The Inspector

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Editor: Matt Keenan
715-648-5000

A WORD FROM OUR PRESIDENT

By: David Homan:

Recommendations or Orders Electronic Data Interface aka "CORGI"

As inspectors it is our job to minimize or eliminate boiler and pressure vessel hazards on behalf of the people of Wisconsin. Whether you work for an insurance company, a third party inspection company or a jurisdiction, the goals are the same. Eliminate boiler and pressure vessel hazards. To do this we all have become intimate with the ASME boiler and pressure vessel codes. Even the specific sections not adopted in the state regulations can provide much needed guidance for boiler owners and operators who want to be certain they do things right. The end result is public safety.

So, you head out to a location to accomplish an inspection. Your customer or boiler owner has a 350,000 mbh hydronic boiler in his facility. As you look over the boiler exterior, before you remove the front cover, you notice that the boiler safety valve is installed with the spindle horizontal and it shares the nipple to the vessel with the feed piping and the expansion tank. You also notice that the boiler has no secondary temperature aqua stat visible. As you remove the front cover, you can see there is no secondary temperature cutout device mounted in the casing of the boiler. So, you realize that this boiler has issues.

What is the best way to inform your customer that these items must be corrected? Written reports. That's what we all generate to let the owner know he needs to fix some stuff on the boiler. Many owners have no clue as to what the boiler codes are or why we even have them. All he knows is he wants heat and as cheap as he can get it.

This particular owner will have to call a service company to make the repairs properly. Many will ask you who to call. They will also ask for a written list of what needs to be corrected to make the boiler compliant. That's where the orders or recommendations come into play.

If the boiler has a clear cut, well defined code violation as our example does, you will issue "orders" to have the boiler corrected. If you see other things in addition to the code that may reduce the potential for damages you may wish to offer a recommendation.

Some feel that the term "orders" is a bit heavy handed. We must ask ourselves, is the correction a clear cut violation of the code? Would the boiler be better off if the owner accomplished the recommendations you make? Will the owner accept my recommendations as I write them? Which is the best way to provide a written report detailing just exactly what needs correction? Depending on your particular employer, you may not want to seem heavy handed with your customer. The language you use when making that written report can help that owner understand the violation. If you use the word "orders", your customer may feel that the inspector is too harsh. If you use the term recommendation, he may feel that you think it would be nice to do these things, but as the owner, the decision is ultimately his. He may think that he does not have to accept recommendations. He may think he has veto power over those recommendations. That's where the State of Wisconsin's Electronic Data Interchange (EDI/CORGI) enters the picture.

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Inside this issue:

IMPORTANT

Continuing Education Requirements for All National Board Commissioned Inspectors Started in 2005!

Attending the WBIA Spring Seminar helps you meet these requirements.

The Chief's Words:

By: Mike Verhagen, Chief Boiler Inspector

ATTEND THE 5th ANNUAL INDUSTRY DAYS APRIL 21-22, 2009

Our 5th Annual Boiler Safety Industry Days is just around the corner. The brochure with details for signing up for this years Seminar can be found on two websites listed below. Plan to attend both days of training scheduled at the Wyndham Hotel - Airport, 4747 S Howell Avenue, Milwaukee, WI.

Obtain the Industry Days Registration & Agenda from:

WBIA website @ http://thewbia.com

Commerce - Boiler Program Website @

http://www.commerce.wi.gov/SB/SB-BoilerAndPressureVesselProgram.html

For the first day of Industry Days 2009, Mr. Ron Munson will fill the entire day with technical information about his experiences and knowledge of power plant equipment. Topics will include corrosion, non-destructive inspection, super-alloys and boiler system feed-water chemistry. On the second day, the attendees start with a brief of Wisconsin's new Boiler Code Comm 41. Next, the American Society of Power Engineers - ASOPE will provide a presentation titled "Ticking Time Bomb" with follow-up from an ATP - American Technical Publishers representative extending a directional hand and information about the "hottest" educational and technical publications within our industry. Later, Dr. Harry T. Whelan will provide incite into his experience with pressure vessels for human occupancy "hyperbaric chambers" as a specialty item for inspectors and plant engineers/operators at hospitals and medical clinics. Yes indeed, for those who are not aware, Wisconsin does adopt the ASME PVHO -1 2002 standard for safety inspection per Comm 41.10(2)(a)3.

