

Ind 41,42

Filed April 18, 1974
11:00 am GJP


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 41-42, Boiler and Unfired Pressure Vessel Code, were adopted by the Department of Industry, Labor and Human Relations on April 17, 1974.

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 17 day of April, A.D., 19 74


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 41-42, Boiler and Unfired Pressure Vessel Code.

The rules attached hereto shall become effective on the first day of the month following publication in the Wisconsin Administrative Code as provided in section 227, Wis. Stats.

Title of code to be amended to read:

BOILER AND PRESSURE VESSEL CODE

Section Ind 41.01 to be repealed and recreated to read:

Ind 41.01 Scope.

- (1) The provisions of this code apply to boilers and pressure vessels in use at places of employment and in public buildings.

Note: Section 101.01 (2), Wis. Stats., provides that the phrase "place of employment" means and includes every place, whether indoors or out or underground and the premises appurtenant thereto where either temporarily or permanently any industry, trade or business is carried on, or where any process or operation, directly or indirectly related to any industry, trade or business, is carried on, and where any person is, directly or indirectly, employed by another for direct or indirect gain or profit, but does not include any place where persons are employed in (a) private domestic service which does not involve the use of mechanical power or (b) farming. The term "farming" includes those activities specified in section 102.04 (3), and also includes the transportation of farm products, supplies or equipment directly to the farm by the operator of said farm or his employees for use thereon, if such activities are directly or indirectly for the purpose of producing commodities for market, or as an accessory to such production.

- (2) Vessels used for the storage and transportation of flammable liquids, liquefied petroleum gas, anhydrous ammonia, and refrigerants shall be subject to the provisions of this code, unless covered by other Wisconsin administrative codes or federal codes.

Section Ind 41.02 to be repealed and recreated to read:

Ind 41.02 Definitions.

- (1) ASME BOILER AND PRESSURE VESSEL CODES are those published by the American Society of Mechanical Engineers and will hereinafter be referred to as ASME.
- (2) BOILER. A closed vessel intended for use in heating water or for the application of heat to generate steam or other vapor to be used externally to itself.
 - (a) Low pressure boiler. A boiler on which the safety valves are set at pressures not exceeding 15 psig.
 - (b) Miniature boiler. A boiler on which the safety valve is set at over 15 psig and that does not exceed the following limits:
 - 16 inch inside diameter of shell;
 - 5 cubic feet gross volume;
 - 100 psi maximum allowable working pressure.
 - (c) Portable boiler. An internally fired boiler primarily intended for temporary location and whose construction and usage is obviously of a portable nature.

- (d) Power boiler. A boiler on which the safety valves are set at a pressure of more than 15 psig and that exceeds the dimensions of a miniature boiler.
- (3) CERTIFICATE OF COMPETENCY. A certificate issued to a boiler or pressure vessel inspector by the department.
- (4) CONDEMNED. A boiler or pressure vessel declared to be unsafe and has an applied stamping designating its condemnation.
- (5) DEPARTMENT. Means the department of industry, labor and human relations.
- (6) EXISTING INSTALLATION. Boiler and pressure vessels placed in operation or contracted for prior to January 1, 1957. (See part VI.)
- (7) EXTERNAL INSPECTION. One made while boiler or vessel is in operation.
- (8) FUSION WELDING. The melting together of filler metal and base metal, or of base metal only, which results in coalescence.
- (9) HOT WATER HEATING BOILER AND HOT WATER SUPPLY BOILER. A boiler completely filled with water that furnishes hot water to be used externally to itself at pressures not exceeding 160 psig or at temperatures not exceeding 250° F. (A boiler exceeding either of these limits shall be classified as a power boiler.)
- (10) INSPECTOR, AUTHORIZED OR QUALIFIED.
- (a) Field inspector. A boiler or pressure vessel inspector who holds a valid certificate of competency issued by the department.
- (b) Shop inspector. A boiler or pressure vessel inspector who is holding the necessary commissions and employed by a city or a state which has adopted the ASME boiler and pressure vessel code, or who is employed by an insurance company and who, when performing shop inspections in Wisconsin, holds a certificate of competency issued by the department.
- (11) INTERNAL INSPECTION. One made when the boiler or pressure vessel is shut down and handholes and manholes or other inspection openings are opened or removed for inspection of the interior as required by the inspector.
- (12) NON-STANDARD BOILER OR NON-STANDARD PRESSURE VESSEL. One not bearing a valid Wisconsin stamping, nor the ASME stamping, nor the National Board stamping, nor the U.S. Department of Transportation stamping, nor the stamping of the API-ASME, nor any stamping authorized by other applicable codes.
- (13) OWNER OR USER. Any person, firm, or corporation owning or operating a boiler or pressure vessel.
- (14) PRESSURE VESSEL. A vessel that obtains its pressure from an external source or from an indirect application of heat.
- (15) REPAIR, MAJOR REPAIR, AND ALTERATION.
- (a) Repair. Work necessary to return a boiler or pressure vessel to a safe satisfactory condition.

