

# BOARD OF BOILER RULES MINUTES

September 10, 2008

Labor and Industries, Tacoma WA

Board Members:	Other Attendees:
Steve Bacon, Chair	Tony Oda
Steve Prideaux -Absent	Alicia Curry
Tim Barker	Sally Elliott**
Robert Olson	Paul Noges
Larry Trenda	Michael Low*
Linda Williamson, Secretary	

\*(ss) – Attended Study Session Only

\*\*\*(ss) – Attended Board meeting only

The Board of Boiler Rules meeting was called to order by the Chair on September 10, 2008 at 10:00 a.m.

Introductions were made by the board members and guests attending the meeting.

### Agenda item 1.

The meeting agenda was reviewed and approved with no changes.

### Agenda item 2.

The minutes from the May 14, 2008 meeting were reviewed and approved with no changes.

### Agenda item 3.

Request for a Washington State Special for a ASME Section IV “H” Stamped Model 2500 Clearfire Cleaver Brooks Low Pressure Boiler installed at the city pool in the City of Toppenish, WA– Presentation by Mike Low, of Cole Industrial, Inc. distributors of Cleaver Brooks boilers.

This agenda item was a continued discussion and review of information provided at the Study Session held on September 9, 2008. Mr. Mike Low of Cole Industrial presented his case to the board for a Washington State Special number for a Clearfire 2500 boiler, currently owned by the City of Toppenish. This boiler was one of twenty boilers fabricated by Cleaver Brooks with a 1120 mm OD, 6 mm thick shell, which did not meet the minimum thickness requirements of 8 mm, as required per Table HF-301.1 (minimum allowable thickness of ferrous shell plates). This design error was discovered by the Technical Safety Standard Association (TSSA) review team, while verifying the design for issuance of a Canadian Registration Number (CRN). After receiving notification of the Code deficiency, Cleaver Brooks altered four boilers scheduled to be installed in Ontario and 15 others that were still in the factory. The alteration involved installing 2mm wrapper sheet around the shell of the boilers. TSSA has currently accepted four of the boilers for temporary operation, until the ASME Code can be changed. A revision to Section IV deleting table HF-301.1 has passed and is expected to be published in the 2009 addenda, pending ASME Standards Committee and Board approval.

The Board received an update from Tony Oda, who distributed a copy of the Manufacturer’s Data Report and a copy of the design calculations. After discussion and further review, the

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board found no safety issues, as the existing boiler had a safety factor of 8 built into its design. The board approved a motion to grant Cleaver Brook's request for a Washington State Special for the Clearfire 2500 boiler with National Board number 1642.

### Agenda item 4

Proposed WAC Revisions and New WACs:

- (a.) Proposed WAC Revision: WAC 296-104-045 – Administration – What are the insurance companies' responsibilities? The Board submitted a revision of WAC 296-104-045, which was originally proposed last year to modify the responsibilities of insurance inspectors. In the past, insurance inspectors would authorize and sign off on repairs/alterations on their in-service pressure retaining items. This no longer occurs in the State of Washington. Insurance inspectors are now identifying problems, discussing them with owners, and referring them to "R" stamp repair firms. The Board voted unanimously to the adopt the revision as follows:

**WAC 296-104-045 Administration--What are the insurance companies' responsibilities?** All insurance companies shall notify the chief inspector within thirty days of all boiler and/or unfired pressure vessel risks written, canceled, not renewed or suspended. ~~because of unsafe conditions.~~ Special inspectors shall perform all in-service inspections of boilers and unfired pressure vessels insured by their employer. ~~After a repair or alteration the in-service inspector is responsible to assure that proper documentation is completed and submitted to the department in accordance with the rules of the National Board Inspection Code (NBIC) as adopted in WAC 296-104-102.~~

