

# The Inspector

Volume 14, Issue 1

Spring 2007 Issue

Editor: Matt Keenan  
715-648-5000

Inside this issue:

## A WORD FROM OUR PRESIDENT

By: Don Mathes:

3<sup>RD</sup> Annual Industry Days:

We Did Our Part and Now it is Your Turn

The WBIA Board and Committees have gone over and above the call in setting up the upcoming Industry Days. Not only are we going to talk about what Inspectors do and work with but we are going to have a fully set up and ready to go boiler that we are going to take apart and inspect in the meeting hall. The challenge has been given to Mike Verhagen to have the boiler opened up, find any and all problems that the boiler may have, and to discuss the code requirements as well as non code recommendations to help ensure the safe and efficient condition of the boiler. I don't think this has ever been done before in this type of forum.

Once again, the WBIA Board and Committees have done their part in getting this seminar ready to go and now it is your turn. All you have to do is make your reservation, pay your fee, show up, enjoy and learn. We were challenged last year with suggestions from the membership and what seemed like the impossible has been accomplished. Without your support for the WBIA and the Wisconsin State Industry Days we just could not put on seminars of this type.

This, once again, will be a great opportunity for everyone to get to know each

other better, discuss and maybe even resolve problems and issues we have come across in the field. I know your Inspector will be there if he or she can and this will be a prime opportunity for you to get answers to your questions.

It will be great to see you all at the seminar and remember this years seminar fee also includes a membership in the WBIA as a Commissioned or Non-commissioned member for no extra charge.

### 3rd Annual Wisconsin Boiler Industry Days

**Crown Plaza**  
**4402 E Washington Ave,**  
**Madison, Wisconsin**  
**608.244.4703**

The WBIA Spring Seminar will be in partnership with The State of Wisconsin and the City of Milwaukee. It is to be held on April 3 & 4, 2007. The seminar will be held at the CROWN PLAZA, 4402 E Washington Ave., Madison, WI 53704. 608-244-4703. This two day training seminar will award CEU credit to you for attendance both days or for one day.

**(See page 3 for more information)**

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## IMPORTANT

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

**Attending WBIA Seminars helps you meet these requirements.**

# The Chief's Words:

By: Mike Verhagen, Chief Boiler Inspector



2006 is now history and it's time for spring training !

## ATTEND 3<sup>rd</sup> ANNUAL INDUSTRY DAYS TRAINING APRIL 3-4, 2007

Installers, repair contractors and inspectors ... our two day training session will provide personnel with details of inspection types, preparation, demonstration, and includes safety guidelines for fall protection lock-out tag out and confined space. Be informed about inspections and obtain continuing education credit toward your credential renewal. Looking forward to everyone attending Wisconsin's 3<sup>rd</sup> Annual Boiler Safety - Industry Days on April 3-4, 2007. Advance registration is required for this two day event being held in Madison WI. Seating is limited, so register early. Watch for distribution of the flyer soon.

## DEPARTMENT NEWS

The Department has been moving rapidly with our electronic data reporting. Most improvements have made manipulating assigned quarterly work lists, reporting inspections and processing PTO's very efficient. I was informed that the department of Commerce is moving away from txt (text delimited) format to the xml (Schema) format for electronic inspection submissions. The new format change will be more uniform with the industry and allow the department to capture violations written on inspected items. With inspections and reporting being more streamline with EDI, over-dues should be easily kept to a minimum. Because of this fact, the department has a plan to aggressively pursue any equipment that may be 90 days past the PTO expiration date. Thanks to everyone for their past work to reduce the number of overdue objects and hopefully the EDI system should aid in those efforts.

Speaking of over-dues, the notification letter going out to remind customers to arrange inspections was recently revised to inform the owner/users that the department

may complete an audit of inspections to ensure consistent enforcement of Comm 40, 41, 43 and 45. Although the department has had this authority previously, the wording is now included on future inspection notification letters. The department wants all inspectors and service agents to be advised of this change should questions arise.

In addition, our service agents / contractors are encouraged to utilize our standard code paragraphs (for writing orders/violations). These standard paragraphs are available from the "ability to search records" via the website main archive downloads. In fact, we are presently testing with Hartford Steam Boiler - HSB and Jurisdiction on line - JOL. Several companies have met with the state to use our new EDI via laptop or tablet application. State inspectors are currently using the process which has proven extremely successful, efficient and has trimmed paperwork and manual data entry considerably. For more detailed information contact Section Supervisor Rick Merkle directly.