- (b) Major repair. A repair upon which the strength of a boiler or pressure vessel will depend.
 - (c) Alteration. A change in a boiler or pressure vessel that substantially alters the original design requiring consideration of the effect of the change on the original design. It is not intended that the addition of nozzles smaller than an unreinforced opening size be considered an alteration.
- (16) SECONDHAND VESSEL. A boiler or pressure vessel when both location and ownership have been changed subsequent to the original installation.

Note: For further explanation of definitions, see the current edition of the ASME Code--Section VIII--Scope.

Section Ind 41.04 to be repealed and recreated to read:

Ind 41.04 Reporting accidents, repairs, major repairs, and alterations.

- (1) Whenever a boiler or pressure vessel fails and causes injury to any person, the owner or user shall report the facts involved to the department within the following 24 hours. The owner or user shall not remove or disturb the boiler or pressure vessel or any of its parts nor permit any such removal or disturbance prior to receiving authorization from the department, except for the purpose of saving human life or further property damage.
- (2) The owner or user shall report any repairs, major repairs, or alterations of a boiler or pressure vessel as required in Chapter Ind 42. The owner or user shall also report conversions to other fuels.

Section Ind 41.05 to be repealed and recreated to read:

Ind 41.05 Reports required for installations of boilers and pressure vessels.

- (1) The owner or user of any new or used boiler or pressure vessel, except as regulated in section Ind 41.21, shall file Form SB-257 with the department before operating the boiler or pressure vessel, unless the boiler or pressure vessel is installed in a city of the first class and the city has filed Form SB-257 or its equivalent with the department.

INSTALLATION REGISTRATION
SB-257 (11/71)

State of Wisconsin
Department of Industry, Labor & Human Relations
INDUSTRIAL SAFETY AND BUILDINGS DIVISION

Installing Contractor shall prepare this form in triplicate and distribute as follows:

White - Attach Registration Fee of \$5.00, making check payable to Wisconsin Department of Industry, Labor & Human Relations. Send to Industrial Safety & Buildings Division, Box 2209, Madison, Wisconsin 53701.

Yellow - Send to Owner who shall **POST IT IN A CONSPICUOUS PLACE.**

Pink - Retain for file

Complete appropriate portion

BOILER		PRESSURE VESSEL
Mfgd By		Diameter
<input type="checkbox"/> Power	<input type="checkbox"/> Heating	<input type="checkbox"/> Miniature
<input type="checkbox"/> New	<input type="checkbox"/> Used	Mfgr's Data Report
Heating Surface		Waterwalls
		<input type="checkbox"/> New <input type="checkbox"/> Used
		Length
		<input type="checkbox"/> Yes <input type="checkbox"/> No

Name of User or Owner			Location of Installation		
Street Address			Wis. Registration No.		Natl. Board No.
City	State	Zip	ASME Mfgr Serial No.		Other No.
Safety Valves - Settings		Capacity	PSIG		
1 -	_____	_____	Maximum Allowable Pressure - _____		
2 -	_____	_____	Hydrostatic Test Pressure - _____		
3 -	_____	_____	Date Tested - _____		
Authorized Inspector		Wis. Comm. No.	Employer		Date Inspected
Name of Installing Contractor		Street Address	City	State	Zip Code
Date Installation Completed	Signature of Installer		Title		Date Registered

(2) For required registration fees for installations outside a city of the first class, see Wis. Adm. Code Chapter Ind 69, Fee Schedule.

Section Ind 41.10 to be created to read:

Ind 41.10 Adoption of standards.

(1) Pursuant to section 227.025, Wis. Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards. Copies of the standards in reference are on file in the offices of the department, the secretary of state and the revisor of statutes, or they may be procured for personal use from the following publishers:

(a) The American Society of Mechanical Engineers, United Engineering Center,
345 East 47th Street, New York, New York 10017.

