

Boiler Safety Bureau 2008-2009 Annual Report



OUR MOST VALUABLE ASSET



Cherie Berry - Commissioner

This year's report is dedicated to the hard working men and women of the Boiler Safety Bureau. Year after year each one of them takes ownership and pride in their work and conducts that work in an exemplary manner. As a manager, I am very thankful for such a dedicated staff.

Jack M. Given. Jr.. Bureau Chief

Introduction

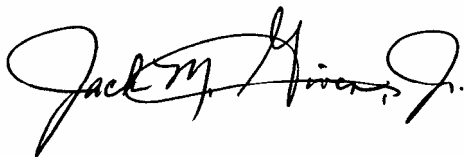
Thanks to our inspectors around the state, both state and insurance, and our support staff who work hard every day on behalf of the Boiler Safety Bureau. We finished the 2008/2009 fiscal year in a position of strength with regards to up to date inspections and completion of corrections to violations. We believe that the Bureau is stronger today in so many ways than ever been before. We continue to execute on our plans to strengthen the Bureau for long-term service to the citizens of North Carolina. In FY 2008/2009, we accomplished a number of strategic goals that will help us continue to deliver distinctive value to our citizens. Our most significant events included the following:

- Rolled out PDA's for our inspectors to input and report inspections.
- Developed an uninspected item prospecting method to identify those items that have not been reported to be in use.
- Developed a quarterly newsletter that will be informational for users, inspectors, manufacturers and repairers of pressure equipment.

It is the continuing aspiration of the North Carolina Department of Labor, Boiler Safety Bureau to be widely recognized as a government entity that is on the cutting edge of progress in the protection of our citizens from tragedy resulting from catastrophic failures of pressure equipment. During the period there were a number of equipment accidents around the country. Proudly, we had no significant failures in North Carolina. However, we must continue to evolve to be stronger in our efforts to head off failures through a system of comprehensive inspections, education and coordination with the companies that seek to serve the pressure equipment industry. Efforts to pursue operational excellence are closely linked to the driving thought that the better we are in doing our job, the safer the citizens of North Carolina will be. Additionally, our efforts to wisely utilize the money brought in through inspections, is to be taken seriously. Careful handling of finances hopefully keeps us from having to resort to frequent fee increases.

We have worked very hard to determine how we might increase efficiency and productivity of our staff. At the same time we endeavor to foster greater collaboration with our partners in the insurance industry and provide superb delivery of our combined resources and capabilities across the state. Our roadmap for success has been to serve our clients, the citizens of North Carolina, in a manner that they will be proud to boast about our efforts on their behalf. Throughout the year, survey results have proven that we are being successful in this vein. Our continued commitment to citizen value, impeccable leadership and operational excellence in FY 2009/2010 will further strengthen the Department of Labor, Boiler Safety Bureau and build on our leadership position in the pressure equipment safety industry.

It has been my privilege to be a part of the extraordinary Boiler Safety Bureau team. I am exceedingly optimistic for continued success in the upcoming fiscal year.

A handwritten signature in black ink that reads "Jack M. Given, Jr." The signature is written in a cursive, flowing style.

Jack M. Given, Jr.
Bureau Chief

Vision

The Boiler Safety Bureau is driven by the vision of total boiler and pressure vessel safety in North Carolina and the eradication of catastrophic failures of pressure equipment.

Mission

The mission of the Boiler Safety Bureau is to protect life, property and the environment from the hazards of pressure equipment failures.

Summary

- **52,233 inspections were conducted**
- **2,794 violations were identified**
- **5,093 new items were inspected**
- **0.73% combined state and insurance backlog down from 1.07% in 2007/2008**
- **Personal digital assistants (PDA's) were deployed for inspection reporting**
- **No major boiler or pressure vessel accidents**

Operations

The Boiler Safety Bureau's mandate is to administer the Uniform Boiler and Pressure Vessel Act of North Carolina and the Administrative Rules. This includes the inspection of boilers and pressure vessels and to identify any violations that might exist. Concurrently, we examine new inspectors, review R stamp (repair) programs. Regulated pressure equipment in all aspects of the lives of North Carolinians is inspected. When you go to the dry cleaners there may be a boiler. When you go to church, there may be a boiler, when your kids go to school, there may be a boiler, when you go to the grocery store, the service station or the car wash there may be a pressure vessel, and when you work in industry or commerce, there may be both. Boilers and pressure vessels touch almost all aspects of our lives.