- (b.) Proposed WAC Revision: WAC 296-104-102 – Inspection – What are the standards for in-service inspection? The proposed revision was submitted by the Board to include; the adoption of the new 2007 NBIC Part 2, 2004/2006 NBIC Appendix "C" as a standalone document for the inspection of historical boilers, ninth addition of API 510, and 2006 version of TAPPI TIP 0402-16. Linda Williamson commented that the addition to the first paragraph by the Department came from the NBIC installation code and was an important addition to include, since the revisions excluded the adoption of Part 1. The Board approved the revision as follows:

**WAC 296-104-102 Inspection – What are the standards for in-service inspection?** Where a conflict exists between the requirements of the standards listed below and this chapter, this chapter shall prevail. The duties of the in-service inspector do not include installation's compliance to other standards and requirements (environmental, construction, electrical, undefined industrial standards, etc.) for which other regulatory agencies have authority and responsibility to oversee.

- (1) The standard for inspection of nonnuclear boilers, unfired pressure vessels, and safety devices is the National Board Inspection Code (NBIC), ~~2004 edition~~ 2007 edition Part 2, with addenda, excluding Section 6 Supplements 2, 5, 6, and 7 which may be used as non-mandatory guidelines. This code may

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be used on or after the date of issue and becomes mandatory twelve months after adoption by the board as specified in RCW 70.79.050(2).

- (2) The standard for inspection of historical steam boilers of riveted construction preserved, restored, or maintained for hobby or demonstration use, shall be Appendix "C" of the National Board Inspection Code (NBIC) 2004 edition with 2006 addenda. ~~As referenced in subsection (1) of this section.~~
- (3) The standard for inspection of nuclear items is ASME section XI. The applicable ASME Code edition and addenda shall be as specified in the owner in-service inspection program plan.
- (4) Where a petroleum or chemical process industry owner/user inspection agency so chooses, the standard for inspection of unfired pressure vessels used by the owner shall be the API-510 Pressure Vessel Inspection Code, ~~eighth~~ ninth edition, with addenda. This code may be used on or after the date of issue.
- (5) TAPPI TIP 0402-16, dated ~~2001~~ 2006 may be used for both pulp dryers and paper machine dryers when requested by the owner. When requested by the owner, this document becomes a requirement and not a guideline.

(c.) Proposed WAC Revision: WAC 296-104-105 – Inspection – How much time is required for notification of inspection? The Department has requested WAC 296-104-105 be revised to include the word "internal" in the title for clarification purposes. Linda Williamson provided the board with a background of the modification, which would prevent customers from using the seven day notice to delay external inspections. The board voted to adopt the revision as follows:

**WAC 296-104-105 Inspection – How much time is required for notification of an internal inspection?** Seven days will be considered sufficient notification. The owner or user shall prepare each boiler and unfired pressure vessel for internal inspection and shall prepare for and apply a hydrostatic pressure test whenever necessary on the date specified by the inspector.

(d.) Proposed WAC Revision: WAC 296-104-302 – Installation – What controls and limit devices are required on automatically fired boilers after December 1998? The Department has proposed revisions to WAC 296-104-302 to allow the State of Washington to recognize other national standards in regards to fuel trains. Currently, CSD-1 is the only recognized standard, but the Department feels other national standards also meet the requirements and safety standards needed. CSD-1 was originally designed for field erected boilers and the State has used the same requirements for certified package boilers, many of which do not meet the CSD-1 requirements. This has resulted in non-compliance reports requiring boiler owners and/or manufacturers to make modifications to comply, which could result in liability issues and void the

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manufacturer's warranty. The CSD-1 standard is confusing and frustrating for many manufacturers, owner/user's, and inspectors. The Department feels that CSD-1 does not make a certified fuel train any safer and should not be applied to certified package boiler fuel trains with already approved performance tested standards. The Board approved the revision as follows:

**WAC 296-104-302 Installation – What fuel controls and limit devices are required on automatically fired boilers after December 1998?** In addition to those requirements listed in WAC 296-104-301, the following are also required with regard to installations or refits of gas, oil, or combinations of gas or oil:

