Greeting fellow members, this is the first in what I’d like to make a quarterly newsletter. Our first meeting on April 12 appeared to be a success. We welcome feedback on how we can serve our members. The Board of Director and Officers will meet June 13 to start planning a course for our group. On the agenda will be another meeting sometime in the fall, probably late September. I don’t expect it to be as big an affair as out first meeting. Maybe we can find a venue that will allow a catered fish fry and we’ll have a few speakers. Also on the Board meeting agenda will probably be topics such as a memberships/dues structure, potential speakers and subjects, general meeting date and board meeting dates. A mission statement will be developed and presented for acceptance.

 If you attended the National Board General Meeting you realized that carbon monoxide is becoming a big issue during inspections. The state of Texas has even required their inspectors to monitor and log the CO levels at the inspection location. We’ve decided to include an article about the subject in the first newsletter.

Editor’s corner

Carbon Monoxide Poisoning Preventable With Complete Inspection

**Lee Doran and Regina Romary**
National Board consultant and National Board publications editor, respectively

**Spring 1995**

**Category: Incidents**

**Summary:** The following article is a part of National Board Classic Series and it was published in the National Board *BULLETIN*. (3 printed pages)

A silent killer finds its way into the headlines each winter. This year was no different, with frequent reports of the deaths and illnesses caused by carbon monoxide poisoning, usually in permanent residences. Yet carbon monoxide emission, which causes no damage to the boiler equipment whatsoever, is almost always preventable.

When it comes to boiler accidents, most people relate to a boiler explosion or a combustion chamber explosion. Yet incidents involving carbon monoxide are much more frequent than the other two combined.

According to the U.S. Consumer Product Safety Commission, an estimated 250 persons die and almost 5,000 are injured [an October 2000 press release cites more than 10,000] each year in non-fire-related carbon monoxide poisoning. Estimates of nonfatal injuries are difficult to determine because many victims do not seek treatment or are misdiagnosed as having colds or influenza. However, these estimates suggest that there are 20 nonfatal injuries for every fatal carbon monoxide poisoning.

Accident investigation results consistently attribute blame to the venting systems. Recent articles have warned of venting failures which might allow carbon monoxide to leak into buildings. But the vent pipe is actually only part of the problem.

Further investigation would reveal that it is the burner that isn't operating properly. When the burner is not receiving enough air, unburned fuel is released in the forms of carbon monoxide and soot. The root cause of any carbon monoxide emission is the burner operating without enough air.

So why is the venting so often blamed? Investigators will usually end their search at a faulty flue pipe, not realizing that there would be no problem if poisonous gas wasn't being produced by the burner. In most jurisdictions, carbon monoxide failure investigations are conducted by the fire marshal's office. Unfortunately, personnel in fire prevention are unlikely to be thoroughly trained in investigation of boilers and water heaters. It is improbable that unqualified personnel will identify problems and potential problems that might exist.

Most jurisdictions have firm lines separating the responsibilities of their departments; in particular, the responsibilities of the fire prevention and boiler safety branches are well-defined. By this division of duty, boiler safety personnel are usually charged with the inspection of a boiler or pressure vessel's steam or waterside operation, while fire prevention personnel are responsible for the portion of the equipment involving fire. Likewise, insurance companies commonly assign investigation responsibilities the same way between fire and property insurance personnel.

The problem with this arrangement is that, as mentioned, fire prevention personnel often aren't trained to inspect or investigate boilers and pressure vessels. In fact, it isn't always clear that inspection of the equipment falls within their domain. Frequently the end-result is that no one inspects the fuel-firing apparatus. Problems with the burner, such as improper calibration or worn-out parts, go undiscovered until it's too late.

It is extremely important that the entire boiler be inspected, including all connecting apparatus and auxiliary equipment. Inspection of the entire boiler as a complete system is the only way to ensure safe operation.

For this reason, many jurisdictions of the U.S. and Canada have adopted ASME CSD-1: Controls and Safety Devices for Automatically Fired Boilers. CSD-1 addresses combustion equipment requirements as well as steam and waterside control, testing, and operation in the inspection and investigation of boilers. Twenty-eight states and jurisdictions of the U.S. and Canada require at least part of CSD-1.

Florida is one state that has adopted only the portion of CSD-1 concerning steam and waterside controls of boilers. This standard was in effect on February 2, 1995, when a guest in a Tampa hotel died, apparently from carbon monoxide poisoning. The matter is still under investigation. Another person died two years ago when carbon monoxide leaked into a West Palm Beach hotel. Investigation in that case revealed a malfunctioning boiler burner system, according to Billy Smith, assistant director of the Florida State Fire Marshal's Office. Full compliance with CSD-1 and complete boiler-system inspection might have prevented such tragedies.

As the standard becomes more widely known and used, personnel in fire prevention and boiler safety are recognizing the interdependence of a boiler's pressure and fuel-firing apparatuses. Expanding use of CSD-1 is improving safety of boilers and pressure vessels through better inspection, greatly reducing risk to the public.

But prevention of carbon monoxide poisoning doesn't stop with the appropriate inspection of boilers and pressure vessels. Proper care, testing, and maintenance of the equipment is vital to its safe operation. Due to budgetary constraints, public buildings such as schools and churches are often forced to forgo training for their boiler maintenance personnel. Other times, management simply does not recognize the need for training of operation and maintenance personnel in this extremely vital area. The risk to the people who enter these buildings every day greatly outweighs the nominal cost of training.

In its training efforts, the National Board has included instruction on boiler fuel-firing apparatus and combustion-side controls in its Inservice Inspection Seminar (ISI), presented in a jurisdiction by request of its chief inspector. These portions of the seminar ensure the boiler inspector understands the basics of the equipment and the importance of safe operation. In addition, the seminar offers a jurisdiction's chief inspector the opportunity to invite operators/maintainers/owners and service organizations, in an effort to improve the safety of the general public within that jurisdiction. But this is a small effort. More must be done in this area.

With trained personnel, proper maintenance, and inspection of the boiler or pressure vessel as a complete unit, carbon monoxide poisoning will not continue to be the deadly problem it is. Just as the venting system is the often-blamed symptom of a larger problem, so is the carbon monoxide emission indicative of a lack of the proper care a boiler requires.

**Editor's note:** Some *ASME Boiler and Pressure Vessel Code* requirements may have changed because of advances in material technology and/or actual experience. The reader is cautioned to refer to the latest edition of the *ASME Boiler and Pressure Vessel Code* for current requirements.

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# NY Thermal Recalls Boilers Due to Carbon Monoxide Hazard



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**Name of product:**

NY Thermal (NTI) Trinity Tft and Slant/Fin CHS residential and commercial boilers

**Hazard:**

The grommet seal can reduce in size over time and dislodge during use and allow the boiler to emit carbon monoxide, posing a CO poisoning hazard.

**Remedy:**

Repair

**Recall date:**

May 15, 2018

**Units:**

About 16,000 (in addition, about 7,000 were sold in Canada)

**Consumer Contact:**

NY Thermal at 800-688-2575 from 7 a.m. to 4 p.m. ET Monday through Friday or online at [**www.NTIboiler.com**](http://www.ntiboiler.com/recall) and click on “Urgent Recall Advisory” at the top of the page for more information.

Here’s the link to the full story.

<https://www.cpsc.gov/Recalls/2018/NY-Thermal-Recalls-Boilers-Due-to-Carbon-Monoxide-Hazard>

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