Inspections and Violations

State and insurance commissioned inspectors conducted 17,849 boiler inspections and 34,384 pressure vessel inspections for a total of 52,233 inspections of regulated pressure equipment. 2,794 violations were identified. These violations were of 1239 boilers, 1514 pressure vessels and 41 repair and alteration problems. The owner was given a period of time to correct the violation, and reinspections were conducted. If necessary, additional corrective action was taken. The potentials for catastrophic failure are always there when it comes to equipment that handles stored energy and boilers and pressure vessels are no exception. We have been fortunate this last year that there were no injuries reported due to boiler or pressure vessel failures. This can be tied to identifying problems that exist and getting them corrected and on time inspections, thereby maintaining a very low backlog.

Even with the excellence in identifying violations, there were still four boiler failures that resulted from problems with required controls. Our inspectors investigated four low water boiler incidents. In each case the low water controls had failed to operate properly and prevent the incident. We have to ask, if we had not identified the other 201 low water control problems, would that accident rate have been higher? The system works.

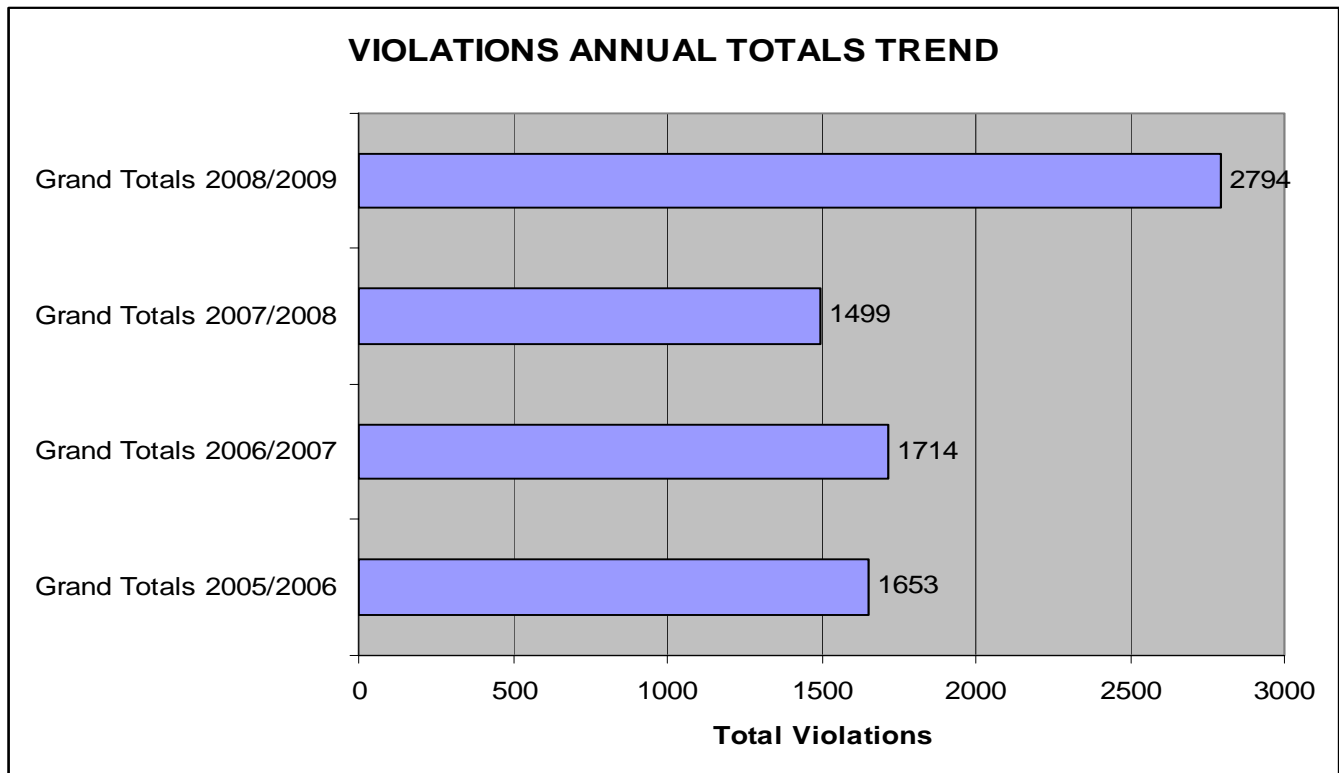
The violations mentioned above of are identified below. The violations table is broken down into categories with the specific subcategories. Following the table, the chart gives a pictorial view.

