State of Wisconsin \ Department of Commerce

RULES in FINAL DRAFT FORM

Rule No.: **Chapters Comm 41, 5 and 2**

Relating to: **Boilers and Pressure Vessels**

Clearinghouse Rule No.: **05-025**

COM-10535 (N.03/97)

The Wisconsin Department of Commerce proposes an order to repeal ss. Comm 2.11 (4) and Comm 41.61 (2); to renumber s. Comm 41.15 (3); to renumber and amend ss. Comm 2.16 and Comm 41.42 (2); to amend ss. Comm 2.11 Tables 21.11-1 and 2.11-2, Comm 2.11 (5), Comm 5.06 Table 5.06 lines 28 and 29, Comm 41.10 (2) (a), (b) and (c), Comm 41.15 (3), Comm 41.16 (1) (e), Note and (2) (b), Comm 41.23 (1), Comm 41.23 (2) (a), Comm 41.24 (1) (b) and (4), Comm 41.31 (1) (a), Comm 41.41 (2) (b), Comm 41.48, Comm 41.56 (1) and Note 3, Comm 41.60, Comm 41.61 (1); to repeal and recreate s. Comm 41.62 (2); and to create ss. Comm 2.11 (8), Comm 5.60 (3) (a) 1. Note and (5) (c), Comm 41.04 (13m), Comm 41.10 (1) Note 2, Comm 41.15 (3) (b), Comm 41.18 (1) (n), Comm 41.23 (2) (a) 2., Comm 41.41 (3), Comm 41.42 (1) Note 2, Comm 41.42 (2) (b), and chapter Comm 41 Subchapter IX, relating to boilers and pressure vessels and affecting small businesses.

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ANALYSIS OF PROPOSED RULES

1. Statutes Interpreted.

Sections 101.02 (15)(h) to (j), 101.12 (3)(c), 101.19 (1)(b) and 101.17, Stats.

2. Statutory Authority.

Sections 101.02 (15)(h) to (j), 101.12 (3)(c), 101.19 (1)(b) and 101.17, Stats.

3. Related Statute or Rule.

There is no related statute or rule.

4. Explanation of Agency Authority.

Section 101.02 (15)(h) to (j), Stats., grants the Department of Commerce general authority for protecting the health, safety and welfare of the public by establishing reasonable and effective safety standards for the construction, repair and maintenance of public buildings and places of employment. Section 101.12 (3)(c), Stats., directs the department to certify the competency of inspectors of boilers and pressure vessels. Section 101.19 (1)(b), Stats., authorizes the department to fix and collect fees for the inspection of boilers and pressure vessels. Section 101.17, Stats., indicates that machines and boilers cannot be installed or used in Wisconsin unless they comply with the rules of the department.

5. Summary of Proposed Rules.

Chapter Comm 41 currently contains minimum safety standards for the design, construction, installation, operation, inspection, testing, maintenance, repair and alteration of boilers and pressure vessels installed in public buildings and at places of employment. Chapter Comm 5 contains requirements for certifying the competency of boiler and pressure vessel inspectors. Chapter Comm 2 contains the fees for providing inspections of boilers and pressure vessels.

The proposed rules consist of an update of chapter Comm 41 in order to bring the state boiler and pressure vessel code up to date with current technology and nationally recognized standards. The proposal also includes changes in chapter Comm 5 relating to the certification of boiler and pressure vessel inspectors, and in chapter Comm 2 relating to the inspection fee charged for multiple boilers or pressure vessels in one building. The following is a summary of the major changes being proposed. [The numbers in brackets indicate where the change can be found in the proposed rules.]

1. Revising the fee schedule for inspections of multiple boilers in one building and multiple pressure vessels in one building. [Comm 2.11 Tables 2.11-1 and 2.11-2]

2. Creating continuing education requirements for renewal of the certification as a certified boiler-pressure vessel inspector. [Comm 5.60 (5) (c)]

3. Updating currently adopted national standards to the most recent edition of the standards. [Comm 41.10 (2)]

4. Adding a rule requiring reporting inactive or non-existent boilers and pressure vessels to the department. [Comm 41.15 (3) (b)]

5. Clarifying the exemption from inspection and registration for power piping. [Comm 41.16 (2) (b) and 41.41 (2) (b)]

6. Revising the requirements for indicating when an inspection of boilers and pressure vessels has been performed and for providing copies of inspection reports. [Comm 41.23 (1)]

7. Starting one year after the effective date of the proposed rules, requiring all inspection reports to be sent electronically to the department. [Comm 41.23 (2) (a) 2.]