			As Amended by Summer & Winter Addenda	As Amended by Summer & Winter Addenda
1.	Section I	Power Boilers, 1971 Edition	1971	1972
2.	Section II	Material Specifications, 1971 Edition, Parts A, B and C	1971	1972 (Parts A & B only)
3.	Section III	Nuclear Power Plant Components, 1971 Edition	/ 1971	1972
4.	Section IV	Heating Boilers, 1971 Edition	1971	1972
5.	Section V	Nondestructive Examination, 1971 Edition	1971 (winter only)	1972
6.	Section VIII	Pressure Vessels, 1971 Edition, Divisions 1 and 2	1971	1972
7.	Section IX	Welding Qualifications, 1971 Edition	1971	1972
8.	Section X	Fiberglass-Reinforced Plastic Pressure Vessels, 1971 Edition	1971 (summer only)	1972 (winter only)
9.	Section XI	Rules for Inservice Inspection of Nuclear Reactor Coolant Systems, 1971 Edition	1971	1972
10.	Nuclear Power Piping (ANSI B31.7), 1969 Edition, including Addendas 1970 B31.7a-1971, B31.7b-1971, and 1971 Addenda B31.7c-1971			

Subsection Ind 41.11 (6) to be repealed and recreated to read:

- (6) All blow-off equipment, except centrifugal blow-down separators, shall be fitted with openings to facilitate cleaning and inspection and shall have:
 - (a) A pressure gauge graduated from 0-25 psi,
 - (b) A thermometer well located near the water outlet connection and in contact with the retained water in the tank,
 - (c) A gauge glass at least 1/2 inch in diameter. The lower connection to the glass shall be at a point about 6 inches below the water line; the upper connection about 6 inches above,
 - (d) A drain connection at least 2-inch standard pipe size,
 - (e) Connections designed so that freezing will not close the inlet, the outlet, or the vent,
 - (f) Vent piping, full size, piped to the outside atmosphere and discharged to a safe location.

Note: Blow-off equipment designed in accordance with the boiler blow-off equipment code issued by the National Board of Boiler and Pressure Vessel Inspectors, 1968 edition, will meet the requirements of this section. Other methods of designing blow-off equipment may be used if approved by the department.

Subsection Ind 41.13 (2) Note to be amended to read:

Note: Sections VI and VII, ASME Boiler and Pressure Vessel Code, "Recommended Rules for Care and Operating of Heating Boilers" and "Recommended Rules for Care of Power Boilers" are excellent guides for boiler owners and operators.

Section Ind 41.14 to be created to read:

Ind 41.14 Inspection of new installations.

- (1) A new installation of a new or used boiler or pressure vessel shall be inspected by the department before it is placed in operation unless either of the following conditions are met:
 - (a) The boilers or pressure vessels are exempt from periodic inspections in Ind 41.21.
 - (b) The boilers or pressure vessels are installed in a city of the first class and inspections are made by the city, wherein the city shall keep a record of such inspections and shall submit a copy to the department.

Section Ind 41.15 to be created to read:

Ind 41.15 Manufacturer's data reports.

- (1) Before any new or used boiler or pressure vessel is placed in service, the owner or user shall file a manufacturer's data report with the department, except
 - (a) Boilers and pressure vessels exempt from ASME code construction requirements. See Ind 41.50.
 - (b) Boilers and pressure vessels located in a city of the first class that requires the filing of manufacturer's data reports and that files them with the department.

Section Ind 41.16 to be created to read:

Ind 41.16 Low-water cutoff and water feeder.

- (1) Every automatically fired power boiler which does not have a full-time attendant and every automatically fired low-pressure steam boiler shall be equipped with an automatic low-water fuel cutoff or other device which will perform a similar function, so located as to automatically cut off the fuel supply when the surface of the water falls to the lowest safe water line. If a water-feeding device is installed, it shall be so constructed that the water inlet valve cannot feed water into the boiler through the float chamber and so located as to supply requisite feed water. The lowest safe water line shall be not lower than the lowest visible part of the water glass.
- (2) Designs embodying a float and float bowl, or probe controls installed in a bowl or chamber externally to the boiler shall have a vertical straightway valved drain pipe at the lowest point in the water equalizing pipe connections by which the bowl or chamber and the equalizing pipe can be flushed and the device tested.

Note: See section Ind 41.54 for hot water heating boilers.

Section Ind 41.17 to be created to read:

Ind 41.17 Inspection fees. Each inspection, test, or service performed by the department shall be paid for at rates established in Chapter Ind 69, Fee Schedule. (The owner is responsible for the payment of fees.)

Section Ind 41.20 (heading) to be amended to read:

Ind 41.20 Periodic inspections required.

Subsections Ind 41.20 (3), (4), (5) and (6) to be repealed and recreated to read:

- (3) INSPECTION OF BOILERS. Except as regulated in sections Ind 41.20 (5) and Ind 41.21, boilers shall be subjected to either a regular internal or external inspection at least once every 12 months by a qualified inspector.
 - (a) WHEN INTERNAL INSPECTION IS NOT POSSIBLE. Where an internal inspection is not possible because of the construction of the boiler, an external inspection will be acceptable.
- (4) INSPECTION OF PRESSURE VESSELS. Except as regulated in section Ind 41.21, pressure vessels shall be subjected to a regular internal or external inspection at least once every 24 months by a qualified inspector.
- (5) INSPECTION OF LOW PRESSURE STEAM OR VAPOR HEATING BOILERS, AND HOT WATER HEATING BOILERS. Except as regulated in section Ind 41.21, low pressure steam or vapor heating boilers and hot water heating boilers shall be subjected to a regular external or internal inspection at least once every 24 months by a qualified inspector.