REGISTRATION (boiler registration SBD-6314 and power piping SBD-5204 ) forms have been revised. Obtain current copies from our website @ <http://commerce.wi.gov/SB/SB-DivForms.html#Boilers>

(Con't on page 3)

## Advance Boiler & Tank Co., LLC

6600 W. Washington St.  
West Allis, WI 53214  
475-3120 Fax:475-3129



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## The Chiefs Words (con't)

Some installing contractors fail to submit the boiler registration SBD-6314 and power piping SBD-5204 form as required per Comm. 41.41. If a registration copy is not available on site with the new boiler installation, inspectors are urged to write orders on such "failure to submit" to assure a contractor is AWARE OF REQUIREMENT FOR FUTURE INSTALLATIONS. While on our website for forms, one can search and find updated regulated objects, certified individuals and general program info. Call me if you need navigational assist in our website.

CREDENTIAL reminder: Inspectors are responsible to obtain and maintain a valid WI credential card. Boiler Inspector credentials are valid for four years. Credential code Comm 5.60(5) c (1) requires 24 hours of education per 4 year period prior to renewal. Get renewal applications from our website.

BOILER CODE ...Comm 41 Boiler and Pressure Vessel code is available from our website@ <http://commerce.wi.gov/SB/SB-DivCodesListing.html>

The department is making preparations for opening Comm 41for revisions and adoption of current ASME and NBIC codes. Find **sign up to receive code updates** on the website in Boiler program - section 1.0.

### DEPARTMENTAL CORRESPONDENCE

Mail correspondence to: Department of Commerce  
Safety and Buildings Div/Inspection Support  
PO Box 7302  
Madison WI 53707-7302

Program Assistant Supervisor: Barb Lasek @ 608-266-7548

Email to Order Supplies: [materialorders@commerce.state.wi.us](mailto:materialorders@commerce.state.wi.us)

Check out our WBIA website: <http://www.thewbia.com/>

Waukesha Boiler Safety office:

Mike Verhagen, Chief Inspector  
Department of Commerce (262-548-8617/ fax 548-8614)  
Safety & Buildings Division  
141 NW Barstow St, 4<sup>th</sup> floor  
Waukesha WI 53188  
Email: [mike.verhagen@wisconsin.gov](mailto:mike.verhagen@wisconsin.gov)

hours are Monday –Friday, 7:45 to 4:30 PM and always available to answer questions via telephone, email or regular US mail. When out of the office, you may contact Section Supervisor, Rick Merkle @ 608-266-3037 or Program Manager, Joe Hertel @ 608-266-5649.

### WEB SITES

[www.commerce.wi.gov](http://www.commerce.wi.gov) for Department of Commerce  
(in Top 10 Box, click Safety & Buildings Division, click applicable program)

[www.nationalboard.org](http://www.nationalboard.org) for National Board info

[www.asme.org](http://www.asme.org) for ASME Info

Thanks for your cooperation during the year and look forward to seeing everyone during the 3<sup>rd</sup> Annual Boiler Safety - Industry Days, at Crown Plaza in Madison WI on April 3-4, 2007. Mark your calendar now !

Take care.

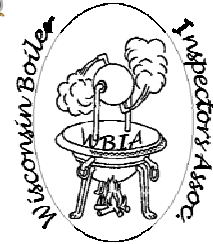
April 3, 2007

April 4, 2007

# 3rd Annual Boiler Industry Days



**CROWN PLAZA**  
4402 E Washington Ave  
Madison, WI 53704  
608.244.4703



The Wisconsin Department of Commerce in cooperation with the Wisconsin Occupational Safety & Health Consultation Program (WiSCon) and the Wisconsin Boiler Inspectors Association have scheduled the 3rd Annual State of Wisconsin, Industry Days. This two-day training seminar is to be held at the Crown Plaza, 4402 E Washington Ave, Madison, Wisconsin on **April 3 & 4, 2007**. All Wisconsin Power Plant Engineers, Boiler Repair People, Maintenance Personnel, Operators, Inspectors and Interested Public are invited to attend.

