

IN THIS ISSUE:

<i>New Year Holiday Message</i>	1
<i>Hot Tapping of Live Pressure Piping</i>	2
<i>Task Group Status for Grade 91 Steel</i>	2
<i>ABSA is Now Certified to ISO 9001:2015</i>	3
<i>Summary of Accident Reports</i>	3
<i>ABSA Fee Schedule Announcement</i>	3
<i>Documents Issued by ABSA</i>	4
<i>2018 SOPEEC Annual General Meeting</i>	4
<i>2018 Alberta Chief Power Engineers Education Conference Highlights</i>	4
<i>Steam Traction Engineer Examination Syllabus Change Highlights</i>	5
<i>The 2019 IPEIA Conference</i>	5



NEW YEAR HOLIDAY MESSAGE

As 2018 draws to a close, many of us take the time to think back and reflect on our dealings throughout the year – the changes we’ve made to our own lives, the differences we’ve made in others’ lives, the things we’ve accomplished, and the things we still hope to accomplish in the year to come.

Once again, we are pleased to report that ABSA staff had a very safe year in terms of workplace safety, with no lost time incidents. From an industry perspective, there were more incidents and unsafe conditions reported as compared to last year, though it is believed that the increase is mainly the result of increased awareness of reporting requirements. Unfortunately, this year, these reports included three fatalities in separate incidents related to pressure equipment operation in Alberta. We are all saddened by these tragic events; it is important to allow them to serve as a reminder of the important role we all can play with respect to safety.

Last year continued to present operational challenges due to economic uncertainty in Alberta and globally. Activity levels have continued to increase steadily from the low levels experienced in late 2016, but still remain below pre-recession levels. ABSA is continuing to cautiously increase its staff complement to ensure we have the capacity to meet future demand. Financially, ABSA’s revenues and expenses were again on budget, reserves at year-end met the board’s targets for financial health, and the independent external auditor gave ABSA a clean financial audit.

In addition to knowledgeable and skilled staff, ABSA is very fortunate to have a dedicated and committed board of directors – their strategic guidance is very much appreciated by management and staff. With our stable, well-experienced workforce and strong support from our board, Alberta Municipal Affairs, and the Safety Codes Council, ABSA is well positioned to deliver its mandate in the years to come. ❖

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CAUTION

Previous issues of The Pressure News may contain information which is outdated or no longer valid. Please be cautious when using information from old articles.

HOT TAPPING OF LIVE PRESSURE PIPING

In a live plant, it is not always practical to remove equipment from service when an alteration is required. In certain circumstances, alterations can be made to live pressure piping by a procedure known as “hot tapping,” where a new section of piping is tied into an existing section without removing the existing section from operation.

The basic procedure involves welding a specially designed branch fitting to the existing line, and then mounting a specialized cutting machine to it to cut through the pipe surface from inside the fitting. As the cutting tool breaches the pressure boundary of the existing line, the fitting is filled with pressurized fluid, which is contained by the cutting machine. The cutting tool is then retracted into the machine and a valve is closed, sealing the new branch before the machine is removed. As can be imagined, there are significant hazards involved in welding on and cutting into a live line – the line must first be examined carefully for cracks and other surface defects that could be hazardous when exposed to the heat of the welding process; even the rate at which the pressurized fluid can carry heat away during welding needs to be considered, to ensure that there is no risk of melting through the pressurized line.

Risk is generally understood to be the product of both the likelihood of a negative occurrence, and the expected consequences of that occurrence. In the case of hot tapping, there is an elevated risk due to the severe potential consequences of a failure in close proximity to the personnel performing the work. This can be limited by restricting the number of personnel in the vicinity when it is performed, and can be further offset by conducting a suitable inspection of the existing line, by proper design of the required tools, and by careful planning and execution of the work.

Hot tapping is considered an alteration to pressure equipment, and in Alberta, is subject to the Safety Codes Act and the Pressure Equipment Safety Regulation. It needs to be carried out by an organization that has a certificate of authorization permit which specifically allows it, and it needs to be carried out as described in that organization’s quality management system. CSA B51 specifically requires that its use be limited to situations where no other method is considered feasible or practical. The designs of the specialized fittings used for hot tapping must be registered, and the work procedures must also be registered as alteration procedures.

Further information about hot tapping can be found in section 14.0 of *AB-513: Pressure Equipment Repair and Alteration Requirements*. Information specific to the registration of hot tap procedures is also available on our website – you can find it by navigating to ‘Guideline for Design Registration Documentation For Hot Tap Procedure Submissions’ in the ‘Design Registration’ menu. ❖

TASK GROUP STATUS FOR GRADE 91 STEEL

Grade 91 steel is a specialized alloy that was introduced in the early 1980s, providing significantly better strength properties at high temperatures than other materials that were available at the time. Its superior properties are strongly dependent on its chemical makeup, and on specialized heat treatment procedures used to change its microstructure after other manufacturing processes are complete. Although in many cases the material performs as expected, it has been determined that its superior properties are more critically dependent on careful control of material chemistry, welding, and heat treatment than was previously thought. Several significant low-hour failures have occurred in North America, and have now led to an expected reduction of allowable high-temperature design stresses permissible for the material in the upcoming 2019 Edition of the ASME Boiler and Pressure Vessel Code.