8. Exempting ASME form P-4B from completion for boiler piping on certain ASME stamped boilers. [Comm 41.41 (3)]

9. Exempting cast iron sectional boilers stamped “H” and pressure vessels stamped “UM” from National Board registration. [Comm 41.42 (2) (b)]

10. Requiring registration with the National Board for routine repairs and for seal welding of 6 or more boiler tubes. [Comm 41.62 (2)]

11. Creating new rules for the inspection and testing of historical boilers operated at fairs, steam shows and other locations frequented by the public. [Subchapter IX]

6. Summary of, and Comparison with, Existing or Proposed Federal Regulations.

An Internet-based search of the *Code of Federal Regulations* (CFR) found the following existing federal regulations relating to the activities to be regulated by the rule.

Title 46 CFR Part 59 – Repairs to Boilers, Pressure Vessels and Appurtenances. This regulation in the Department of Homeland Security applies to the repair of all boilers,

appurtenances and pressure vessels subject to inspections by the Coast Guard. The regulation adopts sections I, VII, VIII and IX of the 1989 ASME Boiler and Pressure Vessel Code

Title 30 CFR Part 56 – Safety and Health Standards – Surface Metal and Nonmetal Mines. Subpart L of this regulation in the Department of Labor requires all boilers and pressure vessels to be constructed, installed and maintained in accordance with the ASME Boiler and Pressure Vessel Code. This regulation adopts sections I, II, IV, V, VI and VII of the 1977 ASME Code and the 1979 edition of the National Board Inspection Code.

Title 30 CFR Part 57 -- Safety and Health Standards – Underground Metal and Nonmetal Mines. Subpart L of this regulation is the same as subpart L in part 56.

Title 29 CFR Part 1910 – Occupational Safety and Health Standards. Subpart R of this regulation in the Department of Labor applies to establishments where pulp, paper and paperboard are manufactured and converted. This regulation adopts the 1968 edition of section VIII of the ASME Boiler and Pressure Vessel Code.

Title 10 CFR Part 50 – Domestic Licensing of Production and Utilization Facilities. This regulation in the Nuclear Regulatory Commission applies to systems and components of boiling and pressurized water-cooled nuclear power reactors. This regulation adopts section III, division 1 and section XI, division 1 through the 2000 addenda of the ASME Boiler and Pressure Vessel Code.

An Internet-based search of the 2004 and 2005 issues of the *Federal Register* found the following proposed federal regulations relating to the activities to be regulated by the rule.

June 30, 2004 Register, Title 46 CFR Part 32 et al. The Coast Guard in the Department of Homeland Security published a proposal to update the standards incorporated by reference for marine equipment. This proposal updates the ASME Boiler and Pressure Vessel Code to the 2001 edition.

October 1, 2004 Register, Title 10 CFR Part 50. The Nuclear Regulatory Commission published a final rule to update its regulations by incorporating by reference the 2001 edition and the 2002 and 2003 addenda of division 1 of section III and division 1 of section XI of the ASME Boiler and Pressure Vessel Code.

7. Comparison with Rules in Adjacent States.

The Illinois Office of the State Fire Marshal, Division of Boiler and Pressure Vessel Safety regulates the construction, installation, operation, inspection and repair of boilers and pressure vessels throughout the state of Illinois. The Illinois Boiler and Pressure Vessel Safety Rules and Regulations are very similar to the requirements in the Wisconsin Boiler and Pressure Vessel Code, including the Illinois incorporation by reference of the ASME Boiler and Pressure Vessel Code (2001 with 2003 addenda), the National Board Inspection Code (2001 with 2003 addenda), and the API 510 standard (8th edition).