**ATTENTION INSPECTORS:** This training **does meet** the requirements for Continuing Education set by the State of Wisconsin. This two day training seminar will award credit to you for attendance at the end of each day of attendance.

Lunch and break-time refreshments are provided each day of the Boiler Safety—Industry Days Seminar. At the conclusion of each day, CEU's and a door prize will be awarded. One must be present to win. A special room rate has been assigned for those needing lodging during this seminar. Please contact the hotel and inform them you are attending the WBIA Industry Days Seminar.

## **REGISTRATIONS REQUIRED BY, March 16<sup>th</sup>, 2007**

### **Agenda....April 3, 2007, Tuesday**

0800-0830 Sign In (Registration)  
0830-0900 WBIA & Introduction  
0900-1000 Dept. of Commerce Introduction  
1000-1015 Break  
1115-1200 Fall Prevention,  
Wisconsin Occupational Safety &  
Health Consultation Program (WiSCon)  
1200-1300 Lunch  
1300-1415 Lock out/Tag Out (WiSCon)  
1415-1430 Break  
1430-1600 Confined Spaces (WiSCon)  
1600-1630 Q & A, Conclusion—CEU Info

### **Agenda....April 4, 2007, Wednesday**

0800-0900 WBIA Introduction to Inspection  
0900-0945 Boiler Mock Inspection (Per Code)  
0945-1000 Break  
1000-1100 Boiler Mock Inspection (Con't)  
1100-1200 Boiler Plant Operator Licensing  
(Jay Ehrfurth)  
1200-1300 Lunch  
1300-1400 Boiler Tube Failure (Sprader)  
1400-1500 Pressure Relief/Safety Valves  
(Riley Valve)  
1500-1515 Break  
1515-1600 Q & A  
1600-1630 Conclusion—CEU Info



**Todd Mitchell Associates**  
Insurance Industry Placement Specialists

3333 New Hyde Park Rd  
New Hyde Park, NY 11042

**Phone:** 1-800-886-1562

**Email:** [todd.mitchell@toddmitchell.com](mailto:todd.mitchell@toddmitchell.com)

## WBIA ELECTIONS

The following Officers and Board Members who are up for re-election this year are as follows:

Paul M. Wilcox                      2004-2007 Spring

City of Milwaukee

Don Smith                              2004-2007 Fall

Garratt Callahan Co.

If you are interested or know someone interested in filling a position on the Board of Directors or as a Officer please let us know .

## FIRST AND SECOND LAWS OF ENERGY

Scientists are quite convinced that the property defined as energy cannot be destroyed in the universe. Energy can be thought of like dollar bills. If a country only prints X amount of dollars, then different people and companies will own and trade these dollars, but the total amount will never change. Presently this is called the Law of Conservation of Energy in physics or in engineering is called the First Law of Thermodynamics. It is more appropriate to call this the First Law of Energy...Einstein energy can neither be created nor destroyed. The sum of all forms of energy remains constant in the universe. Einstein energy...is the total of all forms of energy in the universe or in a specific system.

If any one type of energy could be converted entirely into any other specific form of energy, then perpetual motion would likely be possible.

Though there is no basic scientific principle that does not allow perpetual motion, scientists feel that it is not possible. In engineering, the Second Law of Thermodynamics states that...thermal energy can never be entirely converted into external energy. Thermal energy is a form of internal energy which is the motion energy of the molecules. There are however other forms of internal energy such as chemical energy that also cannot be completely converted into external energy. Even a fuel cell theoretically can not entirely convert chemical energy into electricity, which is a form of external energy. Therefore all types of conversion of internal energy into external energy are limited by the Second Law of Energy...different forms of energy can not necessarily be entirely converted into other forms of energy. Obviously this law is not very explicit because it will take several pages of words to describe what the limitations on energy conversion are. It is simply a warning of what to expect.

(More in the next Newsletter)



**Allied Valve Industries**

575 Enterprise Drive  
Neenah, WI 54956  
Phone # 920/727-1172  
Fax # 920/727-0857

## Retirees

Anyone knowing of inspectors retiring please inform us so we can get their names in this Newsletter.

## Coal Gasification?

You are hearing this term more and more today. What is coal gasification? Coal gasification is a process that converts coal partially or completely to combustible gases. After purification, these gases - carbon monoxide, carbon dioxide, hydrogen, methane, and nitrogen - can be used as fuels or as raw materials for chemical or fertilizer manufacture.