Note #1: Extension of period between inspections. If operating conditions require, longer periods between inspections of boilers may be approved by the department upon a written request for an extension.

Note #2: For inspection fees, see Wis. Adm. Code Chapter Ind 69, Fee Schedule.

Subsections Ind 41.21 (1) (b), (i) and (j) to be amended to read:

- (b) Steam boilers having an internal or external operating pressure not exceeding 15 psig and having an input not exceeding 750,000 Btu per hour; hot water boilers having an operating pressure not exceeding 30 psig and having an input not exceeding 750,000 Btu per hour; and expansion tanks for hot water heating boilers having an operating pressure of less than 50 psig with no limitation on size.
- (i) Pressure vessels having an internal or external operating pressure of not more than 15 psig with no limitations on size.
- (j) Hot water supply boilers and hot water storage vessels.

Subsections Ind 41.24 (1), (1)(a) and (1)(b) to be amended to read:

Ind 41.24 Inspections by cities.

- (1) Periodic inspections of boilers and pressure vessels by cities of the first class may be accepted by the department under the following conditions:
 - (a) The boiler and pressure vessel inspectors employed by the city shall hold certificates of competency issued by the department.
 - (b) The city shall keep a record of such periodic inspections and shall submit a copy to the department.

Subsection Ind 41.26 (1) to be amended to read:

Ind 41.26 Reporting of inspections.

- (1) Reports of periodic internal or external inspections of boilers and pressure vessels shall be sent to the department within 15 days from the date of inspection.

Section Ind 41.50 to be repealed and recreated to read:

Ind 41.50 ASME code vessels. Except as regulated in Wis. Adm. Code sections Ind 41.51, Ind 41.52 and Ind 41.53, boilers and pressure vessels installed after the effective date of this section shall be constructed and installed in accordance with the sections of the ASME Boiler and Pressure Vessel Code adopted under section Ind 41.10 (1) (a).

Note: The department will recognize the applicable "case interpretations" of ASME Boiler and Pressure Vessel Code as being acceptable.

Section Ind 41.51 to be repealed and recreated to read:

Ind 41.51 Wisconsin special vessels.

- (i) Where it is not possible or practical to construct a boiler or pressure vessel in strict compliance with section Ind 41.50, the department may grant a modification to the owner or user to permit the installation of the vessel as a Wisconsin special within the state of Wisconsin under the following conditions:
 - (a) When the method of designing or constructing the vessel is not covered by the ASME codes listed in section Ind 41.10, the department may approve the installation of the vessel if adequate proof of comparable safety of the design or construction is shown.
 1. Complete plans, calculations, and specifications in duplicate shall be submitted to and approved by the department before the vessel is installed.
 2. The vessel shall be stamped "Wisconsin Special".
 3. All other applicable requirements of the ASME codes listed in section Ind 41.10 shall be met.
 - (b) When the vessel is to be built by an owner for his own use, the department may waive the stamping required by the ASME codes listed in section Ind 41.10.
 1. Complete plans, calculations, and specifications in duplicate shall be submitted to and approved by the department before the vessel is installed.
 2. The vessel shall be stamped "Wisconsin Special".

3. All other applicable requirements of the ASME codes listed in section Ind 41.10 shall be met.
- (c) When a small number of vessels is to be built by a manufacturer, the department may waive the stamping required by the ASME codes listed in section Ind 41.10.
1. Complete plans, calculations, and specifications in duplicate shall be submitted to and approved by the department before the vessel is installed.
 2. The vessel shall be stamped "Wisconsin Special".
 3. All other applicable requirements of the ASME codes listed in section Ind 41.10 shall be met.
- (2) The provisions of this section shall not apply to Wisconsin special vessels accepted by the department before the effective date of this section.

Subsection Ind 41.53 (1) (intro. par.) to be amended to read:

- (1) The following vessels will only be required to meet the pressure-relief device requirements of the ASME codes listed in section Ind 41.10.

Section Ind 41.55 to be created to read:

Ind 41.55 Pressure gauges for air receivers.

- (1) Air receivers shall be equipped with an indicating pressure gauge so located as to be readily visible.
- (2) The dial of the pressure gauge shall be graduated to approximately double the pressure at which the safety valve is set, but not less than one and one-half times that pressure.

