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## ABSA OFFICES

Edmonton - Head Office  
9410 - 20 Avenue  
Edmonton, Alberta T6N 0A4  
Tel (780) 437-9100  
Fax (780) 437-7787

Internet address  
<http://www.absa.ca>

Regional Offices  
<http://www.absa.ca/ABSA-info/RegionalOffices.aspx>



## HOLIDAY GREETINGS



All of us at ABSA would like to take this opportunity to wish our readers the very best of the season as you celebrate the holidays with friends and family.

Our wish is that your new year will be safe and filled with happiness, joy, health and prosperity.



## WARNING LOW TEMPERATURE OPERATION

We are repeating our message in an article of December 2007 Pressure News because shortly after the publication of the newsletter, a total of nine heat exchangers were damaged, some beyond repair, due to freezing in two separate incidents. Fortunately, no one was seriously hurt in the incidents which caused significant financial losses as well down time for the plants involved.

Winter is upon us and we will again be facing hazards of low environmental temperature. With the winter condition in our province, there is always the potential for severe damage to pressure-retaining components from the freezing of water or other fluids.

Plant owners are cautioned that pressure equipment, including valves and other fittings, subject to freezing of contained fluid could result in the equipments being unfit for pressure service. Please review the public alert IB04-003 (<http://www.absa.ca/IBIndex/ib04-003.pdf>) which is as pertinent today as when it was released in 2004. ❖

## FEE CHANGE ANNOUNCEMENT

Due to rising costs of providing pressure equipment safety services, the fees for most services provided by ABSA, including pressure vessel annual registration fees, will increase by 4.5% on January 1st, 2009. Please check ABSA website for further details. This fee increase will allow ABSA to maintain public safety and provide its mandated services. ❖

## USE OF ASME BPVC, SECTION VIII, DIVISION 1, APPENDIX KK IN ALBERTA

The 2008 Addenda of ASME Boiler and Pressure Vessel Code (BPVC), Section VIII, Division 1 introduced a new Appendix KK. This Appendix provides a sample of the User Design Requirements (UDR) form and guideline for preparing user's design requirements. We understand at least one major owner has already adopted its use. It is published as a non-mandatory appendix, but there is a possibility of ASME making Appendix KK mandatory in the future. It is important to note that the use of new UDR form does not change the Manufacturer's and User's responsibilities that have been already defined in the Code. It is our understanding that the Code intention is to provide a helpful tool for both parties.

For a long time, Paragraph U-2(a) of ASME BPVC, Section VIII, Division 1 defines the user's or his designated agent responsibility to establish the design requirements for pressure vessels. It also provides that the user's designated agent may be *"the Manufacturer of a system for a specific service that includes a pressure vessel as a part and this is purchased by the user, or an organization that offers pressure vessels for sale or lease for specific services"* (e.g., stock vessels). This part of U-2(a) has not been changed in the 2008 Addenda with the exception of referencing Appendix KK. The UDR form allows standardization and harmonization of information provided by the users or their designated agents. The new section of U-2(a) cautions the users that input from the Manufacturer may be necessary for completion of this form. The readers are reminded that the Manufacturer's responsibilities have not been changed in the 2008 Addenda. They are specified in Paragraph U-2(b) and require complying with all of applicable requirements of this Code.

Information such as cyclic service, lethal service, mean metal temperatures, additional impact test requirements, User's acceptance of Code Cases and others, is generally not specified in design submissions for registration. In addition to benefiting the Users and Manufacturers, the use of the UDR form or a variant of this form will provide the needed information and help to speed up the design registration process. Also, using this form, major changes affecting the design specification will be approved by the User or his designated agent before a design revision is registered.

The Administrator is currently reviewing the feasibility as well as the benefits and possible implications of using Appendix KK or a variant of this form in Alberta under Sections 14(3) and 15(1)(j) of Pressure Equipment Safety Regulation, AR49/2006. The possible options are: (i) to test the use of the UDR form or a variant thereof for a period of time and make the decision after this period expires, or (ii) to make it mandatory for use in Alberta. Your input and comments are welcomed. ❖

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## PERMIT REQUIREMENTS FOR THE CONSTRUCTION OF INSTRUMENTATION TUBING SYSTEMS

Unless exempt by the regulations, an instrumentation tubing system containing expansible fluid under pressure is treated no different than any other pressure piping system and, therefore, must be designed, manufactured, examined and tested in accordance with the requirements of applicable ASME Code(s) adopted under the Pressure Equipment Safety Regulation. If the total internal volume of a system exceeds 500 litres, the design must be registered with ABSA and, further, all fittings used in the system must also be registered. Pressure Equipment Safety Regulation (PESR) Section 11 requires that anyone who wishes to construct, repair or alter pressure equipment in Alberta for installation in Alberta must obtain a Certificate of Authorization Permit from ABSA and this requirement also applies to an instrumentation tubing system.

