ABSA
the pressure equipment safety authority

THE PRESSURE NEWS

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ANNUAL CODE UPDATE SEMINAR

In Edmonton:
Tuesday, October 9, 2007
Nisku Inn, Nisku

In Calgary:
Thursday, October 11, 2007
Blackfoot Inn, Calgary

For more information, please contact Cynthia Formaniuk at:
(780) 437-9100 Ext 3325

DESIGN SURVEY MANAGEMENT CHANGES

ABSA is pleased to announce that Bruce McWhirter and Djordje Srnic have accepted new responsibilities at ABSA.

Bruce McWhirter has accepted new responsibilities in the position of Resident Engineer. This new role involves a combination of:

1. assisting in the development and delivery of technical training,
2. providing technical expertise, support and guidance to staff regarding interpretation of codes, regulations, policies and practices, and
3. managing program improvement projects.

We would like to take this opportunity to thank Bruce for his valued contribution as Design Survey Manager for the last 20 years and feel very fortunate to have someone with his skills, knowledge and experience at ABSA.

Djordje Srnic has accepted the position of Design Survey Manager. He is a Professional Engineer and has a M. Sc. in Mechanical Engineering. Djordje also holds a National Board Commission, and is a Safety Codes Officer.

He began his career with ABSA as a design surveyor in September, 1996. Prior to that he was a project engineer, team leader and boiler design engineer for several companies involved in pressure-equipment-related projects. Since joining ABSA, Djordje has proven that he is committed to improving pressure equipment safety in the province of Alberta.

We wish both Bruce and Djordje success as they take on the challenges of their new positions. ❖

IMPORTANCE OF CERTIFIED COMPANIES' ADHERING TO THEIR APPROVED QUALITY SYSTEMS

Recently ABSA conducted investigations of two pressure equipment manufacturers after complaints were received in regard to the lack of controls practised during the implementation of their respective quality management systems.

The investigation of the first company revealed various non-conformances with the quality management system and the Safety Codes Act and, as a result, the company's certificate of authorization permit was cancelled.

The investigation of the second company revealed no non-conformances whatsoever related to the complaint. The quality management system in place was found to be effective and implemented in accordance with the documented processes. The management was supportive of the quality program and interviews with the personnel and management confirmed a high level of commitment to the quality processes. The company was congratulated for maintaining and practising an effective quality management system.

In the past ABSA had investigated companies upon receipt of written complaints

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and will continue to do so in the future to ensure public safety and compliance with the Safety Codes Act. Such investigations are done during unannounced visits and are conducted by our senior staff. To ensure that permit holders continue to follow their registered quality programs, ABSA conducts certification renewal audits every 3 years and, in between the renewals, also conducts surveillance audits. In addition to the audits, quality programs are also monitored by our Safety Codes Officers during their routine visits to the manufacturers' and owner-users' sites. Based upon the results of the audits, permits may be cancelled, or companies may be warned about the non-conformances or they may be acknowledged for maintaining an effective quality management system.

To ensure safety of life and property around pressure equipment, the Pressure Equipment Safety Regulation requires a Certificate of Authorization Permit and implementation of a registered quality management system for the construction and repair of pressure equipment. ABSA endeavours to develop increasingly effective guidelines, requirements, audit processes and educational programs to help the industry develop and implement effective quality management systems (QMS) for the construction, and for managing the integrity, of the pressure equipment. Audits and inspections are conducted by ABSA Safety Codes Officers during construction, repair and operation of pressure equipment to ensure that the requirements of the QMS are complied with, that the system is effective, and that competent resources are available for the operation. The Safety Codes Act, Section 34(1), provides the required authority to the Safety Codes Officers to conduct inspections or audits of quality management systems for the purpose of ensuring that the requirements of the Act are complied with. Section 46(1) of the Act authorizes the suspension or cancellation of a permit if investigation reveals that the registered program is not being complied with. ❖

IMPROPER LWCO'S FOUND

Note: Nothing in this article should be construed as suggesting that there is anything wrong with the McDonnell & Miller Series 67 LWCO's. The findings indicated a misapplication of these items.

During several recent routine inspections in buildings of public occupancy (*e. g*. apartment buildings), a number of hot water heating boilers with MAWP's of 30 psig that were equipped with McDonnell & Miller Series 67 Low Water Cut Offs (LWCO's) were identified. This series of LWCO's is designed for use on steam boilers with a maximum steam operating pressure of only 20 psig.