The Iowa Department of Workforce Development, Division of Labor Services administers and enforces the Boilers and Unfired Pressure Vessels Chapter of the Iowa Code. That chapter requires new installations of boilers and pressure vessels to be designed, manufactured, installed,

inspected and stamped in accordance with the applicable requirements of the ASME Boiler and Pressure Vessel Code (1998 with 1999 and 2000 addenda). The rules are similar to the Wisconsin rules, except that the Iowa rules recognize German, British, Japanese and Canadian construction and installation standards.

The Michigan Department of Labor and Economic Growth administers the Michigan Boiler Law and Rules. The rules are similar to the Wisconsin rules, and establish minimum standards of safety for the use, construction, installation, inspection, alteration and repair of boilers, with limited rules for specified pressure vessels. The rules adopt the National Board Inspection Code (2001 with addenda), the ASME Boiler and Pressure Vessel Code (2001 with addenda), and the ASME B31.1 Power Piping standard (2001 with addenda).

The Minnesota Department of Labor and Industry, Division of Boiler Inspection administers rules that address the manufacture, installation, repair, operation, safety and inspection of boilers, pressure vessels and appurtenances. The rules contain provisions for licensing of boiler operators, and include minimal requirements for hobby boilers (steam traction engines). The rules are very similar to the Wisconsin rules, and incorporate the most recent editions and addenda of the ASME Boiler and Pressure Vessel Code and the National Board Inspection Code.

8. Summary of Factual Data and Analytical Methodologies.

There were no factual data or analytical methodologies used to develop the proposed rules.

9. Analysis and Supporting Documents Used to Determine Effect on Small Business or in Preparation of Economic Impact Report.

The proposed rules should have a minimal effect on small business. There were no supporting documents used to determine the effect on small business, and an economic impact report was not prepared.

The proposed rules have been developed with the assistance of the Boiler and Pressure Vessel Code Advisory Council. The members of that citizen advisory council are as follows:

Name	Representing
William H. Andrae	Boiler and Pressure Vessel Repairers Association
Joe Bena	Wisconsin Manufacturers and Commerce
Peter H. Burno	Wisconsin Historical Steam Engine Association
Jay A. Ehrfurth	Wisconsin Department of Administration
Daniel Hegyi	American Insurance Association
Matt Keenan	Wisconsin Boiler Inspectors Association
Paul E. Prill	Wisconsin Pipe Trades Association
Randy S. Pucek	City of Milwaukee
Doug Smithback	Mechanical Contractors Association of Wisconsin

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SECTION 1. Comm 2.11 Table 2.11-1 and Table 2.11-2 are amended to read:

Table 2.11-1
Boiler Inspection Fees

Type of Boiler	**Heating Surface Area (Square Feet)**	**Type of Inspection**	
		Internal	**External**
Miniature	20 or less	$20.00	$20.00
Power	21 – 250	$55.00	$55.00
	251 - 1,000	$120.00	$80.00
	1,001 - 10,000	$160.00	$115.00
	Over 10,000	$420.00	$195.00
Heating	N/ A		
-- With manhole		$95.00	$40.00
-- Without manhole		$85.00	$40.00
-- Multiple boilers ~~at one location~~ in one building		~~Not more than $200.00~~ $40.00 per boiler or $240.00 per 4 hour inspection period, whichever is less	

Table 2.11-2
Pressure Vessel Inspection Fees

Volume of Pressure Vessels (Cubic Feet)	**Operating Pressure (psig)**	**Type of Inspection**
		Internal or External
All sizes	Less than 15	No Fee
11 or less	15 or more	No Fee
12 – 200	15 or more	$35.00
201 – 500	15 or more	$80.00
Over 500	15 or more	$95.00
Multiple pressure vessels ~~at one location~~ in one building	-------	~~Not more than $200.00~~ $35.00 per vessel or $240.00 per 4 hour inspection period, whichever is less

SECTION 2. Comm 2.11 (4) is repealed.