Did you know that from the early 19th century until the 1940s almost all fuel gas distributed for both residential or commercial use in the United States was produced by the gasification of coal or coke.

In the 1800s, lamplighters once made their rounds down the streets of many of America's largest cities lighting street lights fueled by "town gas," the product of early and relatively crude forms of coal gasification. (Town gas is still used extensively in some parts of the world, such as China and other Asian countries).

In the 1940s the growing availability of low-cost natural gas led to its substitution for gases derived from coal. Interest in coal gasification has been renewed, however, with recent predictions that natural gas reserves in the United States will begin to diminish.

In the 1970s, interest in coal gasification revived, due largely to concerns that the U.S. supply of natural gas was waning. The massive Great Plains Coal Gasification Plant in Beulah, North Dakota, was built with federal government support to use coal gasification to produce methane, the chief constituent of natural gas.

Coal gasification, however, found its most important market application in the 1980s and 90s. Driven primarily by environmental concerns over the traditional burning of coal, gasification emerged as an extremely clean way to generate electric power. By turning coal into a combustible gas that could be cleansed of virtually all of its pollutant-forming impurities and burned in a gas turbine, coal could rival natural gas in terms of environmental performance.

The first major use of coal gasification to generate electric power in the United States took place in the mid-1980s at Southern California Edison's experimental Cool Water demonstration plant near Barstow, California. The 110-megawatt Cool Water plant established the early technical foundation for future integrated gasification combined cycle (IGCC) power plants.

Coal gasification-based power concepts got their biggest boost in the 1990s when the U.S. Department of Energy's Clean Coal Technology Program provided federal cost-sharing for the first true commercial-scale IGCC plants in the United States.

There are a number of ways that coal can be gasified. The simplest method, and the first used, was to heat coal in a retort in the absence of air, partially converting coal to gas with a residue of coke; the Scottish engineer William Murdock used this technique in pioneering the commercial gasification of coal in 1792. Yes this process has been around since 1792.

The Baltimore Gas Company, the first coal gasification company in the United States, was established in 1816.

The most common modern process uses lump coal in a vertical retort. The coal is fed at the top with air, and steam is introduced at the bottom. The gas, air, and steam rising up the retort heat the coal in its downward flow and react with the coal to convert it to gas. Ash is removed at the bottom of the retort.

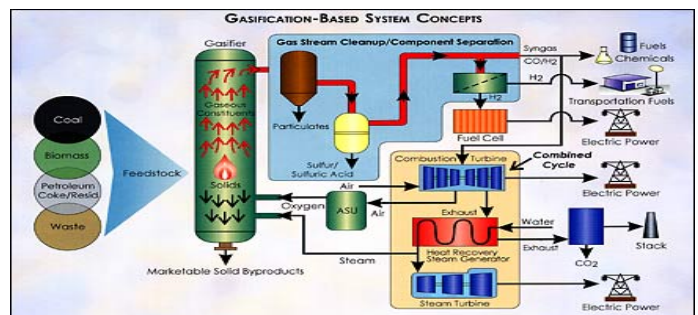
Using air and steam as reacting gases results in a producer gas; using oxygen and steam results in a water gas. Increasing operating pressure increases the productivity.

There are two other processes currently in commercial use which react finely powdered coal with steam and oxygen. One of these, the Winkler process, uses a fluidized bed in which the powdered coal is agitated with the reactant gases. The other, called the Koppers-Totzek process, operates at a much higher temperature, and the powdered coal is reacted while it is entrained in the gases passing through the reactor.

The ash is removed as a molten slag at the bottom of the reactor. Both of these processes are being used for fuel gas production and in the generation of gases for chemical and fertilizer production.

We hear that this process is an extremely clean way of generating power. Then we get the environmentalists who worry about another coal gasification byproduct -- carbon dioxide. Carbon dioxide builds up in the atmosphere and contributes to global climate change.

As petroleum and natural gas supplies decrease, the desirability of producing gas from coal will increase. It is also anticipated that costs of natural gas will increase, allowing coal gasification to compete as an economically viable process. Research in progress on a laboratory and pilot-plant scale should lead to the invention of new process technology by the end of the century, thus accelerating the industrial use of coal gasification.