FISCAL YEAR 2008/2009 VIOLATIONS REPORT

Category	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Totals
Boiler Controls					
Low Water Cutoff/Flow Sensing Devices	64	26	72	39	201
Pressure Gages	32	9	24	11	76
Water Gage Glass	36	20	30	19	105
Pressure Controls	14	5	19	9	47
Temperature Controls	27	41	39	22	129
Undefined Controls Violations	27	21	13	9	70
Total Boiler Controls Violations:	200	122	197	109	628
Boiler Piping and Other Systems					
Main Steam System	4	2	10	5	21
Bottom Blow/Drain Systems	13	8	4	5	30
Feedwater, Condensate/Return Systems	2	4	5	3	14
Expansion Tanks/Heating System Piping	0	4	0	2	6
Casing, Stack Breaching and Flue	1	1	8	3	13
Burners and Fuel Supply Systems	9	6	14	7	36
Undefined Boiler Piping/Other Systems	26	26	68	29	149
Total Boiler/Other Violations:	55	51	109	54	269
Boiler Mfg Data Report/Nameplate					
No Data Report	0	2	2	0	4
Nameplate Stamping Incorrect/Missing	13	9	2	5	29
Undefined MDR/Nameplate	0	0	0	1	1
Nonstandard Boiler	0	0	0	0	0
Total MDR Violations:	13	11	4	6	34
Boiler Components					
Fireside Water Leaks	29	9	14	20	72
Baffles and/or Refractory	2	0	1	0	3
Furnace and Fireside	4	2	3	4	13
Waterside	1	0	0	1	2
Superheaters	0	0	0	0	0
Economizers	0	0	0	0	0
Installation	0	0	0	2	2
Undefined Boilers	83	34	73	26	216

Total Boiler Violations:	119	45	91	53	308
Pressure Relieving Devices For Boilers					
Installation	93	43	73	54	263
Operation	56	28	90	37	211
Undefined Boilers PRD Valve	24	8	14	7	53
Total PRD Violations:	173	79	177	98	527
Vessels					
Installation	0	1	0	1	2
Material Condition	12	1	5	6	24
PV Mfg Data Report/Nameplate	22	11	22	10	65
PV Pressure Relieving Devices	216	102	222	146	686
Undefined Pressure Vessel	70	34	70	36	210
Total Pressure Vessel Violations:	320	149	319	199	987
Repairs and Alterations					
Unqualified Organization	0	1	2	3	6
Unauthorized Repair	9	1	3	4	17
Code Deficiencies	0	0	0	0	0
Undefined Repairs and Alterations	0	15	0	3	18
Total Repairs and Alterations	9	17	5	10	41
Grand Totals	889	474	902	529	2794

The following chart shows the violations for the last four fiscal years. Note that the greatest number of violations was identified in 2008/2009.