SECTION 3. Comm 2.11 (5) is amended to read:

Comm 2.11 (5) FEE FOR FAILURE TO HAVE BOILER OR PRESSURE VESSEL READY FOR INSPECTION. ~~The owner shall pay a~~ A fee equal to 50% of the applicable inspection fee shall be assessed for failure to have the boiler or pressure vessel ready for inspection on the date specified, unless ~~the owner notifies~~ the department is notified, in writing, 7 business days prior to the specified inspection date.

SECTION 4. Comm 2.11 (8) is created to read:

Comm 2.11 (8) NATIONAL BOARD EXAM. The fee for the application for and the administration of the national board of boiler and pressure vessel inspectors competency examination shall be $125.00.

SECTION 5. Comm 2.16 is renumbered Comm 2.04 (4) and amended to read:

Comm 2.04 (4) INSPECTION ASSESSMENTS. The department may inspect any installation which is also inspected by a certified inspector. When the department inspection confirms that the inspection report is incomplete, invalid or unacceptable, the department ~~will~~ shall assess the inspector or his or her employer a fee determined in accordance with ~~s. Comm 2.11 or 2.15 (2)~~ sub. (2).

SECTION 6. Comm 5.06 Table 5.06 lines 28 and 29 are amended to read:

Table 5.06
TERMS
(partial table)

	License, Certification or Registration Category	**Term**	**Expiration Date**	**Continuing Education Cycle**
28.	Boiler-Pressure Vessel Inspector	4 years	December 31	~~NA~~ September 30
29.	In-Service Field Inspector	4 years	December 31	~~NA~~ September 30

SECTION 7. Comm 5.60 (3) (a) 1. Note and (5) (c) are created to read:

Comm 5.60 (3) (a) 1. **Note:** See ch. Comm 2 for the fee for the competency examination.

(5) (c) 1. The renewal of a certification as a certified boiler-pressure vessel inspector or certified in-service field inspector which has an expiration after December 31, 2008, shall be contingent upon the boiler-pressure vessel inspector or in-service field inspector obtaining at least 24 hours of acceptable continuing education within the time period specified in s. Comm 5.08 and Table 5.06, except as provided in subd. 2.

2. A person who holds a certification as a certified boiler-pressure vessel inspector or certified in-service field inspector may apply to the department for waiver of the continuing education requirements under subd. 1. on the grounds of prolonged illness or disability or similar circumstances. The department shall consider each application for waiver individually on its merits.

3. A person who initially obtained his or her boiler-pressure vessel inspector certification or in-service field inspector certification by providing evidence of having passed the competency examination by the national board and whose request to renew his or her certification is denied because of the failure to fulfill the continuing education requirements of subd. 1., shall be required

to take and pass the competency examination in order to reacquire the boiler-pressure vessel inspector certification or the in-service field inspector certification.

SECTION 8. Comm 41.04 (13m) is created to read:

Comm 41.04 (13m) "Historical boiler" means a steam boiler that is typically of riveted construction and which is preserved, restored or maintained for hobby or demonstration use.

Note: Steam locomotives, traction engines, hobby boilers and steam cars are examples of historical boilers.

SECTION 9. Comm 41.10 (1) Note 2 is created to read:

Comm 41.10 (1) Note: See the Appendix for a reprint of portions of some of the adopted standards.

SECTION 10. Comm 41.10 (2) (a), (b) and (c) are amended to read:

Comm 41.10 (2) (a) American Society of Mechanical Engineers (ASME), Order Department, P.O. Box 2300, Fairfield, NJ 07007-2300, telephone 800/843-2763 Ext. 555.

1. ASME Boiler and Pressure Vessel Code, ~~1998~~ 2004 edition, Section I – Power Boilers, Section II – Material Specifications, Section III – Nuclear Power Plant Components, Section IV – Heating Boilers, Section V – Nondestructive Examination, Section VIII – Pressure Vessels, Section IX – Welding and Brazing Qualifications, Section X – Fiber-Reinforced Plastic Pressure Vessels, Section XI – In-service Inspection of Nuclear Power Plant Components.

2. Power Piping, ANSI/ASME B31.1 – ~~1998~~ 2004.

3. Pressure Vessels for Human Occupancy, ANSI/ASME PVHO-1-~~1997~~ 2002.

(b) National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, OH 43229-1183, telephone 614/888-8320. National Board Inspection Code, ANSI/NB-23, ~~1998~~ 2004 edition.