- (1) All boilers installed or refitted after December 1998, shall be equipped with suitable primary (flame safeguards) safety controls, safety limit switches, and burners or electrical elements as required by a nationally or internationally recognized standards, with fuel input ratings of less than 12,500,000 BTU/hr which are fired by gas, oil, or a combination of gas or oil shall comply with the fuel train requirements defined in ASME CSD-1 (CF), as adopted in WAC 296-104-200 where applicable.
- (2) The symbol of the certifying organization that has investigated such equipment as having complied with a nationally or internationally recognized standard shall be affixed to the equipment and shall be considered evidence that the unit was manufactured in accordance with that standard. Verification of fuel train compliance will be per CSD-1. A CSD-1 report will be completed and signed by an authorized representative of the manufacturer and/or the installing contractor.
- (3) These devices shall be installed in accordance with jurisdictional requirements, manufacturer's recommendations, and/or industry standards as applicable. The CSD-1 report must be made available to the authorized inspection agency or the inspector after which a certificate of operation may be issued. The report shall remain in the possession of the boiler owner.

Note: Organization: A certifying organization is one that provides uniform testing, examination, and listing procedures under established, nationally or internationally recognized standards, and that is acceptable to the authorities having jurisdiction).

The Chair requested a motion for WAC 296-104-200 to be included in the agenda items for modifications discussed at today's meeting. The revision included removal of the reference to WAC 296-104-302 and the addition of Part CF, since the only reference to CF in WAC 296-104-302 was removed. The Board approved the revision as follows:

**WAC 296-104-200 Construction – What are the standards for new construction?**

The standards for new construction are:

- (1) ASME Boiler and Pressure Vessel Code, 2007 edition, with addenda Sections I, III, IV, VIII, Division 1, 2, 3, X, XII;
- (2) ASME PVHO-1 2007 Safety Standard for Pressure Vessels for Human Occupancy; and
- (3) ASME CSD-1 Part CF 2004 edition with addenda ~~(as referenced in WAC 296-104-302;~~ and

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- (4) NFPA 85 Boiler and Combustion Systems Hazards Code 2004 edition (for use with boilers with fuel input ratings of 12,500,000 BTU/hr) or greater; and
- (5) Standards of construction approved by the chief inspector and meeting the National Board Criteria for Registration of Boilers, Pressure Vessels and Other Pressure Retaining Items.

These codes and standards may be used on or after the date of issue and become mandatory twelve months after adoption by the board as specified in RCW 70.79.050(2). ASME Code Cases may be approved for use when accepted by the chief inspector. The board recognizes that the ASME Code states that new editions of the code become mandatory on issue and that subsequent addenda become mandatory six months after the date of issue. For nuclear systems, components and parts the time period for addenda becoming mandatory is defined in the Code of Federal Regulations.

- (e.) Proposed New WAC: WAC 296-104-502 – Repairs – What are the standards for non-nuclear repairs? The board submitted a proposal for a new repair WAC to adopt the new 2007 NBIC into our WAC rules. The new WAC included adoption of the 2007 NBIC Part 3 and the 2004 NBIC Appendix “C” as a standalone document for repair of historical steam boilers. The new WAC was approved by the board as follows:

### **WAC 296-104-500 Repairs – What is the standard for non nuclear repairs and alterations?**

The standard for repairs/alterations is:

- (1) National Board Inspection Code (NBIC) Part 3 2007 edition with addenda, excluding Section 6 Supplements 2, 5, 6, and 7 which may be used as non-mandatory guidelines.
- (2) The standard for repair of historical boilers or riveted construction preserved, restored, or maintained for hobby or demonstration use, shall be Appendix “C” of the National Board Inspection Code (NBIC) 2004 edition with 2006 addenda.

- (f.) Proposed WAC Revision: WAC 296-104-502 – Repairs – What are the requirements for non-nuclear boilers and unfired pressure vessel repairs and alterations? The board submitted a proposal and provided a brief background on a revision to WAC 296-104-502, which will incorporate the new 2007 NBIC. The wording modifications will delete the existing references to WAC 296-104-102 and create new references to the approved new WAC 296-104-500 for repairs and alterations. The board approved the revision as follows:

### **WAC 296-104-502 Repairs – What are the requirements for nonnuclear boilers and unfired pressure vessel repairs and alterations?**

Repairs and alterations to nonnuclear boilers and pressure vessels shall be made in accordance with the rules of the National Board Inspection Code (NBIC) as adopted in WAC ~~296-104-102~~ 296-104-500 (1). Additionally, repairs and alterations to nonstandard boilers and pressure vessels, as addressed in WAC 296-104-215, must be authorized by the chief inspector.

