Oregon
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Boiler Code Adoption Committee
Monday, August 18, 2008
Minutes

Members Present: Ray Andrus, Travelers Insurance (departed at 11:40 a.m.)
Dennis Coplin, Boiler Board Member
John Monahan, McKinstry
John Pyle for Ken Eshelman, Hartford Steam Boiler
Mark Stenberg, LU 290 (arrived at 9:45 a.m.)

Members Absent: Dave McCotter, Hunter-Davison Inc.
Bill Hansen, CJ Hansen

Guests Present: David Bacon, FM Global

Staff Present: Chris Huntington, policy and technical services interim manager
Celina Patterson, state inspection services interim manager
Mike Graham, chief boiler inspector
Shauna Parker, rules coordinator
Dana Fischer, code para technical specialist

Overview of current process and procedures
Mike Graham, chief boiler inspector, provided an overview of the National Boiler Inspection Code (NBIC), and discussed the specific code sections to be reviewed by the committee. He further explained that Building Code Division's (BCD) made available the proposed code in which regulatory agencies, jurisdictional agencies, the public, and industry had an opportunity to submit comments or code change proposals. Part 1 of the NBIC covers installation and provides requirements and guidance to assure all types of pressure retaining items are installed and function properly, and that certain safety criteria is met.

Celina Patterson, state inspection services interim manager, explained the code adoption process, and that the committee will review model code for the National Boiler Inspection Code (NBIC), part 1, section 1 on installation because if the committee chooses to adopt this section, it deals with specific changes for Oregon. Chief Graham will review each section, following along with the matrix of proposed changes. At the end of each section, a motion from the committee to either adopt or not to adopt the section or not adopt with amendments. The committee's recommendations will be forwarded for review and consideration by the Boiler Board. The Board will take action on weather to approve or not approve amendments suggested by the committee.

Introductions
The committee and staff introduced themselves.

General Guidelines, section 1
Chief Graham explained to the committee that this section has no changes; it only describes general requirements relating to the 2007 NBIC.

Power Boilers, section 2
2.1 scope
Chief Graham explained that some installation requirements in this section are in addition to CSD 1 and Code of Construction Requirements and are identified below in section *2.3*. There is no information included in the NBIC at this time.

The committee agreed this refers the reader to uniform building code.

2.3.3 clearances
Chief Graham explained the clearance requirements for how far away a boiler can sit from the wall which include measuring from the sides, front, back and top area.

The committee asked if the requirement is for new installations. They further stated that some manufacturers have zero clearance space around boilers and list a much smaller clearance allowance than the standard of 48 inches.

The committee's concern is that if the 48 inch requirement remains in the code, there will not be enough clearance space around some boilers for inspectors when conducting inspections. The committee believes that the clearance should allow enough space for an inspector to get around a boiler.

The committee stated they would like to amend this section, and have it say that "boilers that operate up to 2,000,000 BTU may be installed per manufactures recommended instructions."

2.4 boiler room requirements
Chief Graham explained that the requirements found in this section are in addition to CSD-1 and Code of Construction requirements.

2.4.1 exit
Chief Graham explained the need for two exits for boiler rooms with 500 square feet of floor space and boilers having 1,000,000 BTU or more fuel capacity.

The committee discussed this section and believe there is an issue of existing boilers vs. new installation of boilers, or restoration of older boilers.

Interim Manager Patterson explained that when a code is revised, it pertains to new installations only not existing facilities.

Another concern the committee voiced was what if a situation occurred where a new installation was made in an old building and installing a second exit is not feasible.

Interim Manager Paterson suggested the language include new construction and new buildings; restorations only when practical.

Mark Stenberg- arrived at the committee meeting at 9:45 a.m.

2.4.2 ladders and runways
Chief Graham explained that ladders and runways need to be manufactured out of metal . He further explained that both have certain safety installation requirements.