(c) American Petroleum Institute, 1220 L Street, Northwest, Washington, D.C. 20005, telephone 202/682-8375. Pressure Vessel Inspection Code, API 510, 8th edition, June 1997 with Addendum ~~1~~ 4, ~~December 1998~~ August 2003.

SECTION 11. Comm 41.15 (3) is renumbered (3) (a).

SECTION 11M. Comm 41.15 (3) (b) is created to read:

Comm 41.15 (3) (b) The certified inspector's employer shall report to the department after a boiler or pressure vessel under a service contract becomes inactive or non-existent. Failure to make this report may result in assessment of a fee in accordance with s. Comm 2.04.

SECTION 12. Comm 41.16 (1) (e), Note and (2) (b) are amended to read:

Comm 41.16 (1) (e) Required initial inspections shall be reported to the department on ~~forms SBD-7678 and SBD-7679~~ form SBD-10633.

Note: ~~Form SBD-7678 is used for reporting inspections of pressure vessels, and form SBD-7679 is used for reporting inspections of boilers.~~ Copies of ~~the forms~~ form SBD-10633 are available at no charge from the Safety and Buildings Division, P.O. Box 2509, Madison, WI 53701-2509, telephone 608/266-1818, or on the Internet at www.commerce.wi.gov/SB.

(2) (b) The inspections specified in par. (a) are not required for any of the following:

1. Power piping of 2 inches nominal pipe size and smaller~~;~~.

2. Power piping replacements, modifications and alterations to existing systems and for new installations, any of which do not exceed 50 feet in length~~; and~~.

3. Underground power piping systems which are not located in a walk-in tunnel.

SECTION 13. Comm 41.18 (1) (n) is created to read:

Comm 41.18 (1) (n) Any pressure vessel used as an integral part of an electrical circuit breaker.

SECTION 14. Comm 41.23 (1) is amended to read:

Comm 41.23 (1) REPORT PROCESSING TIME. Reports of periodic internal or external inspections of boilers and pressure vessels shall be sent to the department within 30 calendar days from the date of inspection. A verification that an inspection has been performed shall be posted on or near the inspected object. A copy of the report shall ~~also~~ be provided to the owner or user of the boiler or pressure vessel within 5 business days if a code violation is indicated. A copy of the report shall be left on site if a life safety violation is indicated.

SECTION 15. Comm 41.23 (2) (a) is amended to read:

Comm 41.23 (2) (a) ~~Required~~ 1. Except as provided in subd 2., required periodic inspections shall be reported to the department on ~~forms SBD-7678 and SBD-7679~~ form SBD-10633 or other approved forms.

Note: ~~Form SBD-7678 is used for reporting inspections of pressure vessels, and form SBD-7679 is used for reporting inspections of boilers.~~ Copies of ~~the forms~~ form SBD-10633 are available at no charge from the Safety and Buildings Division, P.O. Box 2509, Madison, WI 53701-2509, telephone 608/266-1818, or on the Internet at www.commerce.wi.gov/SB.

SECTION 16. Comm 41.23 (2) (a) 2. is created to read:

Comm 41.23 (2) (a) 2. After [one year from the effective date of this subdivision . . . **Revisor to insert date**], reporting of periodic inspections shall be sent to the department in accordance with the department's electronic data interchange transfer guidelines.

Note: The department will provide assistance at no charge regarding the use of the electronic data interchange system. The guidelines are available on the Internet at www.commerce.wi.gov/SB.

SECTION 17. Comm 41.24 (1) (b) and (4) are amended to read:

Comm 41.24 (1) (b) The permit to operate shall be posted ~~on the premises~~ near the boiler or pressure vessel by the owner or user of the boiler or pressure vessel.

(4) EXPIRATION. The permit to operate shall be valid until the next required periodic inspection or until rescinded due to code violations.

SECTION 18. Comm 41.31 (1) (a) is amended to read:

Comm 41.31 (1) (a) The temperature of the water leaving the blowoff equipment may not exceed ~~140°~~ 160° F.