Get the registration brochure via the websites above so mark your calendar for the **5th Annual Boiler Safety – Industry Days**, at the Wyndham hotel in Milwaukee, WI. Education credits will be provided. See you there!

DEPARTMENT NEWS

Boiler code Comm 41 adopts the 2007 ASME and NBIC. On the second day of Industry days, get the details of Wisconsin's boiler code changes that went into effect December 1, 2008. A current copy may be obtained from our website @ http://www.commerce.wi.gov/SB/SB-DivCodesListing.html. A hard copy of the code for minimal fee is also available through 1-800-DOC-SALE.

If you have not heard already, regretfully I inform everyone of the departure of Barb Lasek, Program Support Supervisor. After decades of assisting our industry, answering phones, providing registration tags, inspector supplies and forms, correcting records and helping to organize and welcome attendees to our WBIA - Industry Days training, she has settled into her hard earned retirement. It will be tough in this industry without "Boiler Barb", but together, I am sure, we extend wishes of a safe and happy retirement from all of us. Keep steaming Barb and good luck in a long and healthy retirement!

Due to our recent Boiler code and Fee changes, all safety section brochures have been updated to reflect those revisions. Visit the respective "program" website for the brochure of interest as listed below. The brochures serve as great handouts to educate our customers.

Gas Systems - Comm 40

Boiler & Pressure Vessel - Comm 41

Historical -Hobby Boilers - Comm 41, NBIC, Part 2,

Section 6, Supplement 2 Solid fuel-fired water-heating appliances - Comm 41.49

Mechanical Refrigeration - Comm 45

Structural Steel Welding - Comm 62, Building Code

A special thanks to all our inspection agencies and contract agents for completing inspections in a timely manner and maintaining the over-dues at reasonable levels. I have also been told outside inspectors using EDI are able to utilize our standard paragraphs available on the system. Standard paragraphs are canned paragraphs that the boiler section developed for quick reference of commonly used code sections for insertion directly into the inspection report. Yes, the recent Comm 41 code changes effective December 1, 2008 are now in place and ready to use. This could be a tool to save time and energy at each inspection site. As requested, I pass on Section Supervisor Rick Merkle's "THANKS" to everyone for their efforts to reduce their over-due object lists.

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In addition to incorporating standard paragraphs, State Inspectors are now reporting piping & repair inspections, National Board reviews, audits and many other special inspections electronically. Improvements in EDI are continuous and frequent in our regulated object system. For more detailed information on EDI CORGI, and the latest version available, contact Section Supervisor Rick Merkle directly @ 608-266-3037.

Little has changed with the auditing of Service Agent, Contractor and Inspectors. I am amazed and very pleased at the cooperation we have received from those audited and their supportive supervisors. Duane Leetch, our lead Auditor has the program process running smoothly and effortlessly. I say give that lead auditor, supervisors and those inspectors an ice cold, well deserved Miller High Life!

NATIONAL BOARD NEWS

The National Board has "new" things going on. If you attended the 2008 Industry Days in Marshfield, WI last year, you more than likely met and spoke with the new National Board Executive Director as he was an invited guest speaker and previously the Chief Boiler Inspector from the State of Illinois. I suggest everyone visit the National Board website regularly for detail of all new things happening via the link @ www.nationalboard.org . The **National Board recently announced the new Executive Director, Mr. David A. Douin**, who assumed the position early January 2009. Congratulations and good luck to Mr. Douin in his new position as the 7th Executive Director of the National Board.

