	Boilers	Boilers	13
Pilot - Intermittent	Optional	Optional	Optional	--	Optional	Optional	Optional	Optional	12
Pilot - Interrupted	19	19	19	Yes ⁵	Optional	Optional ²	Optional ²	Optional ²	2 10
Direct spark ignition	Yes	Yes	Yes	5	--	--	--	--	--
System & sequence approved safety control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Approved safety shutoff valves (SSOV)	IN	BURNER	DESIGN	--	Yes ¹⁴	Yes ¹⁴	Yes ¹⁴	Yes ¹⁴	Yes ¹³ 14
No vent valve	--	--	--	--	--	--	--	Yes	13
Pilot valve	18	18	18	Yes	Yes ⁵	Yes	Yes	Yes	Yes
Proved pilot	Optional	Optional	Optional	Yes	Yes	Yes	Yes	Yes	Yes
Trial for pilot	17	17	17	15 sec	15 sec	10 sec	10 sec	10 sec	13
Trial for main flame	90 sec ² 17	30 sec ² 17	15 sec ² 17	10/30 sec ⁷	15 sec ²²	10 sec	10 sec	10 sec	13
Flame failure response time	90 sec ¹⁷	4 sec max ¹⁶ 17	4 sec max ¹⁵ 17	4 sec max	4 sec max	4 sec max	4 sec max	2 sec max	13
Valve closing time (max.)	23	23	23	23	5 sec max	1 sec max	1 sec max	1 sec max	13
Supervise main flame	17	17	17	Yes	--	Yes ²	Yes ²	Yes ²	2 10
Action on flame failure	Recycle optional ¹	1	1	Lockout or recycle	Lockout or recycle ⁶	Lockout	Lockout	Lockout	13
Action on limit open	Close SSOV	Close SSOV	Close SSOV	Close SSOV	Close SSOV	Close SSOV	Close SSOV	Close SSOV	13

See following page for footnotes.

FOOTNOTES TO TABULAR SUMMARY UL STANDARD 296 AND UL STANDARD 795:

SSOV = Safety shutoff valve.

- ¹May relight if ignition is re-energized within 0.8 sec. See 15 and 16.
- ²Where intermittent pilot is desired, it is allowable to switch from pilot detector to main flame detector if main flame detector responds to main flame only.
- ³Without shutters, no prepurge required.
- ⁴Options (whichever is chosen, a minimum of 4 air changes must be provided):
30 sec at high fire rate; OR
60 sec at 1/2 high fire rate; OR
90 sec at 1/3 high fire rate.
- ⁵With 2-stage lightoff, direct ignition is permitted if first stage is 20 gph or less (requirements for 20 gph or less apply). Pilot is required if igniting more than 20 gph.
- ⁶Lockout on interrupted pilot applications; recycle on intermittent pilot applications.
- ⁷10 sec for distillate fuel (No. 1 or No. 2); 30 sec for residual fuel (No. 4, 5, 6).
- ⁸Conventional type pressure burner--none needed. Needed for applications with combustion air supply separate from oil supply.
- ⁹Valve seal overtravel switch can be wired into either the start circuit or pre-ignition interlock circuit (if provided).
- ¹⁰Interrupted pilot over 2.5 million Btuh if modulating or high/low firing rate. Otherwise over 5 million Btuh.
- ¹¹If low fire start is not proved, UL will test for smooth lightoff at high fire.
- ¹²Intermittent up to 5 million Btuh unless firing rate control is over 2,500,000 Btuh.
- ¹³Requirements same as mechanical draft burners.
- ¹⁴See Table 1 at end of footnotes for main gas valves.
- ¹⁵Up to 15 sec is permitted if intermittent ignition is employed, or if the ignition system is re-energized in not more than 0.8 sec after flame is extinguished.
- ¹⁶Up to 30 sec is permitted if intermittent ignition is employed, or if the ignition system is re-energized in not more than 0.8 sec after flame is extinguished.
- ¹⁷If proved pilot igniter is used, timings for over 20 gal flame safeguard control may be applied.
- ¹⁸Required for electrically ignited, gas-piloted systems.
- ¹⁹Interrupted pilot may be required if using flame safeguard control with a proved pilot. Otherwise, interrupted pilot is optional.

²⁰Safety shutdown by this limit can be accomplished either by manual reset limits or in the programmer limit circuit.

²¹Required on boilers fired by oil burners--not a requirement of UL 296.

²²If intermittent pilot is used, no main burner flame-establishing period is required.

²³If a separate oil valve is used, it must close within 5 sec max when de-energized.

TABLE 1--AUTOMATIC MAIN GAS SAFETY SHUTOFF VALVES (SSOV) FOR MECHANICAL OR ATMOSPHERIC BURNERS--UL 795 REQUIREMENTS, EFFECTIVE OCTOBER 1, 1974

	400,000 to 2,500,000 BTUH	Over 2,500,000 to 5,000,000 BTUH	Over 5,000,000 to 12,500,000 BTUH	Over 12,500,000 BTUH
Main Valve Requirement	One valve rated for safety shutoff service (SSOV). Closing time 5 sec.	Two SSOV's in series, or one SSOV of the type incorporating a valve seal over- travel interlock. Closing time 1 sec max.	Two SSOV's in series, one of which incorpo- rates a valve seal overtravel interlock. Closing time 1 sec max.	Two SSOV's in series, one of which incorpo- rates a valve seal overtravel interlock. When fuel gas has specific gravity of less than 1.0, include a N.O. 3/4 inch or larger electrical- ly operated valve in a vent line between the two SSOV's.

INDEX

See also first page of each chapter for listing of section headings.

NOTE: An asterisk (*) following a subject reference indicates further requirements will be found in the "occupancy chapters" of the code--chapters Ind 54 through 60.

A

	<u>Ind Section No(s).</u>
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To roofs	51.02
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ACOUSTICAL MATERIAL.	51.03
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CHILD DAY CARE FACILITIES (including all public and
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