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Repairs and alterations may be made by an organization in possession of a valid Certificate of Authorization for use of the "R" symbol stamp, issued by the National Board provided such repairs/alterations are within the scope of authorization.

Owner/user special inspectors may only accept repairs and alterations to boilers and unfired pressure vessels operated by their respective companies per RCW 70.79.130.

Documentation of repairs and alteration, in accordance with the requirements of the National Board Inspection Code (NBIC) as adopted in ~~WAC 296-104-102~~, 296-104-500 (1), shall be submitted to the department.

- (g.) Proposed WAC Revision: WAC 296-104-520 – Repairs – What are the requirements for repair of non-nuclear safety valves? The board submitted a proposal for revisions to WAC 296-104-520 to incorporate the new 2007 NBIC. The wording revisions will delete the existing references to "Appendix J" and WAC 294-104-102 and add references to the new approved WAC 296-104-500 for repairs and alterations. The board approved the revisions as follows:

### **WAC 296-104-520 – Repairs – What are the requirements for repair of non nuclear safety devices?**

- (1) The resetting, repairing, and restamping of safety valves and relief valves shall be done by a qualified valve repair organization holding a valid "VR" Certificate of Authorization issued by the National Board of Boiler and Pressure Vessel Inspectors. ASME valve manufacturers holding a valid "V," "HV," and "UV" Certificate(s) of Authorization may also do this work provided they also have a valid "VR" Certificate of Authorization issued by the national board.
- (2) With jurisdictional approval, boiler and pressure vessel owners/users, may authorize external adjustments to bring their installed safety valves and relief valves, back to the stamped set pressure when performed by the owner/user's trained, qualified, regular, and full-time employees. Refer to Supplement 7.10 Appendix "J" of the National Board Inspection Code as referenced in WAC 296-104-500 (1) ~~296-104-102~~ for guidelines regarding training, documentation, and the implementation of a quality system for the owner/user employees. All such external adjustments shall be resealed with a metal tag showing the identification of the organization making the adjustments and the date. If any valve repairs are required, they shall be done by a qualified "VR" certificate holder.
- (3) Repairing of noncode relief or safety valves shall not be allowed, except as specified below. Noncode liquid relief valves installed prior to 1-1-85 shall be repaired by an organization holding a valid "VR" Certificate of Authorization, but need not be stamped.

### **Department Notes:**

New AAG – Pam Reuland. The Department informed the board that Steven Nash, Assistant Attorney General will officially no longer be representing the Board of Boiler Rules. Pam

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Reuland will be the new Attorney General Advisor and will be available to the board as needed on any issues. Linda commented that Pam will review and sign off on rule changes before they go through the board.

Un-grandfathering fuel train update. The Department provided a progress report on the issue of furnace explosions and fuel trains for a possible WAC revision to “ungrandfather” the equipment for safety purposes. As discussed at the previous meeting, the Department is receiving more reports on older equipment that are beginning to fail, mainly single valve fuel trains. The Department has continued to do research on the issue and will be working with the Board, Pam Reuland, AAG, and energy suppliers for support. Tony Oda will be taking the lead on this project. The Department will work toward voluntary compliance by notifying stakeholders of issues being found with older fuel trains, so they may voluntarily upgrade their equipment without being required. The Department will also try to involve energy suppliers for the possibility of acquiring grant programs or energy savings for owners. Linda Williamson informed the board that the “ungrandfathering” of fuel trains project has recently been added as a priority to the Boiler Program “Strategic Direction Plan” and will be monitored regularly by management. A progress report will be provided at the November meeting.