Although lowered allowable design stresses are generally understood to apply for the design of new equipment, questions have been raised as to how the integrity of existing equipment can be evaluated, and whether the previously permitted allowable stresses can still be safely used for repairs and alterations of equipment that relied upon them in the past. As mentioned in an article in our June 2018 issue of The Pressure News, ABSA has been working with an industry task group over the last year to determine potential requirements for the continued safe use of existing equipment.

The task group has had several meetings since it was formed, and is now working to finalize a report on the matter. Recommendations are expected to be published in the coming months as to what should be done with existing equipment to ensure its continued safety, and what steps should be taken when undertaking repairs and alterations without making extensive design changes. It should be noted that although ABSA does have representation on the task group, the expected report will be a product of the group collaboration.

Owners of such equipment are encouraged to educate themselves with respect to this material and to pay attention to further developments, as it is expected that at some point there may be requirements established for continued use and for repairs and alterations of affected equipment. When it is published, the task group report is expected to be made available on our website. ❖

ABSA IS NOW CERTIFIED TO ISO 9001:2015

ABSA is proud to announce that our quality management system is now certified to ISO 9001:2015. This achievement is the culmination of several years of hard work by a small but dedicated team, and the cooperation of management and staff.

Pursuit of this certification demonstrates our strong commitment to quality and to continuing to improve the delivery of the services we provide. ❖

SUMMARY OF ACCIDENT REPORTS

ABSA's mandate is to administer the Safety Codes Act and associated regulations, and to deliver safety programs as they relate to pressure equipment. Our ultimate quality objective is to prevent injury to people and damage to property arising from the operation of pressure equipment. When incidents do occur, a proper and thorough investigation can help us and our stakeholders learn from past mistakes, decreasing the likelihood of repeating an accident, and increasing the achieved level of public safety. Unfortunately, there were 3 fatalities and 11 injuries to personnel this year related to pressure equipment safety in Alberta, including the following:

- Pressure released from a sandblast hopper caused a worker to fall from the equipment. The worker later died of his injuries.
- The exhaust piping of a heating boiler failed, causing flue gas to accumulate in a building. One worker died from exposure to carbon monoxide.
- A wellhead vessel failed catastrophically, killing one person and injuring another.
- A pressure vessel containing a pyrophoric material was being prepared for an inspection. Upon being exposed to the atmosphere, the material spontaneously ignited, causing a fire and burning two workers.
- A large propane tank that was thought to be empty was being dismantled for scrap by a worker using hydraulic shears attached to a track hoe. When the pressure boundary of the tank was breached, a large quantity of compressed propane escaped, boiling into a substantial vapour cloud which quickly ignited. The hoe operator received serious burns from the incident. Information Bulletin *IB18-018: Propane Tank Fire* was issued to discuss the incident and to show surveillance camera images of the explosion.
- 7 individuals were burned in several additional incidents, such as flash fires, inadvertent releases of steam or hot water, and a boiler furnace explosion.

Equipment owners are reminded that Alberta law requires that unsafe conditions and accidents be reported in a timely manner. Information Bulletin *IB18-004: Reporting Unsafe Conditions, Accidents and Fires*, provides additional information as to the classification and reporting requirements of various incident types as they relate to pressure equipment. ABSA provides a summary list of reported accidents and incidents on our website – it can be found at www.absa.ca under the 'Accident Reporting' menu, by navigating to 'Summary of Accident Reports'. ❖

ABSA FEE SCHEDULE ANNOUNCEMENT

ABSA is not planning any changes to the fee schedule for 2019. Our current fee schedule is posted on our website at www.absa.ca, under the heading 'Fee Schedule'. The fee schedule has not been adjusted since 2014.

ABSA is a self-sustaining not-for-profit organization. We recover our costs through revenues generated by fees charged to customers, and we place a high importance on ensuring value for cost. Fees are necessary to ensure the operational effectiveness and sustainability of our organization, and we are committed to giving you our best effort with regard to the effective delivery of pressure equipment safety programs in Alberta. ❖

DOCUMENTS ISSUED BY ABSA

The following document issued by ABSA is available at www.absa.ca.

2018-11-20 – IB18-020, *Interpretation: Pressure Welders Regulation: Grade C Pressure Welder Certification*, was issued to provide guidance and clarification on the requirements of the Pressure Welders Regulation for certification and qualification of Grade C pressure welders in Alberta.

