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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Previous issues of The Pressure News may contain information which is outdated or no longer valid.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.

CRN ONLINE WEB PORTAL

ABSA has launched a new web application, the CRN Online Portal, which facilitates electronic design submissions in a more structured way than what has previously been possible with email-based submissions. After applying for an account, submitters are able to log in to the portal and securely upload their submissions. A web portal submission number is assigned to the package, and the submitter receives immediate confirmation of receipt. Although drawing and document submission through email has worked in the past, this specialized web application is tailored directly to the design survey workflow, and will now provide a secure, fast, and convenient tool to facilitate the review and registration process.

The web portal provides a full array of features tailored to the design submission process. Submitters are able to easily upload and submit documents using an encrypted web interface, and to revise submitted drawings when needed. A real-time chat feature is provided to enable communication between the submitter and ABSA administrative and design survey staff, facilitating centralized collaboration between the interested parties. Updates on the review status are provided as soon as they are available, and the user receives automatic email notifications about important status changes. When a submission has been registered, the user is able to download their copy of the registered design through the web interface rather than relying on email, which has proven at times to be tricky with large file attachments.

As mentioned, the web portal is now online and ready to use for all types of Alberta design and procedure registrations, including pressure vessels, boilers, fittings, welding procedures, pressure piping systems, and repairs and alterations. Submitters interested in using the web portal are required to fill out an account application form, which is available for download from the portal landing page at <https://apps.crnonline.ca/Home/Alberta>. Any questions about the portal can be directed by email to crnonline@absa.ca. ❖

MODERNIZATION OF CSA B51

ABSA is participating in a major nation-wide project to completely reorganize and modernize CSA B51, Canada's national standard for pressure equipment.

The project will involve representatives from several Canadian provincial pressure equipment jurisdictions, manufacturers of pressure equipment, engineering companies, large owner-user organizations, and from CSA Group. Although some of the initial project planning is already underway, most of the work will be done by specialized technical committees which are expected to be formed in the coming months.

The major work on this project is expected to be spread over the next several years. ABSA participants are looking forward to contributing to a clear, well-organized, and easy-to-use national pressure equipment standard that will help to continue to harmonize the pressure equipment industry across Canada. ❖

ABSA'S RESPONSE TO COVID-19

The past few months have been a challenge for many people across the world, as the COVID-19 pandemic has forced governments and municipalities to enact emergency health measures to varying degrees. Like many organizations, ABSA has responded by having employees work from home where possible, and by modifying existing emergency preparedness plans to suit the circumstances. Following are descriptions of how some of our departments have adapted to the crisis, or have otherwise been affected.

Design Survey

Design survey services have been rendered reasonably efficiently, thanks largely to the new CRN Online web portal facilitating online design submissions, and other systems that have been established over the past few years for electronic submissions and electronic stamping. The majority of design submissions are now received electronically via the web portal or by email, and reviewed electronically by the design surveyors working out of their homes. In most cases, they can be reviewed without the design surveyors having to visit the office to pick up or drop off hard copy documents.

Some submissions are still being received in hard copy. In many such cases, a designated individual scans the submissions prior to review so that they can still be reviewed remotely and returned to the submitter electronically. Overall, the level of service that has been achieved by the design survey team has improved since the beginning of the crisis.

Inspection

Shop inspections and accident investigations have continued, but work practices have been modified for the circumstances. Since inspection typically involves physical visits, inspectors have maintained a heightened awareness of their own health, and have been attentive to the precautions taken by the stakeholders that they've interacted with. As required for anyone else during these times, they have not worked if they've had any symptoms of illness, even if their symptoms have been mild. They have also been conducting COVID-19-specific job safety analyses prior to visiting any facilities in order to ensure that those facilities are taking adequate measures to protect their health.

In some cases, it has been deemed justified to defer inspections for in-service equipment and audits, as these services are of a less critical nature. Deferrals have been considered on a case-by-case basis as warranted by the situation.

Examination and Certification

Providing services to candidates wishing to write their power engineering certification exams during this period has proven to be more of a challenge. ABSA took the initial necessary step of cancelling all examinations for a period of two months. In some cases, extensions have been granted to expiring certificates as a temporary contingency to minimize operational disruptions.

ABSA has been investigating several online proctoring services that could allow candidates to take examinations remotely, but several security issues have been identified with respect to authenticating the identities of the candidates, and ensuring that they can be adequately supervised while they take their exams. With the implementation of the first phase of Alberta's provincial relaunch strategy in May, candidates were able to resume writing their exams in person at ABSA's Edmonton office with a reduced examination room capacity and with the implementation of physical distancing measures to protect candidates and staff.

If you have any feedback or comments about our response to this situation, or if you have been adversely affected by our response in any way, we would love to hear from you. Please feel free to get in touch with your contact at ABSA with any suggestions or comments you might have. We are constantly looking for ways to improve the level of service we deliver to our stakeholders, and we value your feedback. ❖

NEW REQUIREMENTS FOR AMMONIA REFRIGERATION SYSTEMS

ABSA has recently published a new document, *AB-538: Integrity Management Requirements for Mechanical Refrigeration Systems Containing Ammonia*, which provides guidance and establishes requirements for the ammonia-bearing refrigeration systems that are often found in ice arenas, food processing plants, and similar facilities in Alberta. It was issued as a supplement to AB-512 in order to provide guidance that is more specific to these facility types.