SECTION 19. Comm 41.41 (2) (b) is amended to read:

Comm 41.41 (2) (b) Registration is not required for any of the following:

1. Power piping of 2 inches nominal pipe size and smaller~~;~~.

2. Installations in cities of the first class if an installation registration form has been filed with the appropriate city official~~;~~.

3. Underground power piping systems which are not located in a walk-in tunnel~~; and~~.

4. ~~Replacements,~~ Power piping replacements, modifications and alterations to existing systems and for new installations, any of which do not exceed 50 feet in length.

SECTION 20. Comm 41.41 (3) is created to read:

Comm 41.41 (3) PIPING ON SINGLE POWER BOILERS. ASME form P-4B is not required to be completed for boiler piping on any single ASME "S", "M" or "E" stamped boiler rated at 50 boiler horsepower or less and 150 psig or less maximum allowable working pressure, if applicable pressure and temperature rated valves and at least schedule 80 pipe and fittings are used.

SECTION 21. Comm 41.42 (1) Note 2 is created to read:

Comm 41.42 (1) Note: The ASME code specifies that persons installing boiler external piping by welding are required to possess the appropriate ASME credentials.

SECTION 22. Comm 41.42 (2) is renumbered (2) (a) and amended to read:

Comm 41.42 (2) REGISTERING WITH NATIONAL BOARD. (a) ~~Boilers~~ Except as provided in par. (b), boilers and pressure vessels constructed and installed in accordance with the ASME code shall have the manufacturer's data report registered with the National Board and shall bear a National Board number. Copies of the registration shall be provided to the department when requested.

SECTION 23. Comm 41.42 (2) (b) is created to read:

Comm 41.42 (2) (b) Cast iron sectional boilers stamped "H" and pressure vessels stamped "UM" are exempt from National Board registration.

SECTION 24. Comm 41.48 is amended to read:

Comm 41.48 (title) Organic or synthetic fluid heat transfer systems. Boilers and coil type heaters which utilize organic or synthetic thermal fluids as a heat transfer media shall be designed, constructed and installed in accordance with the ASME code. Piping for organic or synthetic thermal fluids used as a heat transfer media and subject to temperatures in excess of 250° F shall be installed in accordance with ANSI/ASME B31.1.

SECTION 25. Comm 41.56 is repealed and recreated to read:

Comm 41.56 Welded repairs and alterations. Anyone performing welded repairs or alterations on any component within the scope of ASME code section XI shall register the repairs and alterations with the National Board on the appropriate "R" forms.

Note: Copies of the "R" forms are available from the National Board. See s. Comm 41.10 for the National Board address.

SECTION 26. Comm 41.60 is amended to read:

Comm 41.60 General requirements. Welded repairs, repair parts or alterations to any boiler or pressure vessel or their fittings, settings or appurtenances shall ~~be completed in accordance~~ comply with the requirements of ANSI/NB-23.

SECTION 27. Comm 41.61 (1) is amended to read:

Comm 41.61 (1) AUTHORIZATION. ~~Except as provided in sub. (2), repairs~~ Repairs and alterations to boilers and pressure vessels shall be performed by an organization in possession of a valid National Board repair "R" certificate of authorization for the intended scope of work.

SECTION 28. Comm 41.61 (2) is repealed.

SECTION 29. Comm 41.62 (2) is repealed and recreated to read:

Comm 41.62 (2) ADDITIONAL REPORTING REQUIREMENTS. (a) Anyone performing routine repairs as defined in ANSI/NB-23 shall register the repairs with the National Board on form R-1 and shall attach a nameplate to the repaired object.

(b) Anyone performing seal welding of 6 or more boiler tubes shall register the repair with the National Board on form R-1.

SECTION 30. Chapter Comm 41 subchapter IX is created to read:

Subchapter IX -- Historical Boilers

Comm 41.90 Application. The provisions of ss. Comm 41.90 to 41.92 apply to all historical boilers in operation for demonstration purposes at fairs, museums, steam shows, historical attractions or any other locations frequented by the public.

Comm 41.91 General requirements. (1) Historical boilers shall be inspected in accordance with the requirements of ANSI/NB-23, Appendix C - Historical Boilers.

