ABSA THE PRESSURE NEWS

Alberta Boilers Safety Association

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Appointment of General Manager

ABSA Board of Directors is pleased to announce the appointment of Mr. Gordon Campbell, P.Eng., to the General Manager position of the Association. Mr. Campbell is a mechanical engineer with a master's degree in business administration and extensive industry and financial experience.

We are certain that under Mr. Campbell's management, ABSA will continue to provide leadership in pressure equipment safety in our province with efficient and effective delivery of pressure equipment safety programs delegated by Alberta Labour.

Pressure Under Control

A limited number of copies of the book (softcover) are still available. This book celebrating 100 years of pressure equipment safety in our Province explores the early years of safety, the dynamic growth of the industry, the diversity of pressure vessels being built and used in Alberta today and the future of the industry.

The book may be used for promotion of pressure equipment industry and your organizations as well as a gift to your clients or your employees. The book is also an excellent source of reference material.

New ABSA Website

www.albertaboilers.com

We have moved! Our Internet Website is now ***www.albertaboilers.com***. You are welcome to visit and provide input. You will find that our newsletters are uploaded to the website upon publication. Also, you may wish to browse through all previously published newsletters. Please feel free to download any articles which may be of interest to you and your organization. Happy surfing.

Code Publication Update

All organizations holding quality control system authorization from ABSA should be aware of the following new code editions which may affect the quality control program functions. For further details on these codes, you may wish to visit the respective standards-writing organizations responsible on their internet Website as follows:

Canadian Standards Association - www.csa.ca
ASME - www.asme.org
National Board - www.nationalboard.org

The 1998 Edition of the ASME Boiler and Pressure Vessel Code was published July 1, 1998 and will become mandatory January 1, 1999. Unlike earlier editions of the Code, the 1998 edition already incorporates the 1998 revisions, additions or deletions. There will be no separate 1998 addenda issued. The Summary of Changes published with the 1998 Edition of the ASME Code lists and describes the revisions that are the 1998 addenda. These changes are identified with a margin note, **98**, denoting the affected area. Two additional addenda to the 1998 Edition will be published on July 1, 1999 and July 1, 2000.

The 1998 Edition of the National Board Inspection Code was published July 31, 1998 and the addenda are published annually. Application of the new edition and its addenda is permissive on the date of issue and become effective six months after the date of issue.

The CSA B620, Highway Tanks and Portable Tanks for the Transportation of Dangerous Goods, is to be published in September 1998. We also understand that the new editions of CSA B51, CSA B52 and CSA Z662 are scheduled to be published later this year.

Alteration of Fittings

A recent inquiry involved the alteration of one Manufacturer's registered fittings by someone else. The original Canadian Registration Number (CRN) would no longer cover the altered fittings. It is understood that the original manufacturer's markings and warrantee would no longer be applicable to these fittings once they are altered.

Cutting up fittings and welding parts of them together to create a fitting of a different shape constitutes the creation of a new fitting. Hence, under the Safety Codes Act (SCA) and the regulations, this new fitting would require design registration, with the pertinent back-up documentation, and it would have to carry the name, trademark or logo of the Manufacturer who created the new fitting.

The SCA forbids the sale or use of fittings or pressure piping which does not comply with the requirements of the Act. It also holds the manufacturer of such an item responsible for ensuring that it complies with the Act. For public safety and for liability considerations, manufacturers, users, contractors or others are cautioned to ensure that altered fittings have been properly designed and subsequently registered before putting them into pressure piping service.

Note however that such operations as cutting a 90 degree elbow to accommodate an 80 degree change in direction or taper-boring a schedule 80 fitting to match a schedule 40 mating pipe would not be considered alterations of fittings and would not require re-registration.