Subsection Ind 41.60 (2) to be amended to read:

- (2) Pressure vessels installed prior to January 1, 1957 shall meet the requirements of section Ind 41.99, pressure relief devices for pressure vessels.

Section Ind 41.69 to be amended to read:

Ind 41.69 Other methods of installing safety devices and other appliances. Where the ASME codes listed in Ind 41.10 permit other methods of installing safety devices and other appliances on boilers, these methods may be used on existing boilers.

Section Ind 41.90 to be repealed.

Subsection Ind 41.94 (2) Note (following Table 6) to be repealed.

Section Ind 41.98 to be repealed.

Subsection Ind 41.99 (4) to be amended to read:

- (4) Rupture disks may be used in lieu of safety valves on vessels containing substances that may render a safety valve inoperative, or where a loss of valuable material by leakage should be avoided, or contamination of the atmosphere by leakage of noxious gases must be avoided. Such rupture disks shall be tested, marked, and installed in accordance with the ASME codes listed in section Ind 41.10.

Chapter Ind 42, Part VII, subtitle to be amended to read:

PART VII

REPAIRS, MAJOR REPAIRS, OR ALTERATIONS

Section Ind 42.01 to be repealed and recreated to read:

- (1) Repairs, major repairs, or alterations to any boiler or pressure vessel or their fittings, settings, or appurtenances shall be completed in accordance with the requirements of sections Ind 42.01 through 42.22. Other methods may be acceptable provided they are approved by the department. In the absence of specific rules, the rules for new construction shall apply. No repair, major repair, or alteration by welding shall be made without the approval of an authorized inspector who shall, if he considers it necessary, inspect the object before granting an approval.
- (2) Manufacturers, owners, or contractors who make major repairs* in accordance with these rules shall furnish the department with a report of every such major repair within 30 days after completion thereof. The report shall be signed by the authorized inspector who inspected the repair. The owner of the equipment on which major repairs were made shall retain a copy of the report in his files for review by an authorized inspector. The form to be used for the report shall contain the information shown in the following example:

*See section Ind 41.02 (15).

STATE OF WISCONSIN
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS
INDUSTRIAL SAFETY & BUILDINGS DIVISION
201 E. Washington Avenue
Post Office Box 2209
Madison, Wisconsin 53701

Record of Repair or Alteration Completed on: Power Boiler Wis. Reg. No. _____
Heating Boiler NB No. _____
Pressure Vessel Serial No. _____
Miniature Boiler Other _____
Mfg'd. by: _____

Work completed by contractor _____
(Name)

(Address) (Zip)

Located in the plant of _____
(Name of Owner)

(Address) (Zip)

(Description of repair)

Hydrostatic Test p.s.i. _____

Repair or alterations were made in accordance with the requirements of the Wisconsin Department of Industry, Labor and Human Relations, Wisconsin Administrative Code Chapter 42. The welding was completed by _____

(Name of welder and Soc. Sec. #)

who has made the test requirements of said rules.

(Welding Process) Signed by _____
(Contractor Representative)

(Welding Procedure) Dated at _____ On _____

Authorized Inspector--Wis. Com. # _____ Employed by _____

Date
Use reverse side for sketch description of repair or alteration.

Section Ind 42.02 to be repealed and recreated to read:

Ind 42.02 Hydrostatic test or nondestructive testing. If, in the opinion of the authorized inspector, a hydrostatic test is necessary, such a test shall be applied at a pressure of at least the operating pressure, but not to exceed 150% of the maximum allowable working pressure. In lieu of a hydrostatic test, if approved by the authorized inspector, radiographic testing, ultrasonic testing, or other applicable nondestructive testing of the repair may be utilized. Such tests shall be applied after the repair has been completed.

Section Ind 42.08 to be repealed and recreated to read:

Ind 42.08 Welding procedure. Manufacturers, owners or contractors undertaking repairs under these rules shall have available for the inspector a written welding procedure specification that shall be followed in making the necessary repair and also a record of procedure qualification tests. Welding procedure specifications shall have been prepared and qualified in accordance with the requirements of ASME Section IX, Welding Qualifications (Ind 41.10) and section Ind 41.51 of this code.

Subsection Ind 42.09 (2) to be amended to read:

(2) WELDING TESTS, MANUFACTURER'S, OWNER'S OR CONTRACTOR'S RESPONSIBILITY, INSPECTOR'S DUTY. Preparation of welding procedure specifications and the conducting of tests of procedures and welders shall be the responsibility of the manufacturer, owner or contractor. Before repairs are started, it shall be the duty of the inspector to satisfy himself by examination of the written welding procedure and records of qualification tests that procedures and welders have been properly qualified as required in section Ind 41.50. Witnessing of the tests by the inspector shall not be mandatory but he shall have the right to witness such tests when he deems it necessary. The inspector shall also have the right to call for and witness the making of test plates by any welder, at any time, and to observe the physical testing of such plates.