DEPARTMENTAL CORRESPONDENCE TO:

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Safety and Buildings Div/Inspection Support

PO Box 7302

Madison WI 53707-7302

For assistance: Program Support @ 608-267-4405

Order Supplies: materialorders@commerce.state.wi.us

Waukesha Boiler Safety office:

Mike Verhagen, Chief Inspector

Department of Commerce (262-548-8617/ fax 548-8614)

Safety & Buildings Division

141 NW Barstow St, 4th floor

Waukesha WI 53188

Email: mike.verhagen@wi.gov

My office hours 8:00 to 4:30 PM or contact Section Supervisor, Rick Merkle @ 608-266-3037 or Program Manager, Joe Hertel @ 608-266-5649

WEB SITES

http://www.thewbia.com/

Wisconsin Boiler Inspectors Association

www.commerce.wi.gov

Department of Commerce

(Click on Safety & Buildings Division)

www.nationalboard.org

National Board info … members / Chief

http://www.heatinghelp.com

Dan Holohan Associates, Inc

Thanks for your continued cooperation. Look forward to seeing everyone at our 5th Annual, Wisconsin Boiler Safety - Industry Days planned April 21-22, 2009 at the Wyndham Hotel in Milwaukee, WI.

Be safe and take care.

M.J. Verhagen, Chief Boiler Inspector

By: Rick Merkle, Section Chief, Division of Safety and Buildings

I want thank our State Inspectors, State Contractor (Damarc), City of Milwaukee (Boiler Program) and our Service Agents for doing a tremendous job on keeping up with there work and keeping the overdues down to a minimum for the Quarter. You managed to bring the numbers down for Boilers and Pressure Vessels from 3.6% to 3.3%...TREMENDOUS JOB!!!. I would like to see us achieve less then 3.0% overdues for the next quarter.

We are still having problems in getting correct owner information, owner address and address locations being reported or in error. With EDI, we all have the current address the state has on the database record, so please take the extra moment to ensure you are providing the correct information prior to electronic submittal. Your help in this matter will enhance the efficiency of our Inspection Support Staff during processing.

Thought of the Day

"Pick battles big enough to matter, small enough to win."

Jonathan Kozol

Con't from page 1

We all have administrative procedures we follow in-house as we document our inspections. The various methods we use can sometimes make our job harder to accomplish, depending on how each of us functions as a wordsmith. Face it, if we liked to write, we'd have gone the Tom Clancy route and made millions writing fiction instead of inspection reports. Inspection reports can be very dry; some, real snoozers. This is how EDI/CORGI helps us out.

EDI/CORGI is a state created inspection database that contains most all the code details spelled out in chapter 41 of the Wisconsin Administrative Code, Boilers and Pressure Vessels. Each code requirement is entered into CORGI as a standard paragraph. It is then made selectable to the report author by using a drop down menu. Each specific standard paragraph in CORGI has a tag line number. That tag line number refers to a specific code requirement. One selects that specific tag line number from the drop down menu, and that specific code requirement gets entered from the code to the report verbatim. That seems simple enough. It doesn't end just yet.

You need to tell your boiler owner just what the problem is. Then what the code requires. Finally what he must accomplish to make that boiler code compliant. Always defining these 3 items in our written reports will make sure that the customer knows what to do, whether he does the work himself, or hires a service company to do it. Exactly what's wrong; exactly what the code requirement is; exactly what he must do to gain compliance.

EDI/CORGI makes defining the code requirements for our reports quite simple. It's a standard paragraph you select from a drop down menu. You still must do some unscripted writing, in telling them what is wrong, and what they must do to fix it.

It goes like this:

What's wrong:

The boiler safety valve is mounted incorrectly on the boiler.

What does the code require:

Comm. 41, ASME IV, HG-701.1 Permissible Mounting Safety Valves. CORGI Tag Line # 9149.

Safety valves and safety relief valves shall be located in the top or side of the boiler …… and so on.

What must be done to correct the problem:

You must install the boiler safety valve in accordance with ASME Section IV, HG-701.1, with the spindle in the vertical position.

CORGI Tag Line 8501: Boiler has failed inspection and is found not to be in compliance with the Wisconsin Administrative Code as detailed in this report. Do not issue Permit To Operate (PTO).