Year 2000

You may be tired of hearing about the year 2000 or Y2K problem and wonder what it has to do with pressure equipment safety. In general, the Y2K problem, which is associated with the ability (or inability) of computers to recognize the year 2000 in their operation has no direct impact on pressure containing components. However, owners and operators must be alerted that this problem may have serious implications on computer system controls thus resulting in hazards involving pressure equipment. We have received alerts from various governmental and industry agencies relative to the Y2K problem and we would advise all owners and users to review their operations to ensure that there are no pressure equipment safety implications.

PRV Repairs

Under the Safety Codes Act (the Act), all setting, servicing and repairing of pressure relief valves must be carried out by an organization which holds an Alberta Certificate of Authorization to perform such work.

Any parts used in the repairing of pressure relief valves to be applied under the Act must be positively identifiable to the original valve manufacturer's part numbers. For used parts, not only must they be positively identifiable to the original valve manufacturer's part number, but they must also still be within the manufacturer's dimensional tolerances.

A Reminder to Owners/Operators of ASME Section VIII Division 2 Vessels

An important feature in the design of an ASME Section VIII Division 2 pressure vessel is the determination of whether a fatigue analysis is required for the expected operating conditions of the vessel. Under paragraph AG-301 of the Code, "*It is the user's responsibility to specify, or cause to be specified, whether or not a fatigue analysis of the vessel shall be made*". If required, the Manufacturer's Design Report shall include the analysis in accordance with paragraph AG-302.2.

As fatigue is always an important consideration in the design of these vessels regardless of whether a fatigue analysis is required, it is the owner's/operator's' responsibility to keep a proper log of these vessels' operating conditions, including, in particular, the number of cycles (both pressure and temperature) the vessels are subject to. During ABSA's inspectors' audits/inspections of these vessels, an audit of the log may take place to ensure continued safe operation of these units.

Brazer Qualifications and Brazing Procedures

In Alberta, companies using brazing for pressure equipment within the scope of the Safety Codes Act are reminded that ABSA does not conduct any performance qualification testing of brazers. The employing company must, however, ensure that brazers are qualified and certified according to ASME Section IX using the QB-484 or equivalent form. A performance qualification card is not required and no certificate of competency is issued by ABSA.

Brazing procedures however are to comply with ASME Section IX and must be submitted to ABSA for review and acceptance.

Employment Opportunities

Visit the ABSA Internet e-mail address for current ABSA job opportunities.

Disposition of Boilers and Pressure Vessels

ABSA must be notified of *all disposals of boilers and pressure vessels*. The form, ***AB-10, Boiler and Pressure Vessel Status Report,*** is an appropriate vehicle for reporting the disposition of equipment. Copies of this form may be obtained from any ABSA office. The form permits a maximum of three vessels per page and equipment can be recorded as *removed from service*, *scrapped*, or *sold*. Please provide as much information as possible regarding the new owner so that ABSA's records can be kept current and accurate.

If a pressure vessel is sold as "scrap", i.e. it is no longer suitable for pressure service, we strongly recommend that it be cut up and the nameplate removed to ensure that it cannot be returned to pressure service at a later date. Failing to do so may place the original equipment owner in a liability position if the equipment failed when being pressurized at a later date.

New owners of used pressure equipment should be aware that they are responsible for the condition and safe operation of this equipment immediately upon acquiring it. Purchase of this equipment should be with the condition that it passes an appropriate inspection. The previous owner's inspection records and all documentation pertaining to the vessel, including the most recent Certificate of Inspection, should also be requested as part of the purchase package.

Rig Boilers External Corrosion Warning

A potentially dangerous situation could arise as a result of external corrosion. Quite often, these boilers are insulated with fibreglass between 120° to 240° on the top (i.e. 4 o'clock to 8 o'clock) leaving the bottom 1/3 uncovered. In order to hold the insulation material in place, angle bars are welded to the shell exterior to form a trough in which the insulation sits.

Our inspector noted that in one case, water accumulated in the angle bar resulting in extensive corrosion of the boiler shell. Rig boiler operators/owners are warned to review this situation and if necessary, take corrective measures in order that the boiler pressure boundary integrity will not be affected.

