



THE RELIEF VALVE



Cherie Berry
Commissioner of Labor

Jack Given
Bureau Chief

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Jack M. Given Jr.
Boiler Safety Bureau Chief

Welcome to the inaugural edition of the Boiler Safety Bureau newsletter. Please send all ideas for articles to Allison Jay of the Boiler Safety Bureau. It is only fitting to start with a little history of the boiler safety laws in North Carolina.

The first law in North Carolina concerning the inspection of boilers was ratified on May 7, 1935. Written out in Chapter 326 of the Public law for 1935, that first law covered only steam boilers and specifically exempted all heating boilers. The law was written for all counties with the exception of Bertie, Cabarrus, Cleveland, Franklin, Gaston, Granville, Halifax, Iredell, Lincoln, Martin, McDowell, Mecklenburg, Montgomery, Moore, Person, Robeson, Rockingham, Swain, Wayne and Yancey. This law was written when Gov. J.C.B. Ehringhaus and Labor Commissioner A.L. Fletcher were in office. The first chief boiler inspector was W.E. Shuping Jr.

On March 13, 1937, the law was rewritten to include the rules for inspection. With the rewrite, the law then covered all counties. While other minor changes were made after 1939 and 1943, it was not until 1951 that the legislature acted to change the law to include heating boilers and hot water storage tanks. The next significant change was in 1976 when changes to the law resulted in the Uniform Boiler and Pressure Vessel Act of North Carolina and Administrative Rules. This change also brought other unfired and fired pressure vessels under the scope of the act. Since that time, other minor changes have been made, including one rewrite to clarify the administrative rules in 1994.

The list of chief inspectors for the enforcement of the boiler and pressure vessel laws is short. As stated above, W.E. Shuping Jr. was the first chief, followed by S.F. Harrison, E.L. Clodfelter, B.L. Whitley, S. Hall, J.W. Kapherr, H.D. Hanrath and today's chief, yours truly. Our Commissioner of Labor is Cherie Berry, who is in the last year of her second term and is running for another term.

Today our offices are located on the fifth floor of the Old Revenue Building at 111 Hillsborough St., Raleigh, NC 27603. This is just a block away from our main Department of Labor building at 4 W. Edenton St. Should you need to send mail to us, the mailing address is Boiler Safety Bureau, 1101 Mail Service Center, Raleigh, NC 27699-1101.

Jack M. Given Jr.
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A Word From Commissioner Berry

Welcome to the first quarterly edition of the Relief Valve. Its purpose is to keep those of you in the industry up-to-date and informed regarding the safe operation of boilers and pressure vessels.

Fortunately, we have very few accidents involving boilers and pressure vessels. We would have even less if everyone applied proper

operation and maintenance principles when dealing with pressure equipment. Inspectors, please read Greg Lundberg's story, "Sometimes People Die," on page 3.

The boiler and pressure vessel inspectors—both state and insurance—do a great job. Most of them not only inspect for compliance but also share their knowledge and impart good advice on working with equipment. We want to continue being proactive in helping people understand how they can operate pressure equipment safely.

Thanks for the job everyone does. If we at the N.C. Department of Labor can help you do the job better, please feel free to contact us by calling (919) 807-2760.

Public Awareness

One of our very high priorities is public awareness. With that in mind, we try to provide helpful tips for owners and users of boilers and pressure vessels. Below is a checklist that we make available to users of boilers. The pressure vessels checklist will be included in the next addition of the newsletter.

Boiler Safety Checklist

Ensure that a current inspection certificate is available. If there is no certificate, contact your insurer or the Boiler Safety Bureau immediately before operations.

Ensure that there are no steam or water leaks from any part of the boiler or piping, external to the boiler. Cracked surfaces must be repaired immediately by a qualified "R" repair organization. Bulges or other deformities indicate defective controls, safety devices or improper burner operation.

Ensure that there are no signs of overheating, corrosion or erosion. Check the operation of the chemical feed pots and pumps. Have defective equipment repaired. Remove all scale and mud from the boiler.

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The Importance of Our Efforts

I am honored to represent the Support Staff of the Boiler Safety Bureau in the first edition of the Boiler Safety Quarterly Newsletter. While coming up with ideas that would represent us ladies as a whole, I thought it only fitting to introduce us, not only as individuals, but our work ethic as well.

The word "pride" instantly came to mind. Amanda Keyes, Terry Putek and I are very proud of the work we do. All inspection reports received by paper or electronically are reviewed and submitted by the support staff knowing that our work represents a great team of people. We also know how much is riding on these inspection reports.

One of our goals is to be sure that all invoices and certificates go out error free. We all know the inspectors work hard out in the field and may not be able to cross every "t" or dot every "i" as they enter the inspection into Jurisdiction Online. However, the support staff stand strong as the backbone of a great bureau, and we work hard to bridge the gap between a perfect inspection and a report that was not entered correctly.