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## Advertising in the Inspector Just Got Easier & More Cost Effective

The Inspector" is read by people in a 7 State area. These include Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Michigan and Illinois. The Inspector is also domiciled on our website, "TheWBIA.com" which has a unlimited readership.

### Cost to Advertise:

Business Card Advertisement:

\$150.00 year

Full page advertisement.

\$250.00 year +

20% discount on advertising for continuing ad each year &

10% discount on seminar fees of employees.

"The Inspector" is published twice a year and reaches boiler operators, Commissioned Inspectors, manufacturers, and many more.

Please contact a board member today to get registered or you can reach the WBIA Secretary at [keenan@lakeland.ws](mailto:keenan@lakeland.ws).

### The Art of Inspection

As important as it is, it is of no value to just *look*, *examine*, and *scrutinize* unless we possess *awareness*. As we inspect, we must be *aware* of what we are inspecting, and what we are looking for in every case.

Inspect each object assigned to you by looking at it carefully, examine it critically, and scrutinize it from every angle for unsafe accident producing conditions.

If you do not adhere to all the "inspection awareness" principles, it may allow a serious accident to take place.

## Documenting Your Inspections

The expression, "the job is not over until the paper work is done", applies also to the documentation of inspections. A permanent record of the inspection is necessary for a number of reasons. The inspection report in some cases becomes a legal document upon which certificates of operation are issued. Inspection reports assist the inspector as a guide or blueprint for inspection. Reports also provide verification that the inspection was actually performed. A continuing file of inspection reports may be reviewed to establish trend analysis and other important information. The actual completion of the report should be in a neat, legible manner. It is of very little value to make out a report if no one can read the report.

Check to be sure all applicable blanks are completed. Don't omit any information that might be pertinent. Incomplete reports can be as dangerous as incomplete inspections.

File or send the completed report to the required authorities as soon as possible. Some jurisdictional authorities require that inspection reports be filed within a certain time frame.

The logo consists of the letters 'P', 'B', 'B', and 'S' in a stylized, red, serif font. The 'P' and 'B's are connected at the top, and the 'S' is positioned to the right of the second 'B'.

**EQUIPMENT CORPORATION**

**N59 W16500 Greenway Circle  
Menomonee Falls, WI 53051**

## WBIA Officers & Board Members

### Officers:

Don Mathes, President      donald\_mathes@hsb.com  
Darrell Stumpf, Vice President      dkstum@execpc.com  
Matt Keenan, Secretary      wbiasecretary@thewbia.com  
Jim Holter, Treasurer      james\_holter@hsb.com

### Board Members:

Craig Running      beckerboiler@madtown.net  
Paul Wilcox      pwilco@milwaukee.gov  
Don Smith      smithgcwi@aol.com  
Jim Smith      jwsmith@milwaukee.gov  
Jay Ehrfurth      jay.ehrfurth@wisconsin.gov  
Mike Verhagen      mike.verhagen@wisconsin.gov

### WANTED WBIA Board Member

The WBIA is looking for a responsible person to fill a position on the Board of Directors. Mr. Don Smith will be stepping down from his many years as a Board Member. Please let a Board Member know if you are interested.

We Need Your Participation

### MILWAUKEE BOILER INTERNATIONAL

1101 South 41st Street  
Milwaukee, WI 53215

414-645-0068  
FAX: (414) 645-1113



## 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 @ 715-648-5506.

### Becker Boiler Company, Inc.

1785 E. Bolivar Ave.  
St. Francis, WI 53235  
482-2840 Fax: 482-0259

### Thought of the Day

"A memorandum is written not to inform the reader but to protect the writer."

Dean Acheson

## 3rd Annual Boiler Industry Days

### Sign-Up

Mail this pre-registration form with a \$125.00 fee per person: Make Check Payable To: WBIA, C/O: Jim Holter, Treasurer, 5009 67th Street, Kenosha, WI 53142      WBIA Phone (715-648-5000)

3rd Annual, Boiler Industry Days – April 3 & 4, 2007

Name: \_\_\_\_\_ WI-Credential No#: \_\_\_\_\_

Employer: \_\_\_\_\_ E-mail: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_



**WBA**

**2066 260th Ave**

**Cushing, WI 54006**