CORGI Tag Line 9018: You must call the inspector for a reinspection by the compliance date assigned, or legal actions may be initiated.

You have answered the 3 questions all violations have. What is wrong? What does the code require? What must be done to gain compliance?

In my example written here there are code violations I mentioned but have not addressed. I know I'm preaching to the choir here, so I won't go into a most correct example here.

Another benefit of the CORGI system is that all orders you write for a specific object will be available on the web for all to see. This is especially helpful if the state inspector writes orders on a boiler and then the owner contracts through his insurance policy, to provide for future inspections. When the insurance inspector wants to know what the state inspector wrote for that object, all he needs to do is check the web by that Wisconsin tag number. All of the orders from the prior inspection will be there for all to see.

Interesting Facts

1. If you are right handed, you will tend to chew your food on your right side. If you are left handed, you will tend to chew your food on your left side.

2. If you stop getting thirsty, you need to drink more water. For when a human body is dehydrated, its thirst mechanism shuts off.

3. Chewing gum while peeling onions will keep you from crying.

4. Your tongue is germ free only if it is pink. If it is white there is a thin film of bacteria on it.

5. The Mercedes-Benz motto is "Das Beste oder Nichts" meaning "the best or nothing".

6. The Titanic was the first ship to use the SOS signal

.7. The pupil of the eye expands as much as 45 percent when a person looks at something pleasing.

8. The average person who stops smoking requires one hour less sleep a night.

9. Laughing lowers levels of stress hormones and strengthens the immune system. Six-year-olds laugh an average of 300 times a day. Adults only laugh 15 to 100 times a day.

10. The roar that we hear when we place a seashell next to our ear is not the ocean, but rather the sound of blood surging through the veins in the ear.

Definition of CCPs

Coal combustion products (CCPs) are formed during coal-burning processes in power plants and industrial boilers. Coal combustion produces various forms of CCPs that are categorized by the process in which they are generated.

The CCPs that can be used as ingredients in the manufacture of cement include:

• Fly ash: Exhaust gases leaving the combustion chamber of a power plant entrain particles during the coal combustion process. To prevent fly ash from entering the atmosphere, power plants use various collection devices to remove it from the gases that are leaving the stack. Fly ash is the finest of coal ash particles.

• Bottom ash: With grain sizes ranging from fine sand to fine gravel, bottom ash is coarser than fly ash. Utilities collect bottom ash from the floor of coal burning furnaces used in the generation of steam, the production of electric power, or both. The physical characteristics of the products generated depend on the characteristics of the furnace.

• Boiler Slag: Boiler slag consists of molten ash collected at the base of cyclone and pulverized coal boilers. Facilities cool boiler slag with water, which then shatters into black, angular pieces that range in size from course sand to fine gravel and have a smooth appearance.

BOILER ASH

Boiler ash is a generic term applied to many types of ash produced by the burning of various materials. They are 4 general types of boiler ash commonly available, each with its own chemical and environmental characteristics:

Wood Ash – from boilers where wood (or bark) is used as a heating source.

Coal Ash – from coal powered electrical generating power plants, actually two forms, bottom ash and fly ash.

Tire Ash – produced from burning shredded tires for fuel in generating plants.

Incinerator Ash – produced from burning MSW (Municipal Solid Waste, i.e. Garbage) as a waste disposal method.

Wood Ash

Clean pure wood ash can be beneficial as a soil amendment replacing lime and providing many trace elements. The chemical and physical properties vary greatly depending on the species of wood burned and the temperature at which it is burned. Most of the wood ash produced (over 80%) is land applied in the Northeast United States and very little elsewhere. The first problem occurs since the nutrients in ash can easily leach and pollute waterways. The ash dust is also toxic if breathed which is common. Even though it is illegal, it is very common for CCA, Creosote and Penta (pentachlorophenol) treated wood to be burned or ground up and used in mulch (or compost). The copper, chromium and arsenic levels concentrate in the ash and are toxic.

WBIA Helps You Meet Your Training Needs

The Wisconsin Boiler Inspector's Association is offering training classes/seminars.