We also take on other types of challenges. An example would be a state inspector going out to inspect an overdue insurance object within hours of the insurance inspector. If both inspections are submitted, we definitely want to catch one of those inspections before double billing occurs. Not only can this occur between state and insurance inspections—we have seen two different insurance companies inspect the same location at nearly the same time. The challenge then becomes determining who actually insures the location, and that can take a lot of work.

Although our work styles may differ, all three support staff have the same goal: we want to ensure that the database on which inspectors depend is continuously updated with all the correct information. We also stay available for our public customers to answer any questions they may have concerning certificates and invoices.

The Boiler Safety Bureau takes up what some would say is a small space on the fifth floor of the Old Revenue Building. However, the work generated in this office represents statewide inspections that the support staff are committed to processing and distributing with pride and efficiency.

Janie M. Judd



SAFETY REMINDER

The workplace is no place for pushing, shoving, wrestling, pranks, etc., especially around hot pressure equipment. More and more companies are developing codes of conduct and disciplining workers for horseplay on the job. Why? Every year workers are hurt (some seriously) as a result of horseplay incidents. Make a difference and set the safe example for no horseplay.



Inservice Inspection National Board Seminar

On May 6 and 7, 2008, Bob Ferrell and Jim Smith of the National Board came to Raleigh and conducted a seminar on inservice inspection of pressure equipment. The seminar also included information on the new 2007 NBIC. All of the commissioned state inspectors plus 35 insurance inspectors were in attendance. Great job, Bob and Jim.

Proposed Rule Changes for 2008

The Boiler Safety Rules Board has recommended to the Commissioner of Labor the following changes to Title 13, Chapter 13, of the N.C. Administrative Code. These proposed changes must go through public comment and hearings prior to adoption into the rule.

There were some changes to administrative items such as the definition of high pressure boilers to conform to industry standards and inspector examinations and re-examinations. There was also some cleanup of language throughout the rule. Some changes on documentation submission are in the rule to clarify and define current practices.

One very important change is the removal of the requirement that all equipment must be constructed in accordance with the ASME Boiler and Pressure Vessel Code. Since the boiler and pressure vessel industry is definitely global now, many pieces of equipment are manufactured to certain foreign codes and standards. Some of these codes and standards may now be accepted.

The technical items include clarification for when two safety valves are required on high pressure boilers over 500 square feet of heating surface, the inclusion of other means of lifting safety valves for checking their operation, and strengthening the language against tampering with relief devices.

Other technical items included greater clarity in the language for separate piping for installations with multiple float type low water cutoffs, harmonization with the N.C. Plumbing Code regarding expansion tanks for hot water heaters, the requirement for only one LWCO for steam kettles, expansion tank requirements when backflow preventers are installed, and a revision of clearance requirements for installed equipment.

Some of the changes are merely cleanup items. Others will help the Boiler Safety Bureau serve the citizens of North Carolina better.

Greg Lundberg



SAFETY REMINDER

Approximately 1 million workers suffer back injuries annually according to the Bureau of Labor Statistics. One out of every five work injuries is a back injury. Don't be the next one.

Computers Break Out of the Office

The Boiler Safety Bureau will be taking a bold step forward in its technology strategy this September: each deputy inspector will be issued a personal digital assistant (PDA) to allow him or her to enter inspections in the field as soon as they are completed.

Two years ago (spring of 2006) the bureau replaced its aging, early 1990s inspection-processing system with a high-tech web-based system called Jurisdiction Online, or JO. The intended second phase of this transition was to deploy PDAs.

Before PDAs, inspectors would write inspection results down on paper report forms and then type that data into the computer later, once they had returned to their office. Not only does this require a lot of printing and paper forms, but it obviously duplicates effort and allows for the loss of data or the introduction of errors. The PDA quickly captures data as soon as it is generated, and then seamlessly uploads that data to the server later. It's much simpler.

Two fearless deputy inspectors (Dean Johnson and Sam Kirkman) worked to test PDAs with the new mobile inspection software called Pocket JO. After months of hard work, testing, feedback and corrections, we feel the system is ready to deploy. Our test pilots report streamlined inspection entry and more efficient workload management. Our office staff has delusions of grandeur with integrated GPS navigation, synchronized calendars for scheduling and instantly updated contact lists on the PDA. We'll see about all that.

But after more than a year of testing, we are sure that Pocket JO on a powerful PDA makes the inspector's life just a little bit easier. That's what they tell us technology is supposed to do ... isn't it?

Chris Lehenbauer



PDA technology will make inspections more efficient.

Sometimes People Die

This article was written by Greg Lundberg and featured in the Boiler Safety Bureau Weekly Update on Aug. 8, 2008. Due to the article's importance to inspectors, it is being featured here.

There are those times when lighthearted information and passing out congratulations just isn't the most appropriate thing to do.

