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**WSSCA**

**WISCONSIN SCHOOL SAFETY COORDINATORS ASSOCIATION**

**WSSCA NEWSLETTER, JANUARY 2012. HAPPY NEW YEAR EVERYONE!!**

**Boiler Room Safety.** The winter heating season in Wisconsin is upon us and with it comes the reminder of safe boiler room operations in our schools. A boiler is an enclosed vessel in which water is heated and circulated, either as hot water or as steam, for heating or power purposes. Most low pressure boilers in the schools are automated in their operation BUT all operators should have a basic knowledge in the safe operation of this critical mechanical system. For instance, the typical boiler will start and stop within safe parameters while providing the required heat to the building. This is a “repetitive” mechanical function that does not require human intervention.

There are several important mechanically operated safety controls on a boiler. First, a Low Water Fuel Cut Out control is used to secure the gas valve in the event of low water level within the boiler. Failure of the fuel cutoff system when the water level inside the unit becomes too low for proper operation is one of the leading causes of a boiler accident. This control should be checked daily by the operator to assure proper operation. Second, there is temperature and pressure limiting controls to keep the boiler temperature and pressure from exceeding a safe manufacturer’s operating range. A trained and attentive operator is the one that can verify if the gauges or safety valves are operating correctly or not. Third, a flue thermometer will read the temperature of the exhausting gases but the trained operator can determine if the temperatures are indicating a problem. Fourth, system water or steam leaks will cause an excessive amount of raw make-up water to enter the boiler introducing corrosion causing oxygen as well as increasing scale and sludge buildup. This condition will require a trained operator to find and properly repair the leaks and then re-treat the boiler system with the appropriate chemicals.

Operator error, poor maintenance or improper maintenance is another major cause of boiler room accidents. Several common errors include the addition of cold water to an extremely overheated boiler which can not only fracture or deform the shell but the rapid expansion of the water being heated may cause a boiler explosion. Operators that close off the “cold air duct” (combustion air intake for the burners) are not saving energy but rather flirting with carbon monoxide poisoning and are severely reducing burner efficiency. Individuals that excessively blow down boilers may create a “steam room” which subjects them to severe burns and decreased paths of vision. The presence of a natural gas smell in a boiler is NOT NORMAL - it could be fatal.

The boiler room is a dangerous area. The operator needs to be aware of safe boiler operations AND safe practices. The operator must be aware of and follow information from programs such as Material Safety Data sheets, Confined Space, Lock Out Tag Out, Hearing Protection, Hot Work, Chemical Safety, Electrical Safety, Fire Safety and Personal Protective Equipment along with Asbestos and Lead Health programs.

What are some steps to maintain a safe boiler room?

- 1) Be familiar with the manufacturer's operation and maintenance manual and follow their instructions.
- 2) Keep the boiler room clean and orderly. Clean up spills, provide clear routes of egress and know where the fire extinguisher(s) and pull station(s) are located. Remember that a boiler room is not a storage room.
- 3) Repair steam leaks as soon as identified. Remember that a small steam leak can be hard to see but may severely burn or cut you. Steam that leaks through an improperly seated control valve will actually cut a path through the seat of the valve. This is known as wire draw - if steam can cut through metal, imagine what it would do to your hand.
- 4) Pursue Power Engineer certifications even if they are not required in your municipality. The life you save may be your own!
- 5) Maintain accurate boiler operating checks and maintenance service logs. The history from these logs can be helpful in troubleshooting and identifying areas of concern.
- 6) Maintain accurate water chemistry logs. Tests and treatments either performed by the operator or a water treatment company representative can be an indication of unseen problems within the system piping or the boiler itself.
- 7) Keep unauthorized staff out of the boiler room. Yes, it is a warm and generally dry area BUT it is also noisy and could be hazardous to the untrained individual.

The Wisconsin Department of Safety and Professional Services (DSPS) does not mandate a State boiler operator's license, however, individual City and/or County ordinances may require one. The National Institute for the Uniformed Licensing of Power Engineers, Inc. (NIULPE) and the American Society of Operating Power Engineers, Inc. (ASOPE) are two national organizations that provide certifications to meet the Municipal requirements. Many technical colleges in the State offer classes to prepare the individual for the exams to earn their certifications. Be smart, be trained and be safe.

**Dan Larsen**, Coordinator of Facilities and Operations, West Allis-West Milwaukee SD

**NOTE:** Don't forget **WSSCA's 44th Annual Conference February 27 and 28**. Check the website for details at: [www.wssca.org](http://www.wssca.org). There is something for everyone! Our conference theme this year is: "**Resolve to be ready in 2012!**" Learn how you can become better prepared.

A reminder to all that January 9-13 is "Adult School Crossing Guard Recognition Week" in Wisconsin. Once again, WSSCA is proud to be a co-sponsor for this event. Thank you, guards!

**New Feature:** Please note the new sponsors' section on the right side of the newsletter. WSSCA thanks these three companies for supporting our mission of keeping schools safe. If you are interested in listing your company's ad with us, please contact me. 200 + people in Wisconsin, Minnesota, and Illinois, receive this newsletter each month.

**Quote of the Month:** At this time of year, when people start making their new year's resolutions, I hope each of you gives some thought to your individual and organizational goals for 2012. I do not believe you can get from here to there - if you don't know where "there" is, so remember this simple management strategy: plan your work - then work your plan. Goals are good. Our schools will be seriously challenged again this year and the kids and their parents are counting on us to get it right. I hope these timely quotes help get you thinking about a successful and a safe 2012.

- On your new year's resolution: "You lie loudest when you lie to yourself." - Anonymous
- "You cannot build a reputation on things you are going to do." - James J. Hall
- "Well done is always better than well said." - Ben Franklin

On behalf of President Bill Freeman and the WSSCA Board of Directors, Happy New Year everyone, and let's be safe out there, OK?

**Peter Pochowski**, Executive Director and Editor

**Education First - Safety Always**