Concerns discussed by the committee included: how is an inspector to know what material was used in the manufacturing of a ladder they use on a job site, who is liable if an injury occurs, weather the safety guidelines for ladders and stairways are an OR-OSHA standard, long term safety for inspectors when they climb on top of a boiler during an inspection, having instructions developed by an engineer so contractors know specifically what material ladders and walk ways should be constructed of, and who inspects the ladders and walk ways; boiler inspectors or mechanical inspectors.

Mr. Copeland stated minimum code standards should be referenced listing the applicable code.

Interim Manager Patterson suggested that since the mechanical code is more comprehensive than the boiler code, perhaps the committee should adopt the measurements listed for handrail size, but not the metal construction standards.

The committee agreed to adopt the standard as it is, but also adopt an appendix A which directs the user to the appropriate standards for ladders and walk ways.

2.5.2 fuel
The committee agreed to leave this section as it is, acknowledging the section is covered by the Oregon Mechanical Specialty Code.

2.5.3 electrical
Chief Graham stated this section conflicts with section 1, power boilers and manned operations. There is no requirement for low water cutoff. He further stated that two means of water supply must feed into a boiler.

The committee discussed its concerns with this section stating this section may be describing manned versus automatic boilers and that automatic boilers over a certain BTU do not require shut-off valves. This means a remote shut off switch can not be required. Committee members agreed that there is a need for unmanned boilers to have a safety shut off switch, which prohibits a person from walking into an unsafe area.

Interim Manager Patterson asked the committee if the provision should remain in the code so all boilers are required to have a remote shut off switch.

The committee agreed to leaving the provision as it is written, requiring all boilers to have a remote shut off switch.

2.5.4 ventilation and combustible air
Chief Graham stated that currently the Oregon State Boiler Program does not address ventilation and combustible air, and inspections are carried out by the local jurisdiction.

Interim Manager Patterson asked if the committee wants to adopt this provision even though it is addressed in the Oregon Mechanical Specialty Code.

The committee did not see a conflict between this section and the Oregon Mechanical Specialty Code and agreed that the section should include a reference to the Oregon Mechanical Specialty Code.

Interim Manager Patterson asked the committee to confirm their agreement to have the section state "these provisions apply in addition to applicable provisions in the Oregon Mechanical Specialty Code."

The committee agreed.

2.5.6 emergency valves and controls
Chief Graham explained the new provisions in this section, stating that all emergency shut off valves and controls must be accessible from the floor, plat form, walk way or run way. He further explained that the accessibility shall be within a six foot elevation of the space and not more than twelve inches horizontally from the standing space edge.

The committee agreed to keep this section as it is written.

2.6 discharge requirements
Chief Graham stated there are currently no discharge requirements.

2.6.2 ash removal
Chief Graham stated this section is new and explained that ash removal systems shall be installed in accordance with the jurisdictional and environmental requirements, manufacturer recommendations and industry standards as applicable.

The committee had no comments on this section.

2.6.3.1 connection
The committee's only concern with this section, is paragraph "c", in which "drain pipes, valves, and fittings within the same drain line shall be the same size". The concern is sometimes drain lines are not the same size.

There was no further discussion on this section.

2.8.1 water
The committee agreed to keep this section as it is written.

2.10 6 testing and acceptance
The committee discussed the current requirement, that requires and inspector to fill out installation reports. Adopting this section would require a second installation report to be filled out.

The committee recommended *not* to adopt this section.

A motion was made by Mr. Coplin, Boiler Board member, *for the committee to adopt the 2007 NBIC Installation Code, Section 1 and Section 2 as written, except for the following:*

- *2.3.3a a shall read "Boilers operated in battery shall not be installed closer than 48 inches from each other, except that boilers that operate up to two million BTU may be installed as per manufacturer's instructions"*
- *2.4.2 shall be adopted with a reference to "Appendix A" which will refer to applicable standards, including OSHA standards*
- *2.5.4 shall be amended with the sentence "These provisions apply in addition to the provisions of the Oregon Mechanical Specialty Code"*
- *2.10.6 shall not be adopted*

for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code, with the finding that the added cost, if any, is necessary to the health and safety of the public or necessary to conserve resources." ***Motion carried unanimously.***

Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers and Potable Water Heaters, Section 3

3.3.4 clearances
Chief Graham explained this section requires a distance of 36 inches from the top of the boiler to the overhead structure.