One of the best ways to keep up to date is to subscribe to receive regular email updates of ABSA's eINFO and seminar news. Both of these subscription services are available under the 'Subscriptions' menu at the top of our website. Readers have the option to receive updates relating to The Pressure News (this newsletter), new and revised information bulletins, technical information, and information relating to certification, examinations, and seminars. Publications listed here are also freely available on our website without a subscription, and can be found under the headings 'New Information', and 'Alerts & Information Bulletins', located on the left-hand navigation panel of our website. ❖

2018 SOPEEC ANNUAL GENERAL MEETING

The Standardization of Power Engineer Examinations Committee (SOPEEC) is an interprovincial committee that has worked over the last four decades to standardize power engineering examinations across Canadian jurisdictions. SOPEEC held its annual general meeting in June of this year, in Saskatoon, Saskatchewan. Here are a few highlights from the meeting:

- SOPEEC and the Association of Chief Inspectors have approved the conversion of 1st and 2nd class examinations from the current essay format to multiple-choice. The work involved in preparing new question banks for these exams is expected to take several years to complete.
- SOPEEC and the Association of Chief Inspectors have approved the standardized steam traction engine operator's syllabus and examination for use by jurisdictions that regulate the operation of steam traction engines. Revision of the examination was the product of collaboration with several other jurisdictions in conjunction with the historical boiler associations of several provinces. The new exam will consist of 100 multiple-choice questions.
- A new syllabus has been developed for a refrigeration systems exam, with the intent to provide employers with assurance that successful candidates have introductory-level knowledge of the safe operation of refrigeration systems, such as those found in ice arenas. The examination content is currently being developed and validated by subject-matter experts, and is expected to be finalized in 2019. Although operation of such systems is not regulated in Alberta, the examination is expected to be made available on an elective basis at some point in the New Year.

SOPEEC's next annual general meeting will be held in June 2019, in Fredericton, New Brunswick. ❖

2018 ALBERTA CHIEF POWER ENGINEERS EDUCATION CONFERENCE HIGHLIGHTS

On November 7th, the fourth annual Alberta Chief Power Engineers Education Conference (ACPEEC) was held at the Delta Hotel in Edmonton. The conference started out with a specially-organized hospitality event the evening before, providing excellent opportunities for conversation and networking. More than 100 people attended the main event, where several practical educational topics were presented by subject-matter experts.

Some of the highlights this year included a presentation about flow-accelerated corrosion, a discussion of requirements for engineered pressure enclosures and an associated case study, and an open-forum discussion session, "Open Mic with Mike," allowing questions and discussion with Mike Poehlmann, ABSA's Chief Inspector and Administrator in the pressure equipment discipline.

The conference was very well-received by those in attendance, and several excellent suggestions were given for next year's topics. A venue and date for next year's conference are expected to be announced early next year. ❖

STEAM TRACTION ENGINEER EXAMINATION SYLLABUS CHANGE

As mentioned in information bulletin IB18-007 published in April of this year, a new reference syllabus has been established for the special steam-powered traction engine operator's certificate of competency examination. The new syllabus will become mandatory on January 1, 2019.

Candidates that have not passed a steam traction engine operator's examination based on the old syllabus by the end of this calendar year will be required to write the examination based on the new syllabus, published on our website as [AB-240, Edition 2, Revision 1](#).

Please contact exams@absa.ca if you require more information. ❖

THE 2019 IPEIA CONFERENCE

The International Pressure Equipment Integrity Association (IPEIA) was first organized by ABSA and SAIT over 20 years ago. It is now a not-for-profit organization managed by industry volunteers. Its annual conference attracts more than 700 pressure equipment integrity specialists such as inspectors, engineers, academics, and manufacturers, all having expertise in the oil, gas, power generation, chemical, and forestry industries. IPEIA is dedicated to improving safety for the industry, the public, and the environment through the promotion of pressure equipment integrity management. IPEIA also encourages the involvement of young people in our industry and shares knowledge with them that has been garnered over years of service.

The 23rd conference will be held at the Banff Centre from February 27th to March 1st, 2019. It will feature over 40 presentations relating to pressure equipment integrity, to be given by Canadian and international specialists. Information and case studies will be presented on codes and standards, inspection technologies, software, and similar topics, generally intended to be of practical value. A 90-booth exhibition will showcase integrity-related products and services, and provide more information on the latest technologies, techniques, and best practices.

Conference registration is now open, and more information is available at www.ipeia.com.

ABSA will be presenting two separate two-day seminars as pre-conference training. The Pressure Equipment Safety Legislation Seminar and the Pressure Piping Fabrication Requirements and Quality Control Seminar will both be held on February 25th and 26th, immediately prior to the main conference. Industry members who would like to attend are encouraged to register early, as seating is limited. ❖

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