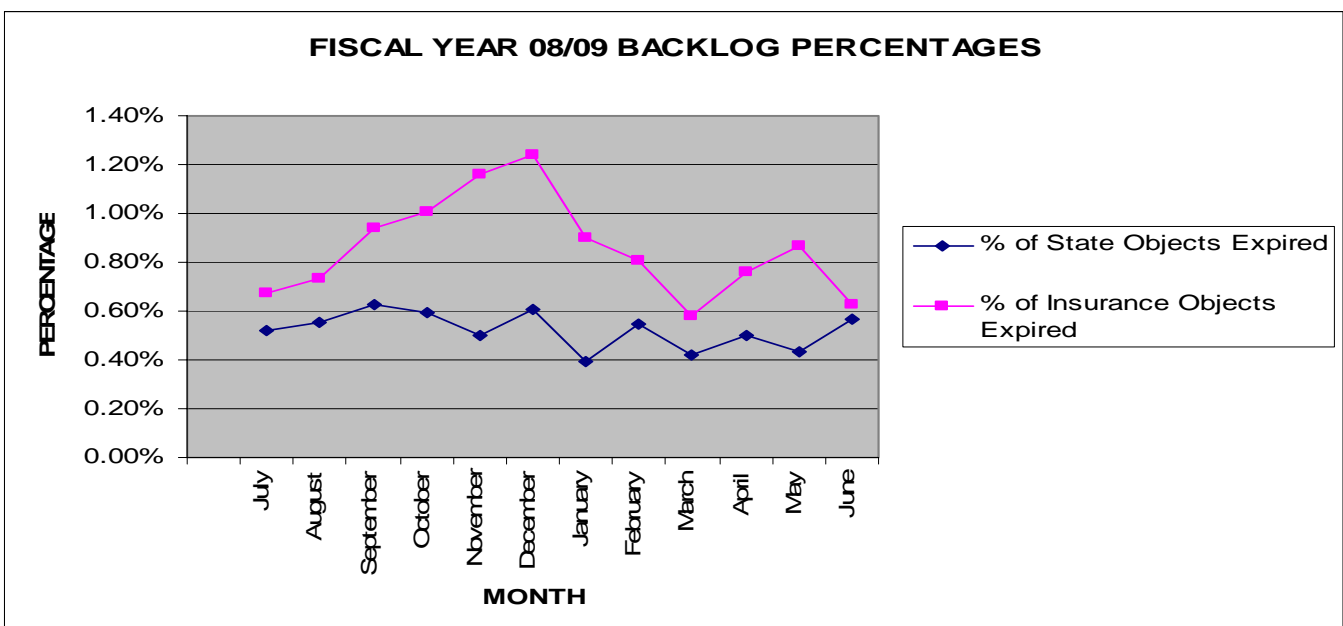
At 2794, the 2008/2009 violation total is almost twice the previous year total and more than 1000 greater than the other two years. This reinforces the need for continued inspections of boilers and pressure vessels in North Carolina and the benefit provided.

Backlogs

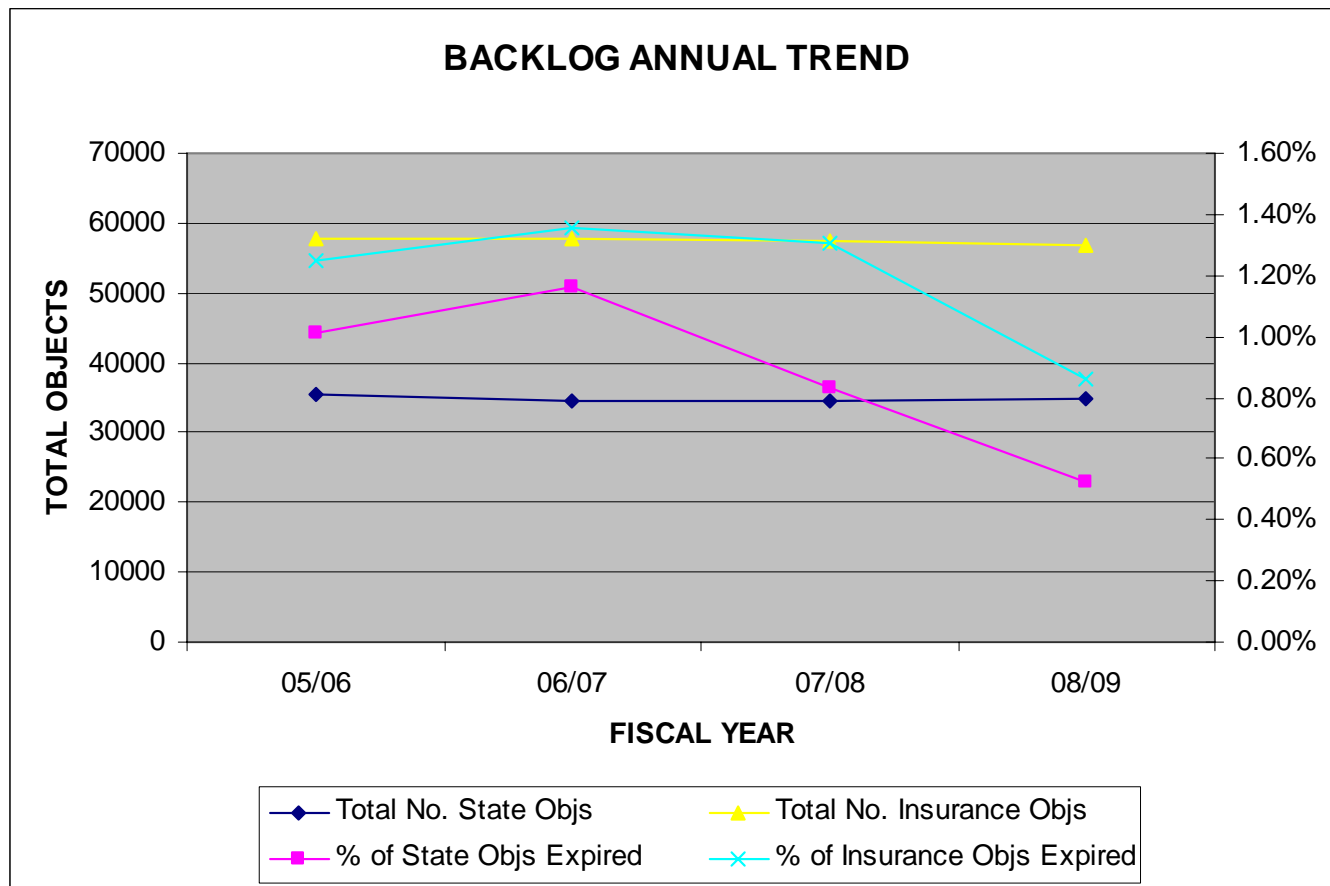
With the greatest of inspection programs there can be a backlog. This is caused by a number of reasons, most often due to lack of access. The table on the following page shows that the combined state/insurance inspection force kept the backlog of inspections down to less than one percent. It is important to note that the state backlog was consistently below 0.64% with an average of 0.52%. As stated before, the low backlog helps us to maintain a year that is free of serious damage and injury.