Section Ind 42.10 to be amended to read:

Ind 42.10 Rules for welding. The repairs that may be made under these rules are limited to steels of flange or fire box quality having known weldable quality and further limited to carbon steels having a carbon content of not more than 0.35%. Structural steel shall not be used. The welding of high alloy material and nonferrous material shall be done in accordance with the requirements of ASME Section IX, Welding Qualifications (Ind 41.10) and section Ind 41.51 of this code.

Part VIII subtitle to be amended to read:

PART VIII

SECONDHAND BOILERS--SECONDHAND PRESSURE VESSELS--PORTABLE BOILERS

Section Ind 42.25 to be amended to read:

Ind 42.25 Application. Sections Ind 42.25 through Ind 42.33 shall apply to secondhand boilers, secondhand pressure vessels installed after July 1, 1960 on which both the ownership and location were changed, and shall also apply to portable boilers (See Ind 42.33).

Section Ind 42.26 to be amended to read:

Ind 42.26 Code constructed vessels. Secondhand pressure vessels which were constructed and stamped according to some edition of the ASME Boiler and Pressure Vessel Code or other recognized pressure vessel codes may be installed and operated at or below the working pressure stamped on the vessel.

Section Ind 42.27 to be amended to read:

Ind 42.27 Existing vessels. Secondhand boilers which were constructed and installed in Wisconsin under the provisions of sections Ind 41.60 through Ind 41.99 may be reinstalled if the working pressure is recalculated with a factor of safety of 6. Secondhand pressure vessels which do not meet the requirements of Ind 42.26 may be reinstalled if the working pressure is recalculated with a factor of safety of 6, using Ind 41.63 through Ind 41.65 and Ind 41.71 through Ind 41.75 for such calculations.

Subsections Ind 42.31 (1) (intro. par.), (2) and (3) to be amended to read:

Ind 42.31 Inspection and testing.

- (1) Every secondhand boiler and pressure vessel shall be inspected and given a hydrostatic pressure test at one and one-half times the working pressure by an authorized inspector at its new point of installation location before it is placed in operation, except for the following:
- (2) The vessels excluded in subsection (1) may be acceptable for use provided a copy of the manufacturer's data sheet is furnished to the department for each vessel indicating that it was manufactured originally to the requirements of section Ind 41.50. If a vessel has been repaired since its fabrication, a copy of the new manufacturer's data report shall be furnished to the department.
- (3) For pressure vessels where a hydrostatic test, in the opinion of the department, is not possible or desirable, the department may accept alternate means to determine the safety of the vessel for its intended use.

Section Ind 42.32 to be amended to read:

Ind 42.32 Installation. All secondhand pressure vessels exclusive of vessels used for the storage and transportation of liquefied petroleum gases, anhydrous ammonia, and all refrigerant containing vessels when reinstalled shall comply with the ASME codes listed in section Ind 41.10 in regard to fittings, appliances, valves, connections, settings and supports. (The excluded vessels are subject to the provisions of other applicable administrative codes.)

Part IX subtitle to be amended to read:

PART IX

INSPECTION AND REPAIR OF PRESSURE VESSELS IN PETROLEUM REFINERIES

Section Ind 42.35 to be amended to read:

Ind 42.35 Application. Sections Ind 42.35 through Ind 42.63 shall apply to the inspection, repair, evaluation for continued use, and the methods for computing the maximum allowable working pressure of pressure vessels in petroleum refineries.

Section Ind 42.37 to be amended to read:

Ind 42.37 Qualifications of inspectors. Inspectors shall be at least 25 years of age and shall have at least 3 years experience in boiler or pressure vessel construction or repair or operating engineer in charge of high pressure boilers, or an inspector of steam boilers or pressure vessels. Technical education with a recognized degree of mechanical engineering shall be allowed 2 years as the equivalent of practical experience.

Subsection Ind 42.48 (1) to be amended to read:

- (1) The allowable working pressure for the continued use of a vessel may be established by the code to which the vessel was built or by computation using the appropriate formulas in the edition of the ASME code listed in section Ind 41.10 if all essential details (such as quality of materials and workmanship, knuckle radii of heads, reinforcement of openings, etc.) definitely are known to comply with the latter. In corrosive service the actual thickness as determined by inspection minus twice the estimated corrosion loss before the date of the next inspection shall be used, except as modified in section Ind 42.40 (1). Suitable allowance shall be made for the other loadings in accordance with section Ind 41.50.