The committee discussed adopting the same language as in section 1, *2.3.3a* for boilers and batteries, referring a person back to the manufacturers recommendations except boilers that operate up to a 2,000,000 BTU input, but wondered if the measurements should be changed from 36 inches to 48 inches to reflect the same requirement as in section 1,2.3.3a.

The committee agreed to add, "Boilers operated in battery shall not be installed closer than 48 inches from each other, except boilers that operate up to 2,000,000 BTU may be installed as per manufacturer's instructions."

3.4.1 exit
Chief Graham explained that that new construction requires two exits in a boiler room area of more than 500 square feet or more of space.

3.4.2 ladders and runways
Mr. Coplin recommended adopting the same language as in 2.4.2, adding a reference to "Appendix A" which will refer to applicable standards, including OSHA standards.

3.5.2 fuel
The committee agreed to keep this section as it is written.

3.5.3 electrical
The committee discussed suggestions for emergency exit installations. Emergency exits should open out of a boiler room, not into a boiler room and should be labeled as an emergency exit. All other doors used for egress, should be labled as non-emergency exits.

3.5.4 ventilation and combustion air
The committee agreed to amend this section to read "these provisions apply in addition to provisions in the Oregon Mechanical Specialty Code."

3.7.1 oil heaters
The committee voiced concerns about paragraph "a" of this section, stating that some heaters where the oil is heated up for combustion, is external to the boiler shell. The committee suggested eliminating paragraph "b" of this section which excludes the issue of external-type heaters.

The committee recommended to *not* adopt paragraph "b", oil heaters, where an external-type heater for such service is used, means shall be provided to prevent the introduction into the boiler of oil or other liquid harmful to boiler operation.

3.7.5 stop valves
Chief Graham explained this section is in addition to the code requirements for steam boilers. He further explained that stop valves should be located close to the boiler as is convenient and practicable.

The committee agreed to leave this section as it is written.

3.9.5 safety requirements
The committee discussed this section, and agreed to leave it as it is.

Mr. Andrus left the committee meeting at 11:40 a.m.

A motion was made by Mr. Coplin, Boiler Board Member, *recommending that the Board of Boiler Rules approve the 2007 NBIC Installation Code, Section 3 as written, except for the following:*

- *3.3.4 shall be adopted with the addition of "Boilers operated in battery shall not be installed closer than 48 inches from each other, except that boilers that operate up to 2 million but may be installed as per manufacturer's instructions"*
- *3.4.2 shall be adopted with a reference to "Appendix A" which will refer to applicable standards, including OSHA standards*
- *3.5.3(b) shall be amended to read "A manually operated remote shutdown switch or circuit breaker shall be located just outside the boiler room door and marked for easy identification; or shall be located as per ASME CSD-1*
- *3.5.4 shall be amended with the sentence "These provisions apply in addition to provisions of the Oregon Mechanical Specialty Code, 3.7.1(b) shall not be adopted."*

for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code, with the finding that the added cost, if any, is necessary to the health and safety of the public or necessary to conserve resources."
Motion carried unanimously.

A motion was made by Mr. Coplin, Boiler Board Member, *recommending that the Board of Boiler Rules approve the 2007 NBIC Installation Code with an amendment that reads "All boiler room doors that do not lead to an exit must be clearly labeled "not an exit" for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code, with the finding that the added cost, if any, is necessary to the health and safety of the public or necessary to conserve resources."*
Motion carried unanimously.

Pressure Vessels, section 4
4.3.1 supports
The committee discussed this section, and agreed to leave it as it is written.

4.3.2 clearances
The committee suggested adding in language at the end of paragraph "a" that addresses the accessibility to identification of name plate data plates and safety release valve data plates. Installation shall not cover data plates.