Questions and Answers

Q. Is it required to register a revision to a registered design if NDE in excess of that mandated in the registered design is performed on a pressure vessel otherwise manufactured in accordance with the registered design?

A. No.

Q. Is it required to register a revision to a previously registered design if PWHT in excess of that mandated in the registered design is performed on a pressure vessel otherwise manufactured in accordance with the registered design?

A. No, provided that the postweld heat treatment is at a temperature below the lower critical temperature of the materials of the vessel. However, the welding procedure(s) used in the actual fabrication must have been qualified in the appropriate heat treated condition. Ideally the registered design could provide for the option of postweld heat treatment if required for service or customer preference.

A Word to the Wise

An out of province newspaper clipping which should be of interest to people in our industry has come to our attention.

Apparently, two persons died from asphyxiation a year or so ago when they entered a pressure vessel which did not have sufficient oxygen to sustain life. The second of the two persons was reported to be trying to rescue the first.

It seems that the pair failed to follow the company's confined-space entry procedures. Allegedly, the permit required for entry into a confined space was not taken out, nor was there a record of any gas testing of the interior of the vessel to demonstrate that entry would be safe. The report went on to say that no air packs were present, nor was a fan used to circulate air.

This report contains a powerful message and that is that failing to follow safety procedures can cost you your life! It is not known what the environment in the pressure vessel was, but the mere absence of sufficient oxygen is just as dangerous as the presence of a gas which is poisonous or otherwise harmful to human tissue.

New 4th & 5th Class Power Engineering Certificates of Competency

The new 4th and 5th Class Power Engineering Certificates of Competency have now been implemented as approved by the Government of Alberta. For more information, please refer to the June 1998 issue of The Pressure News.

Examinations for the new 4th and 5th class including all upgrade examinations will be available for the October 1998 examination dates. Questions may be directed to the Examination Section.

Non-Pressure Attachment Welds

The attachment weld used to join a non-pressure part to a pressure part, whether it be load bearing or not, is considered to be pressure welding insofar as the Regulations are concerned. Therefore this type of weldment requires the use of a registered welding procedure and is to be made by a qualified and certified pressure welder or machine welding operator.

The various ASME construction codes require welding procedures and welders to be qualified in accordance with ASME Section IX for the welding of non-pressure parts to pressure parts. (E.g. see UW-28 & 29 in Section VIII, Div. 1; PW-28 in Section I; section 328 in ASME B31.3; section 127 in ASME B 31.1.)

Section 13 of the Design, Construction, and Installation of Boilers and Pressure Vessels Regulations under the Safety Codes Act requires the registration and approval of welding procedures intended for the construction, alteration or repair of any boiler, pressure vessel, fitting or pressure piping system. The welding procedures shall be in compliance with ASME Section IX.

In section 1(f) of the Pressure Welders' Regulations " pressure welding" is defined as welding performed **on** a boiler, pressure vessel, pressure piping or fitting. Further, sections 1.1 and 2 of the regulations state that no person may weld a pressure vessel, boiler, pressure piping system or fitting unless they hold a certificate of competency issued by the Administrator. Also, organizations authorizied to act as a testing organization must comply with the requirements of ASME Section IX as per section 21(1) of the regulations.

Protection of Pressure Vessels

At times, the overpressure protection device for a pressure vessel is placed on adjacent piping. We have found instances where alterations to pressure piping have located an isolating valve between the pressure relief valve and the vessel it was intended to protect.

Owners must ensure that overpressure protection for pressure vessels is not compromised when modifying piping systems.

Kansas Pressure Vessel Bill Passes

In Kansas, USA, new legislation will go into effect January 1, 1999 requiring the registration of boilers and pressure vessels, regardless of code of construction. In addition, the state will accept boilers and pressure vessels built to codes other than the ASME Boiler and Pressure Vessel Code, if the equipment is registered with the National Board.

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