Subsection Ind 42.57 (2) to be amended to read:

- (2) Preheating to not less than 300° F may be considered as an alternative to thermal stress relief for minor alterations or repairs of initially stress relieved vessels constructed of the P-1 carbon steels listed in section Ind 41.10 and for the P-3 alloy steels preheat sometimes can be considered as an alternative, especially when the operating temperature is high enough to assure reasonable ductility of the weldment during operation, and there is no excessive hazard during hydrostatic tests. Vessels constructed of other steels, which initially were required to be stress-relieved normally, shall be stress-relieved if alterations or repairs involving strength welding are performed. Any stress relieving shall be performed in accordance with section Ind 41.50. When preheat is used as an alternative for thermal stress relief as provided above, the stress relief factor may be continued.

Subsection Ind 42.61 (1) to be amended to read:

- (1) New connections may be installed on vessels provided the design, location, and method of attachment meet the construction requirements of section Ind 41.50.

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:

Subsection Ind 41.06 (2) to be amended to read:

- (2) Boilers and pressure vessels subject to periodic inspections (see Ind 41.20) shall be identified by a registration number supplied by the department. The registration number shall be affixed by an authorized inspector. The state tag shall be attached to the vessel at a location which can be easily viewed.

Subsection Ind 41.08 (1) to be amended to read:

- (1) CERTIFICATE REQUIRED. An inspection report covering a boiler or pressure vessel may be recognized and accepted only when the inspector holds a valid certificate of competency issued by the department.

Subsection Ind 41.08 (3)(c) to be amended to read:

- (c) A request for renewal shall be filed with the department on or before January 1 of the calendar year for which the certificate is to be valid.

Subsection Ind 41.08 (4)(a) to be amended to read:

- (a) Certificates of competency for a boiler or pressure vessel inspector may be issued by the department to eligible applicants passing the examinations prescribed by and conducted by the department.

Subsections Ind 41.08 (6)(a), (a) 1. and (a) 3. to be amended to read:

- (a) A reciprocal certificate of competency may be granted by the department to a boiler or pressure vessel inspector under the following conditions:
 1. The inspector shall be employed by a boiler insurance company licensed to do business in Wisconsin. The boiler insurance company shall make the application for a reciprocal commission to the department.
 3. The inspector shall appear before an examining board appointed by the department to review his qualifications as an inspector.

Subsections Ind 41.23 (1), (1)(a), (1)(b), and (1)(d) to be amended to read:

- (1) Periodic inspections of boilers and pressure vessels by insurance companies may be accepted by the department under the following conditions:
 - (a) The boiler and pressure vessel inspectors employed by the insurance company shall hold certificates of competency issued by the department.
 - (b) The insurance company shall report inspections of boilers and pressure vessels to the department as required in section Ind 41.26.

- (d) The insurance company shall report to the department within 30 days when insurance coverage is started or discontinued on a boiler or pressure vessel. The reason for discontinuing the coverage shall be given on the report.

Subsections Ind 41.25 (1), (1)(a) and (1)(b) to be amended to read:

- (1) Periodic inspections by companies or corporations of boilers or pressure vessels which they own or operate may be accepted by the department under the following conditions:
 - (a) The boiler and pressure vessel inspectors employed by the company or corporation shall hold certificates of competency issued by the department.
 - (b) The company or corporation shall report inspections of boilers and pressure vessels to the department as required in section Ind 41.26.

Subsection Ind 41.26 (2) to be amended to read:

- (2) External inspections shall be reported only when either of the following conditions is found:
 - (a) An internal inspection is not possible because of the construction of the vessel. In such cases the first inspection shall be reported to the department in the same manner as an internal inspection. The report shall be marked "external" and the reason for making an external inspection instead of an internal shall be given.
 - (b) When violations of this code or unsafe conditions involving the safety of the vessel are found. This report shall be made on ASME Form P-6 and shall explain the violation or unsafe condition with references to code section numbers. A copy of the recommendations to the owner or user of the vessel shall accompany the report to the department.

Subsections Ind 41.27 (1) and (2) to be amended to read:

- (1) An internal or external boiler inspection that conforms to periodic inspection requirements (Ind 41.20) shall be reported to the department on inspection form SB 210 or National Board of Boiler and Pressure Vessel Inspectors standard form.
- (2) A pressure vessel inspection that conforms to periodic inspection requirements (Ind 41.20) shall be reported to the department on inspection form SB 209 or National Board of Boiler and Pressure Vessel Inspectors standard form.
 - (a) Multiple vessels on a single report. A group of pressure vessels of the same design and use that are interconnected or are operated so as to form a unit, machine, or apparatus may be included in a single report. The report shall contain the number, description, and use of the vessel and shall be reported to the department on inspection form SB 209 or National Board of Boiler and Pressure Vessel Inspectors standard form.