PESR Section 4 states that when piping or tubing (a) does not exceed DN 50 (NPS 2), (b) has design pressure not exceeding 1035 kPa (150 psi), (c) has design temperature between -29°C and 186°C, (d) contains air, nitrogen, argon, carbon dioxide, steam or hot water; and (e) is constructed in accordance with applicable ASME B31 code(s), then it is exempt from other design and construction requirements of the Regulation. In order to claim this exemption, the system must meet all of the requirements (a) to (e) stated above. If the exemption is applicable, you do not require a certificate of authorization permit from ABSA or completion of an AB-83 form or any other documentation unless requested by the owner. You are required to inform ABSA if, and when, there are any incidents in connection with the piping exempted under the above provisions. Regardless of whether or not any pressure equipment is exempt from the regulations, sound engineering and application of owner's piping standards should be practiced to assure safety. An exemption from the regulations does not negate the owner's duty of care to ensure that good engineering practice is applied.

A company that is engaged in the construction of instrumentation tubing, or is contemplating doing so, or is asked by the owner to obtain a certificate of authorization permit from ABSA, should contact an ABSA office nearest to its location. Companies applying for the certification will receive guidance as normally provided for any other certification program to assist them in developing a quality management system (QMS) suitable for their operations. Upon submission of an Application Form AB-29 and a copy of the QMS manual to ABSA, a field audit will be conducted by ABSA to review the implementation of the QMS. Following a successful audit, a certificate of authorization permit, for a maximum period of three years, may be issued to allow the applicant to construct, repair or alter instrumentation tubing systems in accordance with the provisions of the Pressure Equipment Safety Regulation. ❖

## INSTALLATION OF PRESSURE RELIEF VALVES

Most pressure relief valves are mounted in the vertical position on pressure equipment. In ASME Section I Boiler & Pressure Vessels Code for Power Boilers, PG 71.2 mandates *“that every safety valve or safety relief valve shall be connected so as to stand in an upright position with the spindle vertical”*. In ASME Section VIII Div. 1 under Appendix M *“Spring loaded safety and safety relief valves normally should be installed in an upright position with the spindle vertical and where space or piping configuration preclude such an installation, the valve may be installed in other than the vertical position provided that (a) the design is satisfactory for such position; (b) the media is such that material will not accumulate at the inlet of the valve; and (c) drainage of the discharge side of the valve body and discharge piping is adequate”*.

Pressure relief valves mounted in the vertical direction allow all of the forces, including the gravitational force, acting on the internals of the valve to act in the vertical plane. Some valves are specifically designed with guides which ensures that the disc only moves in one direction. When the valve is mounted in the horizontal position, this can cause the valve not to open or close properly. There is also a possibility of accumulation of the vessel media or other material at the valve inlet or drainage problem at the discharge side of the valve.

It is recommended that pressure relief valves be mounted vertically. However, should it be necessary to mount pressure relief valves in the horizontal position, for a pressure vessel, precautions have to be taken including consultation with the valve manufacturer to ascertain if the valve design allows for installation in this position. ❖

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## OWNER'S INSPECTOR MUST INSPECT AND CERTIFY PIPING DATA REPORT

Reports continue to be received that some of the pressure equipment owners might not have been assigning inspectors for the inspection of pressure piping construction projects. In some cases, inspectors were assigned but failed to sign the Certificate of Inspection portion of the Pressure Piping Construction and Test Data Report, AB-83 form.

The owners are reminded that it is a requirement of the ASME B31.1, B31.3 and B31.5 Codes that *“it is the owner's responsibility, exercised through the owner's Inspector, to verify that all required examinations and testing have been completed and inspect the piping to the extent necessary to be satisfied that it conforms to all applicable examination requirements of the Code and other engineering design”* prior to initial operation. Responsibilities for owner's inspections cannot be waived or abdicated or reassigned to the manufacturers. Further information in regards to the requirements may be reviewed in paragraphs 136 of ASME B31.1-2006 Code, 340 of ASME B31.3-2006 Code and 537 of ASME B31.5 Code.

Pressure Equipment Safety Regulation (PESR) 49/2006, Section 31 requires that a pressure piping construction (new or repaired/altered) and test data report form be completed and certified for all pressure piping constructed within Alberta and for installation within Alberta.

When an owner's inspector fails to sign the certificate of inspection portion of the AB-83 Form, the owner of the pressure piping system is not in compliance with the requirements of Section 31 of the PESR. Another issue of note is that failure to produce a duly certified AB-83 form that is complete in all respects in accordance with the requirements of the PESR seriously compromises an owner's abilities to defend himself during an incident investigation. ❖

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## CONGRATULATION TO MR. DAVID DOUIN, NEW EXECUTIVE DIRECTOR NATIONAL BOARD

We wish to congratulate Mr. David Douin, Illinois Superintendent, who has been elected as the new Executive Director of the National Board of Boiler and Pressure Vessel Inspectors and will be assuming his new duties January 5, 2009. Mr. Douin, in addition to being the member of National Board representing the State of Illinois since 1990, has served more than 10 years on the Board of Trustees of the National Board, including seven years as the National Board Chairman. We look forward to the continuation of the excellent working relationship with, and the wonderful support from, the National Board under the new leadership.