If you are interested in setting up boiler & pressure vessel training during the year let the WBIA know and we will tailor training to meet your needs. Certificates issued for all training hours. Contact Matt Keenan, Secretary @ 715-648-5000.

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Ash in Asphalt Paving

Municipal waste combustor ash has been tested for use as an aggregate substitute in asphalt paving mixes, where it has performed in a satisfactory manner, particularly in base or binder course applications. In this application, the ash is used to replace the sand-size or fine aggregate portion of the mix. In most cases, processed ash that is screened to less than 19 mm (3/4 in) with ferrous and nonferrous metal removal can be introduced to replace anywhere from 10 to 25 percent of the natural aggregate normally present in the mix for surface course applications and up to 50 percent for base course applications.

Incinerator Ash

This type of ash is produced from burning MSW (Municipal Solid Waste, i.e. Garbage) as a waste disposal method by primarily converting many of the solids to gases which are discharged into the air resulting in a large volume reduction of the material. The garbage is burned at a temperature of 1600º-1800º F which combusts most of the material destroying many toxic organics. The resulting ash is a Type II material and is a mixture of many chemicals from the plastic, batteries, etc. that were in the garbage. It also contains non-combustibles such as metals, glass, concrete, brick, etc. Often dioxins are formed in the ash. Currently the ash has no beneficial re-use and is disposed of at special landfills at a cost of $30-40 per ton.

Coal Ash

This type of ash is produced from burning coal for electrical power generation and is the waste product that results. There are two primary forms, bottom ash and fly ash.

Bottom ash accumulates at the bottom of the burner while fly ash is collected in the smoke stack scrubber. They have very different chemical and physical properties and are the inorganic constituents of the burned fuel that are not completely combusted. Beneficial uses include making cement, mixing with concrete, and stabilizing soils for road base.

Fly Ash – The scrubbers in the flue use a lime slurry to reduce the amount of sulfur dioxide (SO2) escaping to the atmosphere and other toxic materials. Arsenic, cadmium, copper, gallium, lead, antimony, selenium, zinc and other chemicals are commonly found to concentrate in fly ash. Due to the lime slurry used fly ash tends to be very alkaline (toxic).

Also studies have found that as little as 8% fly ash by weight mixed with soil can increase the salinity 5-6 times in a short period of time. It has also been found depending on application rates that fly ash suppresses beneficial microbes in the soil and as little as 10% can cause a 50% reduction in microbial activity.

Tire Ash

Used tires can no longer be disposed of in a landfill hence they must be handled by alternate disposal methods. One of these methods is to grind them up and burn them for fuel. Tires are made up of many chemicals some of which are toxic as well as the metals from the steel belts to high levels of zinc. All the chemicals become concentrated in the ash. As a result of chemical leaching, phytotoxic effects are to be expected from the ash and permanent damage to your soil would be expected**.** Typically, an ash residue is left behind, composed mainly of zinc oxide, titanium dioxide, iron, carbon and other materials The Seattle Times in July 1997 exposed the growing national practice of recycling industrial wastes - many containing toxicants, dioxin and even radioactive material - into agricultural fertilizers. Before The Times' series, few farmers were aware of the practice. Tire ash and fertilizers both fail tests for cadmium, which can be readily absorbed by plants and concentrates in leaves, grain and fleshy fruits. The ash is a good source of zinc, which helps plants grow - but it also contains the poisonous elements lead and cadmium. Millions of discarded tires from the East Coast ended up in fertilizer sold in the West and three foreign nations, in violation of federal hazardous-waste laws. The ash is mixed with sulfuric acid and water to produce fertilizer granules sold to distributors who mixed it in blended products for farmers, nurseries and home gardeners. The buyers are not told the fertilizer was made from recycled waste. The granules are 20 percent zinc, which is commonly used in plant

food. But lead and cadmium, heavy metals of no benefit to plants or animals, are also included. They weren't listed on the label or tested by regulators in any of the 10 states in which the product was sold.

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Please contact a board member today to get registered or you can reach the WBIA Secretary at:
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