4.3.3 piping
The committee discussed concerns about contractors installing piping correctly and agreed to add a sentence that states "installations shall be in accordance with jurisdictional requirements, manufacturer's recommendations, and/or other industry standards, as applicable."

4.4.1 level indicating devices
The committee discussed concerns about indicating devices that show water levels. Another concerns is the requirement of needing two indicators.

The committee agreed to add the language "at least one level indicating device."

4.5 pressure relief devices
The committee agreed to leave this section as it is written.

4.5.4 capacity
The committee discussed concerns with the language in paragraph "b" that says "shall be installed to provide any additional capacity that should be required". The committee agreed that it is an owners responsibility to determine additional hazards created by exposure of a vessel to fire or other heat source.

The committee agreed to leave this section as it is written.

4.6 testing and acceptance
The committee voiced concerns on how paragraph "b" is written, requiring an inspector to witness pressure tests. They felt it implies more inspections can be requested by a jurisdiction, owner or user.

The committee agreed to remove paragraph "b", from this section.

Piping, section 5
5.1 scope
Chief Graham explained the scope is for installation of pipe to existing systems.

5.2.2 proximity to other equipment and structures
Chief Graham explained this section is for new additions to existing systems.

5.2.3 flanges and other non-welded joints
The committee did not discuss this section.

5.2.6 hangers and supports
The committee voiced concerns that this section requires new regulations on items we currently do not regulate. They also voice a concern about how field inspectors may be effected.

Interim Manager Patterson stated this section only expands inspection requirements that apply to insulation inspections.

Interim Manger Huntington stated this section will not require any regulation that is not already in place.

A motion was made by Mr. Stenberg, Local Union 290, *recommending that the Board of Boiler Rules approve the 2007 NBIC Installation Code, Section 4, 5, 6, 7, 8,and 9 as written, except for the following:*

- *4.3.2(a) shall be adopted with the addition of "and must allow for accessibility to identification of nameplate data plates and safety relief valve data plates. Insulation shall not cover data plates"*
- *4.3.3 shall be adopted with the addition of " Installations shall be in accordance with jurisdictional requirements, manufacturer's recommendations, and/or other industry standards, as applicable"*
- *4.4.1 shall be amended to read, "Steam drums of unfired steam boilers shall be provided with at least one level indicating device"*

- *4.5.4(b) shall be amended to read "; see, ASME, Section 8."*
- *4.6(b) shall not be adopted*

for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code, with the finding that the added cost, if any, is necessary to the health and safety of the public or necessary to conserve resources."
Motion carried unanimously

A motion was made by Mr. Stenberg, Local Union 290, *recommending that the Board of Boiler Rules approve for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code, the 2007 NBIC Installation Code with an amendment that reads "this code applies to all new installations and is recommended for retrofit installations."*
Motion carried unanimously

A motion was made by Mr. Stenberg, Local Union 290, *recommending the that the Board of Boiler Rules approve the following standards for adoption as part of the 2008 Oregon Boiler and Pressure Vessel Specialty Code with the finding that the added cost, if any, is necessary to the health and safety of the public or necessary to conserve resources.*

- *2007 ASME Boiler and Pressure Vessel Specialty Code*
- *2007 ANSI/ASME B 31.1 Power Piping Code*
- *2006 ANSI/ASME B 31.3 Process Piping Code*
- *2006 ANSI/ASME B 31.5 Refrigeration Piping Code*
- *2004 ANSI/ASME B 31.9 Building Service Piping Code*
- *2006 ASME CSD-1 Controls and Safety Devices for Automatically Fired Boilers*
- *2007 ANSI/NB, National Board Installation Code, part 2 and part 3*
- *2007 NFPA 85 Boiler and Combustion Systems Hazard Code*

Motion carried unanimously.

Policy for Metrication (section 7), Preparation of Technical Inquires (section 8), and Glossary of Terms (section 9)
There were no additions or revisions to these sections.

Adjourn
Meeting adjourned at 1:20 p.m.