We work in a dangerous business where machines can and do fail. Whether that failure is from mechanical defect, wear and tear, or other means, the root cause can usually be traced to people not doing what they are supposed to do.

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Sometimes People Die

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When that happens, maybe only the machines get damaged. Sometimes people die.

Throughout the history of the industrial age and the use of boilers and pressure vessels, people have managed to mess things up. Bad design, bad construction, bad operations, bad maintenance or bad inspections, it doesn't matter in the end. The vessel fails, costing someone something.

Not too long ago, a very large boiler failed, killing three people. They died horrific deaths from the burns inflicted not only externally to their bodies, but you can imagine the steam was hot enough to boil their eyes and cook their lungs. Forget about the loss of money to the company that owns the boiler, forget about the downtime for the investigation, forget about the cost of repairs, forget about lost career paths, and forget about any fines, penalties or lawsuits that may occur. Those three lives can never be reclaimed, and their families are paying the price for people who didn't do what was supposed to be done.

When you're out there, BE SURE, BE VERY SURE, that you've done a good thorough inspection and document what you saw. Look in the crooks and crannies. Ask about everything regarding that vessel and what has gone on since the last inspection. It may save more than you think.

Greg Lundberg



SAFETY REMINDER

Whether heading to work, heading home or just out on the town, drive with your headlights ON. You may not need them to see, but it is a lot easier for other drivers to see

YOU if you have them on. Watch out for people on motorcycles. More and more people are driving their motorcycles or scooters to work to save gas. KEEP AN EYE OUT FOR THEM TOO!

Can You Help Me?

My name is Allison Jay, and I'm the voice that you normally hear on the phone when you call our office. I am asked so many questions and hear so many different things while answering the phone. I thought I would cover a couple at a time. Two of the things I hear are "Why did I receive this invoice?" and "I don't have a boiler."



Here's an easy explanation. An invoice is issued after the inspection has been entered into our database. The law requires inspection of various pressure vessels and it's accessible online at www.nclabor.com/boiler/Boiler_Safety_Act_%20Packet.pdf. Here you will find what is exempt and what requires inspection.

During the inspection, the inspector should be sure to speak to a person at the location and document that person's name. That is a perfect time to verify the correct mailing and physical addresses and any phone numbers that we may need.

When people tell me they don't have a boiler, I ask for the NC identification number for the equipment they are calling about. There are many times that the person isn't calling about a boiler, but an air tank. When I look up the number in our database, I am able to give them the information about the vessel, the inspector's name and the person the inspector spoke with. When I provide a reference at the site, the caller feels more comfortable about the information I am providing them.

If the object has been inspected for several years, the caller is more likely to accept that they are supposed to have the inspection. When the caller is in doubt about the inspection of a pressure vessel, I refer them to the assistant bureau chief or to the commissioned inspector in their area.

Everyone here strives to answer questions accurately and provide explanations to all requests as well as we can. Don't be afraid to call us at (919) 807-2760. We are here to help you however we can.

Allison Jay

ASME AIA Review

On July 21-23, 2008, the bureau underwent a triennial review of our ASME Authorized Inspection Agency quality program. John Lockhart and Owen Buxton came and gave us a thorough review of our program. Obviously, we all would like to come through one of these things without anything changing in our QA manual and with nothing being identified as not in compliance. That did not happen though. Both of the gentlemen did their respective jobs, and although the end result was that they will recommend us for renewal of our program, we had some changes to make and a couple of things to correct.

In the end we, the managers, agreed that when we go through these reviews, we always come away with new knowledge and overall we improve. Without a doubt, this latest experience will make us better at what we do with regards to Authorized Inspection Agency work. Thanks to both Mr. Lockhart and Mr. Buxton for doing their jobs so well.



Boiler Safety Checklist

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Ensure that the condition of the flame is correct and not smoky. The flame must not impinge on the furnace walls. Check to be sure there is adequate combustion air for the burners.

Ensure that all gauges, operating controls and meters are operational. Repair or replace defective gauges, controls and meters.

Ensure that the safety valves are installed in the vertical position and are operating properly. Test safety valves periodically and replace leaking or stuck safety valves.

Ensure that the low water cutoff devices shut off the fuel supply to the boiler as required. Inspect low water cutoff devices for proper sequence and operation. When testing the devices, be sure to test both, if installed, at the same time.

Ensure that there are no fuel leaks. Check draft, manifold pressure or pump pressures and adjust as necessary to maximize efficiencies. Check the oxygen, carbon monoxide and carbon dioxide levels. There should be little to no carbon monoxide in combustion exhaust.

Ensure that there is no trash accumulating around any fired boiler or pressure vessel.

Don't tamper with controls, bypass or render them inoperative.

Don't make or have made any unauthorized repairs to the boiler.

NEVER inject cold water into a hot operating boiler or the pressure piping external to the boiler.

Do contact the N.C. Department of Labor Boiler Safety Bureau at (919) 807-2760 if you need help or have questions.