A McDonnell & Miller representative was contacted with regard to this application and he was justifiably concerned about the pressure of 30 psig exceeding the pressure rating of these LWCO units.

The floats of the Series 67 units have bellows that provide the liquid-air seal for the unit and the flexibility for the float to react to the liquid level in the float chamber. Higher than rated pressures will stiffen the bellows, and reduce the bellows flexibility. As a result, the float-switch mechanism may not react properly to the water level and may not turn off the boiler should a low water condition occur. In addition, higher pressures may shorten the life of the bellows, requiring more frequent changes of the control unit.

McDonnell & Miller recommends their Series 63 or 64 LWCO units for the boiler situation that has been described. Both of these safety devices can be used for steam or hot water boiler applications and have a maximum boiler pressure rating of 50 psig.

Anyone with a hot water heating boiler with a rating greater than 20 psig that is equipped with a Series 67 LWCO is required to replace that LWCO with a properly selected device forthwith. Series 67 LWCO's are not intended for hot water boiler applications and their replacement should be considered even for such boilers with an MAWP not over 20 psig. ❖

ACCESS YOUR INFORMATION ONLINE

ABSA is currently developing an Internet website that will permit Power Engineers and In-Service Inspectors to access their file information that is securely stored at ABSA.

The goal is to allow you to view your personal information, a record of the examinations you have written and the results achieved, scheduled examination date, certificates held and certificate expiry date. You will also be able to input changes to your personal information.

Future phases of this program will allow application for and scheduling of examinations, renewal of your certificate and online payment.

Watch www.absa.ca to see when this program is available and how you can obtain access. ❖

Care and Operation of Public Occupancy Boilers

Boilers in public occupancy service cover a wide array of equipment – from small cast iron sectional boilers in small apartments to large boilers in public facilities, such as hospitals. These boilers, regardless of their size, are considered as high risk equipment, which require consistent and timely inspection according to the intervals assigned to them. These boilers are considered as high risk because the exposure of the hazard to the general public and the fact that the public is generally unaware that they exist. Compounding the problem, in some cases they would be poorly maintained or not being maintained at all. It is important to ensure that the inspection of these boilers is completed on time by your area inspector.

Accidents can and do happen on a regular basis. The most common cause of boiler failure in Alberta is a low water condition, which can lead to overheating of the boiler. An accident occurs when there is a loss of water from the boiler and the controls fail to shut down the boiler. Such failures can be prevented by ensuring that the float mechanism in the low water cut-off device is free to operate at all times. This is done by draining the mechanism on a regular basis to ensure there is no sediment build-up in the float chamber impeding operation of the float. This draining also helps to ensure that the lines leading to the float chamber are free of sediment or other build-up as well.

An increase in pressure beyond the rated pressure of the boiler is usually released by a device known as a “safety relief valve”. However, if, due to poor maintenance, this device fails to function as designed, there is the real risk of a boiler explosion, usually with devastating results. The safety relief valve should be checked on a monthly basis when the boiler is operating to ensure that it is free to operate when or if the need arises. It should also be replaced whenever there is any suspicion it may not work as intended.

There are many other possible causes for accidents. To promote boiler safety, it is important to have competent and trained personnel in control of the heating plant and its operation.

Generally speaking, small boilers in service in places such as apartment buildings do not require General Supervision by a certified operator. Such installations would include all heating plants or combinations of boilers not exceeding 750 kilowatts capacity (75 m^2 heating surface) or with a water volume not exceeding 85 litres. If your heating plant is of greater capacity, then it will require General Supervision, meaning that it must be checked by a certified operator twice per day, with two checks at least 7 hours apart. This is to ensure that the system is in safe operating condition at all times. The certified operator must be at least a Fifth Class Power Engineer or a Building Operator B. In cases where the heating plant or boilers have a capacity greater than 3,000 kW, the required certification is that of a New Fourth Class Power Engineer or of a Building Operator A.

Irrespective of the specific operator certification or supervision requirements in the regulation, Section 37(c) of the *Pressure Equipment Safety Regulation* requires that “the owner of pressure equipment must ensure that the pressure equipment and pressure relief devices, pressure gauges and regulating or controlling devices on them are maintained in good working order and are operated safely”. Periodic checks to verify the operability of the safety devices would include, but not be limited to, draining water from the low water cut-off controls to ensure the instruments work, testing of the safety valve(s), testing of the temperature controls and the high limit controls, checking the condition of the flame and checking operation of the pumps. General daily checks, recorded in a log book (maintained in the boiler room) will help to keep you informed of and know your boilers’ operation and condition.