(2) An annual internal inspection shall alternate every other year with either an in-service inspection or a hydrostatic pressure test in accordance with ANSI/NB-23, Appendix C-2020 c.

(3) Except as provided in s. Comm 41.92 (3) (d), ultrasonic thickness testing and pressure calculations shall be completed every 5 years by the owner or user or a qualified organization as designated by the owner or user.

(4) The owner or user shall obtain and maintain a valid permit to operate in accordance with s. Comm 41.24.

(5) The permit to operate shall be displayed on the historical boiler near the controls during operation at any public location.

(6) Welded repairs or alterations shall comply with subch. VI.

Comm 41.92 Inspection and tests. (1) INTERNAL INSPECTION. The owner or user of an historical boiler that is subject to an internal inspection shall prepare the boiler in accordance with all of the following:

(a) Firesides shall be opened and grates removed. The fireside furnace, flues and tubesheets shall be wire brushed, scraped and thoroughly cleaned of soot and ash.

(b) Watersides shall be drained and handholes, plugs and inspection openings removed. Sediment, scale and mud shall be flushed clean from the boiler.

(c) Fusible plugs shall be removed.

(2) HYDROSTATIC PRESSURE TESTS. The owner or user of an historical boiler that is subject to a hydrostatic pressure test shall prepare the boiler in accordance with all of the following:

(a) Boiler firesides and watersides shall be opened and properly cleaned prior to filling completely with water at ambient temperature.

(b) Pressure gages shall be calibrated prior to the test or documentation shall be provided at the time of the hydrostatic pressure test for the inspector to verify that pressure gage calibration was completed.

(c) Safety valves shall be removed and openings plugged prior to applying pressure.

(d) The hydrostatic pressure shall be slowly raised to a test pressure acceptable to the inspector and shall be at least equal to the maximum allowable working pressure.

(3) ULTRASONIC TESTING AND PRESSURE CALCULATIONS. (a) Except as provided in par. (d), ultrasonic thickness tests shall be completed every 5 years in accordance with ANSI/NB-23, Appendix C-2020 d on a mapped grid system. To obtain meaningful ultrasonic thickness test results, the owner or user shall utilize a maximum of a 16-inch grid on full size boilers, an 8-inch grid on ½ scale boilers and a 4-inch grid on ¼ scale boilers to document material thickness.

(b) Pressure calculations shall be completed based on the minimum ultrasonic thickness test data gathered and documentation shall be made available to the inspector for review and acceptance.

Note: The owner or user may use the Hobby Boiler Inspection Checklist form SBD-10759 that includes equations, formulae and nomenclature for calculations. The form is available on the Internet at www.commerce.wi.gov/SB.

(c) The owner or user shall maintain the initial and subsequent ultrasonic thickness test grid map and pressure calculations in permanent boiler records to verify fitness for service and to be utilized as a reference for future repair analysis.

(d) Historical boilers bearing an ASME "S" stamp and Wisconsin specials where the owner can provide documentation of conditional approval are exempt from the 5-year ultrasonic testing and calculations requirement. However, the certified inspector may require ultrasonic testing and calculations for any historical boiler based on conditions observed during visual or hydrostatic examination.

(4) RECIPROCITY WITH OTHER STATES. (a) The owner or user of an out-of-state historical boiler shall provide ultrasonic thickness test and pressure calculation documentation in accordance with ANSI/NB-23, Appendix C, Section C-4000.

(b) The owner or user of an out-of-state historical boiler shall provide copies of welded repair or alteration documentation as required in s. Comm 41.38 (2).

(c) The owner or user of an out-of-state historical boiler shall provide a copy of the valid jurisdictional certificate of operation or permit to operate from another state.

(d) The owner or user of an out-of-state historical boiler shall arrange for an inspection after the certified inspector receives, reviews and accepts the documentation as required in pars. (a) and (b). Inspectors shall be given at least 5 business days advance notice to arrange for the inspection.

(e) Upon satisfactory inspection, the owner or user of the out-of-state historical boiler shall obtain a valid permit to operate and post the permit as required in s. Comm 41.91 (5) prior to operation.

END

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