## NEWS FROM THE NATIONAL BOARD

We are saddened to report the passing of Mr. Donald Tanner, retired Executive Director of the National Board and Mr. George Bynog, Assistant Executive Director – Technical. Both of these gentlemen were long time members of the National Board representing the State of Tennessee and the State of Texas, respectively, prior to taking on their leadership roles in the National Board Administration. Mr. Tanner was elected Executive Director of the National Board in 2001 and served in that capacity until recently. Mr. Bynog took on the position of Assistant Executive Director - Technical in May 2005. They will be forever remembered for their contributions to the National Board and pressure equipment safety in all National Board member jurisdictions of which Alberta is one of the constituents. ❖

## ABSA SEMINARS

Anyone who has anything to do with pressure equipment in the Province of Alberta has the responsibility under the Safety Codes Act to meet the requirements of the Act and regulations. ABSA has developed seminars to provide information on the Alberta requirements and ABSA's programs for pressure equipment safety. The regular schedules for the Piping Seminar and the PESL Seminar are posted at [www.absa.ca/TrainingNews.aspx](http://www.absa.ca/TrainingNews.aspx). The next offering of the PESL Seminar is on January 28 & 29 at ABSA's Edmonton Office. Both the Piping Seminar and the PESL Seminar are offered in Banff on February 9 & 10 prior to the Pressure Equipment Conference. As well, the Piping Seminar, the PESL Seminar and the PESR Seminar are available to companies for "in-house" training purposes. You can contact ABSA's Education and Certification Department for more information.

### **Pressure Piping Fabrication Requirements and Quality Control (Piping) Seminar**

The objective of this 2-day seminar is to provide information to the fabricators, engineering companies and users of pressure piping systems about the requirements of the Safety Codes Act, regulations, and applicable ASME piping codes and to provide awareness and guidance for the effective implementation of a quality management system.

### **Pressure Equipment Safety Legislation (PESL) Seminar**

The objective of this 2-day seminar is to enhance knowledge and understanding of Alberta requirements and programs for pressure equipment safety. The seminar includes presentations on: the roles of the governing bodies, the Safety Codes Act and regulations, CSA and ASME codes, quality systems, construction, inspection, repairs and alterations and accident investigation.

### **PESR Seminar**

This 1-day seminar provides an overview of Alberta requirements and programs for pressure equipment safety. This seminar includes information on the roles of the Government and ABSA, provides an overview of pressure equipment legislation and reviews requirements of the Pressure Equipment Safety Regulation (PESR) with emphasis on owner's responsibilities. ❖

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## SEE YOUR EXAM RESULT, SEE YOUR EXAM SCHEDULE, RENEW YOUR CERTIFICATE

ABSA has developed an internet website that allows power engineers and in-service inspectors to access their information that is securely stored with ABSA. Over 800 people have activated their access to this service. This includes being able to view examination results as soon as they are posted, view examinations scheduled and renew power engineering certificates.

We have also upgraded the site to make provision for a candidate to be able to print the examination result letter. **Note** that, if a candidate has activated his/her file access, ABSA will no longer mail a hard copy of the result letter to the individual. Instead, the candidate will get an email message advising that the examination result has been posted and the result letter can be printed.

Examination candidates are able to view and print the notification letter of any examination scheduled. Effective January 1, 2009, we will no longer send examination schedule notification letters to those who have activated their access to the website.

As well, power engineers are able to renew their certificates on line as long as the certificate is valid or has not expired for longer than 3 years. If a certificate has expired for longer than 3 years, the power engineer must contact ABSA to determine the process for reinstatement. In-Service Inspectors cannot renew on line but must submit a completed Renewal Form, AB-98, with the required information.

Information regarding obtaining internet access is available at [www.absa.ca/PowerEngineer.aspx](http://www.absa.ca/PowerEngineer.aspx). ❖

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## THE PRESSURE EQUIPMENT SAFETY REGULATION (PESR) AMENDMENT

The PESR was amended to adopt the latest Codes and Standards. The 2007 edition of the ASME Boiler and Pressure Vessel Codes is adopted except ASME Code Section VIII Division 2, Alternate Rules for Construction of Pressure Vessels. Instead of the 2007 edition, the 2004 edition of ASME Section VIII Division 2, and the 2005 and 2006 Addenda were adopted.

Use of the 2007 edition of the ASME Section VIII Division 2 will continue to be allowed in accordance with Variance IB07-007 (<http://www.absa.ca/IBIndex/IB07-007.pdf>). This Variance will be replaced shortly by an Administrative directive under Section 23 of the Pressure Equipment Safety Regulation with essentially the same conditions. ❖