Another operational consideration which may not be well covered by some owners, is water treatment. By nature, all water contains dissolved oxygen and dissolved solids. Treating the total system for dissolved oxygen will help to prevent corrosion of the boiler internals and piping, preventing leaks and thus excessive water make-up or replacement of equipment. Treating the water for the dissolved solids will help to prevent harmful scale build-up in the boiler which can cause burn-out of the boiler metal and reduced boiler efficiency. For proper water treatment, it is important to consult with a specialist or a company specializing in water treatment services for the appropriate water treatment methods and the correct use of water treatment chemicals.

Under the Safety Codes Act, it is the responsibility of the owners to ensure that the safety relief valve and other regulating and controlling devices on boilers and pressure equipment are maintained in good working order. As well, it is good practice to have a qualified person check and service the controls for the boiler and related equipment at the start of each heating season to ensure safe and reliable operation of your heating plant. ❖

Proposed ABSA Fee Schedule Changes

As many of you are probably aware, ABSA has recently sent notice letters to pressure equipment safety stakeholders in the Province of Alberta to inform them that a proposal has been forwarded to the Minister of Municipal Affairs and Housing requesting an adjustment to the fee schedule for services provided by ABSA. At ABSA’s website, we provide you with the rationale and background for the proposed changes. While no one appreciates any increase in costs, we hope the website will help you understand that this increase is necessary. After you have read the material, we would request that you follow the FEEDBACK LINK, input your feedback, and submit it to us. We thank you for the time that you have taken to understand the issues involved and we appreciate your feedback. ❖

The Almost-Always-Forgotten-About AB-10 Form

The "Boiler and Pressure Vessel Status Report", or AB-10 Form, is a very important form that doesn't get used as much as it should. In accordance with the Pressure Equipment Safety Regulation Section 36(1), "*An owner or vendor must notify the Administrator in writing when*

(a) the owner or vendor sells, leases, exchanges, relocates or otherwise disposes of a new or used boiler, pressure vessel, fired–heater pressure coil or thermal liquid heating system, or

(b) the owner or vendor brings a new or used boiler, pressure vessel, fired–heater pressure coil or thermal liquid heating system into Alberta."

To ensure that pressure equipment database records are accurate, ABSA must be notified of the change of status of all boilers and pressure vessels.

The AB-10 form can also alleviate any headaches regarding the annual vessel registration invoices that are sent out. Why would you want to pay for something you no longer own? If ABSA is not notified about the change in the status of the boiler or pressure vessel, it will keep coming up on your annual invoice.

The "Boiler and Pressure Vessel Status Report" will cover a wide variety of changes to your boiler or pressure vessel, such as ownership changes, service changes, relocation, and fitness for service.

Should you require any further information regarding pressure equipment status changes please contact the ABSA Records Department at 780-437-9100 extension 3322. ❖

Seminar
2007 ASME Section VIII, Division 2

The ASME Boiler and Pressure Vessel Code, Section VIII, Division 2, has been completely rewritten for the 2007 edition. ABSA is planning to conduct 1-day public seminars on the new Code and on provisions of the Variance for use of this Code in Alberta. One seminar is planned for Calgary and one for Edmonton in either December 2007 or early January 2008.

This seminar will provide an overview of Section VIII, Division 2. An important topic in the seminar is Variance IB07-007, which details the conditions for allowing construction of pressure vessels to Division 2 requirements, for use in Alberta. Particular attention will be given to "Design by Rules Requirements" and the obligations for "User's Design Specifications". The possible use of "Design by Analysis Requirements" will also be discussed.

The seminar will be of interest to design engineers, fabricators of Division 2 pressure vessels, EPC companies and facility owners who may be considering the addition of Division 2 pressure vessels to their plant.

If you would expect to attend this seminar, we would appreciate if you would email 'training@absa.ca' and advise if you would be interested in the Edmonton or Calgary offering and whether you would prefer December or early January. This would allow us to arrange appropriate venues. Please watch www.absa.ca for seminar dates, locations and registration instructions. ❖

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