Subsection Ind 41.28 (1) to be amended to read:

- (1) After each periodic internal or external inspection a certificate of operation shall be issued to the owner or user of the boiler or pressure vessel by the department or by the city authorized by that agency.

Subsection Ind 41.28 (4) to be amended to read:

- (4) The certificate of operation shall be kept on file on the premises by the owner or user of the boiler or pressure vessel and shall be available when called for by a deputy of the department.

Note: A fee in the amount set in chapter Ind 69, Fee Schedule, shall be paid to the department for all certificates of operation.

Subsections Ind 41.29 (1) and (2) to be amended to read:

- (1) The condemnation of a boiler or pressure vessel shall be a function of the department only. Any boiler or pressure vessel declared by an authorized inspector to be unsafe and beyond repair shall be referred to the department for condemnation proceedings.
- (2) Any boiler or pressure vessel confirmed by the department to be unsafe for further use shall be stamped as follows:

"CONDEMNED"

"Arrowhead Stamp x Wisconsin x Arrowhead Stamp"

Letters shall be at least 3/8" high and arrowheads shall be 1/2" wide.

Section Ind 41.52 to be amended to read:

Ind 41.52 U.S. Department of Transportation--Federal Highway Division. Pressure vessels carrying the stamping of the D.O.T. will be considered comparable to a vessel meeting the requirements of section Ind 41.50. When such vessels are used in the State of Wisconsin, it shall be the responsibility of the owner of the vessels to have the construction records of the vessels available for inspection by the department.

Subsection Ind 41.53 (1) (a) (intro. par.) to be amended to read:

- (a) Water heating apparatus, such as range boilers or tanks having a self-contained gas, oil, or electric heating unit used exclusively for hot water service provided such apparatus carries a seal of approval from a testing agency recognized nationally and by the department. The term "hot water service" shall be construed to mean a system in which the hot water is used for general cleaning purposes as in the bath, the laundry, and in the kitchen.

Subsection Ind 41.78 (4) to be amended to read:

- (4) Safety valves which are constructed in accordance with the standards as specified in sections Ind 41.50 and Ind 41.51 of this code are acceptable. Safety valves constructed to other standards may be used if approved by the department. Dead-weight or weighted-level safety valves shall not be used.

Subsection Ind 41.78 (10) (d) to be amended to read:

- (d) For conditions exceeding those specified in the above paragraph, the case shall be referred to the department for decision.

Subsection Ind 41.79 (2) to be amended to read:

- (2) Relief valves which are constructed in accordance with sections Ind 41.50 and Ind 41.51 of this code are acceptable. Relief valves constructed to other standards may be used if approved by the department.

Subsection Ind 41.81 (7) to be amended to read:

- (7) Other types and designs--for other types and new designs the location shall be fixed by the manufacturer subject to approval by the department.

Subsection Ind 41.99 (3) to be amended to read:

- (3) Safety valves which are constructed in accordance with the standards of sections Ind 41.50 and Ind 41.51 of this code are acceptable. Safety valves constructed to other standards may be used if approved by the department.

Subsection Ind 42.15 (2) to be amended to read:

- (2) Cracks of any length in unstayed furnaces may be welded, provided the welds are thermally stress relieved in accordance with section Ind 42.14. Welds applied from both sides of the plate shall be used where possible. Welds applied from one side only shall be subject to the approval of the authorized inspector. Field repair of cracks at knuckle or turn of flange of furnace opening are prohibited unless specifically approved by the department. See Figure 9 for acceptable methods.

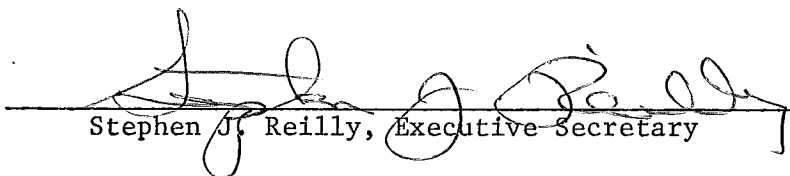
Subsection Ind 42.36 (1) to be amended to read:

- (1) Vessels that are inspected in accordance with the procedures described herein will be acceptable; however, other procedures approved by the department may be used.

Section Ind 42.50 to be amended to read:

Ind 42.50 Field repairs; general. No repairs, additions, or alterations shall be made until the proposed methods of execution have been considered and approved by the inspector. Other methods may be used if submitted to and approved by the department. All such work shall be of the highest quality of workmanship, and shall be executed in a manner and by practices complying with the applicable provisions of section Ind 41.50, and with code approved materials and under proper supervision. Complete records of all such work shall be made and filed.

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS


Stephen J. Reilly, Executive Secretary

April 17, 1974
Date