State Exam Update. Revisions to sections of the Washington State examination were submitted at the study session from Tim Barker and Larry Trenda, as requested by the Department at the May meeting. The revisions by Steve Bacon were already previously submitted.

Water Heater definition for tank over 120 gallons (Rob Olson). After discussion at the study Session, the board has chosen to submit a new revision to WAC 296-104-010 for review and discussion at the November meeting.

Inspection frequency form. The Department requested a new form be considered for any requests for Washington State specials and extensions of inspection frequency. The board agreed and commented that this be referenced in WAC 296-104-018. The proposal will be added to the November agenda for further review and discussion.

Tankless Water Heaters. The Department and Board have agreed to continue to comply with the current RCWs and WACs as written in regards to tankless water heaters. Tankless water heaters that are less than one and one-half cubic feet or eleven and one-half gallons will remain exempt from the RCW and those that exceed one and one-half gallons and 200,000 BTU/hr guidelines and criteria will need to be regulated according to our WACs. The Department will convey the information on requirements to stakeholders and inspectors and feels there should be no issues with compliance. Manufacturers and distributors will also be contacted directly and informed these water heaters are expected to be ASME code. The board will take no action on the issue at this time.

Review WAC 296-104-200. After a lengthy discussion at the study session, the Board and Department agreed that additional revisions are needed to WAC 296-104-200 and tasks groups have been assigned. The Department and Board will try to compile a rough draft for the November meeting.

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The Chair mentioned WAC 296-104-015 may need to be modified as a result of the discussion held at the study session. The Chair will discuss with the Department and submit a proposal at the November meeting.

Review 2009 legislation, proposed RCW revisions. The Department provided a progress report on the current status of the following RCW revisions:

RCW 70.79.240: The Department is working toward modifications that will allow the board the right to change of frequency for low pressure boilers. As stated in the RCW, the board currently has the right for power boilers, unfired pressure vessels, and low pressure heating boilers. The Department would also like to include this right for low pressure boilers.

RCW 70.79.060 / RCW 70.79.070: The Department noted the confusion several years ago in our RCWs with the word usage of “inspection certificate”. The RCWs have multiple versions of the word such as operating certificate, certificate of operation, and operating permit. The Department is working toward modifying the wording to “inspection certificate” for consistency and to eliminate confusion.

RCW 70.79.080: The Department is working toward a revision of (9) to eliminate “one hundred thirty degrees Fahrenheit or less” and return the original wording “ambient” as the requirement. Many people are stating that they keep their thermostats under the one hundred thirty degrees Fahrenheit and are exempt from our boiler laws. The law was changed in 1999 from ambient to one hundred thirty degrees Fahrenheit, due to a request from Mr. Bill Gill (representing Longview Fibre) to bring the RCW more in line with ASME and industry standards. The change basically created an exemption for pressure retaining items used in the paper/pulp industry. The Department stated the WAC used as justification for this change was for piping and hoses and did not refer to pressure vessels. The one hundred thirty degree Fahrenheit temperature is not addressed in ASME Section VIII, div. 1 and most storage tanks are built to ASME Section IV and HWL code stamped, which is mostly what people are trying to exempt. The Department would like the legislature to return this RCW back to its original wording, using ambient temperature and feels that it is appropriate for this exemption. A revision to (12) was also necessary to clarify exemptions for hot water heaters. Linda will present additional revisions to the board at the November meeting.

RCW 70.79.090 This law was changed approximately five years ago through the legislature with the addition of hot water storage tanks, hot water certified boilers, and hot water heating boilers. The Department has further revised the RCW to remove “used for hot water supply” due to the addition of hot water heating boilers, which are not used for hot water supply.

RCW 70.79.210 The Department is requesting this RCW be completely removed from our laws. This was originally a requirement for inspectors when handling money, which no longer occurs. Linda Williamson spoke with Pam Reuland, AAG on this revision and she also agreed that there is no a longer a need to have this RCW.

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The department will continue to try and move the RCWs through the legislature for approval and has asked the board for any input.

Meeting adjourned 11:41 a.m.