FISCAL YEAR 08/09 BACKLOG PERCENTAGES		
Month - FY 07/08	% of State Objects Expired	% of Insurance Objects Expired
July	0.52%	0.67%
August	0.56%	0.74%
September	0.63%	0.94%
October	0.60%	1.01%
November	0.50%	1.16%
December	0.61%	1.24%
January	0.39%	0.90%
February	0.55%	0.80%
March	0.42%	0.58%
April	0.50%	0.76%
May	0.43%	0.87%
June	0.57%	0.63%
Average Percentage	0.52%	0.86%
COMBINED AVERAGE PERCENTAGE		0.73%

Again, a pictorial views allows you to see the flow of the backlog percentages through the year, this chart gives a very good perspective of how the backlog decreased through the year until we achieved the final .73% combined percentage.



As can be seen by the following chart, a look back over the last few years shows the backlog steadily shrinking. This is as a result of both state and insurance personnel giving the backlog emphasis.



Additional Work

In addition to the inspections of equipment in businesses and institutions throughout the state, inspectors with special training and endorsements carried out ASME Boiler and Pressure Vessel Code third-party inspections in manufacturing facilities that construct boilers and pressure vessels as well as pressure equipment repair firms or National Board "R" Stamp holders.

Add to this, our support staff entered the collected data from hard copy reports into the data system and conducted quality reviews of data entered directly by inspectors. They then printed and mailed invoices and certificates and answered numerous questions from inspectors as well as the citizens being served.

Resources

Our people are our most valued asset. They are the ones that make things work properly and smoothly. I cannot over emphasize that our office staff, field staff and management provide the greatest value of service to the people of North Carolina when it comes to boiler and pressure vessel safety.

We continually train our people to stay on the edge of technological evolution. We instituted a weekly electronic newsletter to put forth information in a timely manner to our people and the insurance industry that services boiler and machinery. We have also provided a more comprehensive quarterly newsletter to help in that same regard.

Each of these has the aim of better assisting and growing our people and those in the industry.

While our people are our assets, we also recognize them as people. We understand the desire to strive and excel and we support and encourage their growth at all times. We offer training and continuing education to our people. This training can consist of course work for the commissioned inspectors to enhance their skills or can be for the office staff for their own skill sets. In any case, we believe that well trained, motivated people are the cornerstone to the success of the Bureau.

We recognize that as our inspection force ages, it will require great vigilance in hiring high quality new people as replacements, training them properly, supervising them, and providing them with the tools necessary to excel.

The Bureau has always made people our first priority whether they are our team or they are the public we serve. We will continue that tradition of service.

What Is Ahead

The Boiler Safety Bureau is looking forward in these challenging times of shrinking budgets and looking for ways to increase efficiencies in our operations while still providing the quality of service expected. The field deployment of the PDA's has been successful and we are now looking for the next step in the evolution of the Bureau.

Our database resources are constantly being examined for improvements and we always look for faster, better processes at a lower internal cost of doing business. We feel that this is not only good business, but it is the proper stewardship of the public's resources.