The document establishes and discusses requirements for design and design registration, construction, installation, operation, maintenance, repairs and alterations, integrity assessments, and decommissioning. It also provides an overview of the annual self-audit reviews that owners of these facilities are required to perform, outlines requirements for reporting unsafe conditions, accidents, and fires, and discusses the types of records that owners are required to keep.

ABSA publishes AB-500-series documents in the interest of public safety, typically with the aim of offering helpful guidance or establishing clear and transparent requirements in cases where the Pressure Equipment Safety Regulation establishes that requirements are to be set out by the Administrator. The full text of this document is available on our website at www.absa.ca by navigating to the 'AB-500 Series' link in the 'Forms & Publications' menu. ❖

PARTIALLY CONSTRUCTED PRESSURE EQUIPMENT

One unfortunate consequence of the COVID-19 pandemic that is not directly related to physical health is its effects on the economy. A number of factors have contributed significantly to a drop in the price of oil over the last several months, leading to a destabilizing effect on some related businesses. Social- or physical-distancing requirements have also had a negative influence on workforce availability, as businesses have had to manage their operations in a manner to reduce the potential for physical contact between workers, and some employees have had to stay home from work to take care of children who are not in school, or when they or their family members have become ill, even with minor symptoms. With these types of disruptions, it is not completely unexpected for some construction projects to be placed on hold, postponed, or outright cancelled. This has, in the past, caused unforeseen problems when manufacturers have attempted to resume projects that were placed on hold without properly tying up loose ends.

One concern that must be adequately considered when a project is placed on hold, especially when that hold is long-term or indefinite, is proper retention of quality assurance documentation. Construction codes typically require manufacturers to maintain traceable records of construction activities that can be provided to the purchaser to help prove that the equipment conforms to the code of construction. The required documentation typically includes records of the materials used that can be traced to individual pieces incorporated into the constructed component; identification and qualification of welders and other skilled workers who worked on the equipment; results of inspections and non-destructive examinations and the qualifications of the personnel carrying them out; and documentation of the origins of incorporated fittings and other pressure-retaining subcomponents. If these records are not carefully managed and adequately traceable to the project, or if they are otherwise mishandled, it can make the project difficult or even impossible to resume at some point in the future, and in some unfortunate past incidents, manufacturers have elected to restart projects that had been resumed after long-term holds because adequate records of previous construction and inspection activities were not kept or had otherwise been misplaced.

Another concern that has come up in the past during long-term project delays is the adequate physical protection of partially-constructed components during long-term storage. Many types of equipment receive coatings or other forms of weatherproofing to protect them from exposure in service, but these coatings are typically not applied until near completion of construction. Other equipment may be designed for a non-corrosive or minimally corrosive environment, and long-term outdoor storage of these parts can sometimes expose them to environments that their designers did not anticipate. Outdoor storage of unprotected components could lead to an accumulation of rainwater, and combined with atmospheric oxygen, can lead to unexpected levels of corrosion occurring prior to the resumption and completion of construction. Equipment stored outdoors can also be subjected to unexpected damage if water is allowed to accumulate and then freeze during a cold-weather season. Again, in the past, there have been unfortunate incidents where manufacturers have been surprised to find that without deliberate planning for storage, some equipment that is designed for reasonably severe in-service conditions may not be ready to withstand prolonged atmospheric storage with exposure to the elements.

Fortunately, the issues discussed here are typically easy to address, as long as they are drawn to the manufacturer's attention and addressed in a deliberate manner. There can often be a scramble to minimize costs in times when projects are being postponed or placed on hold, but with careful thought and deliberate planning, a small additional cost incurred in the proper lay-up of partially constructed equipment can help to avoid a much larger cost when the project is resumed, or if the materials can otherwise be reused for a separate project. ❖

SUBMITTING ELECTRONIC DOCUMENTS IN PDF FORMAT

ABSA accepts electronic submissions of designs in PDF format either via email or via the new online web portal. Although submitters have been providing drawings and calculations in PDF format for quite some time, there are some common misunderstandings about electronic files that have at times adversely affected the quality and convenience of electronic submissions, and some of the principles involved are not entirely intuitive. Following are some tips that are intended to help submitters produce PDF files that are easier to review, transfer, work with, and store.

- **Whenever possible, generate PDF files directly from the software used to create the document.** If a PDF file containing line drawings or text is generated directly from the software used to create the content, it often is generated as a “vector-format” PDF file, meaning that the file contains information about the shapes and text that appear on the page, rather than a pixel-by-pixel photograph-like image of the page. The result is a higher-quality and much more compact PDF file. Although not all software is designed to convert directly to PDF, there are PDF printers available which identify themselves to the operating system as a printer driver, allowing users to generate PDF files from any software that has printing capabilities.
- **When scanning a document, scan in monochrome black and white only,** unless color is absolutely necessary to convey the meaning of its contents. A document scanned in black and white is much smaller than one scanned in color or in grayscale. Depending on the scanner, a color scan can be expected to be ten times the size of a monochrome scan, and grayscale images tend to be almost as large as full-color images. Although it seems intuitive that color and grayscale images would be of a higher quality, in reality, scanning an image in grayscale can have the effect of capturing content in varying shades of gray, giving it a blurry or washed-out appearance, especially if the image needs to be optically reproduced. A pure black and white scan forces the scanner to distinguish more cleanly between the content and the document background, and the resulting pure black on pure white has the effect of generating a crisper image that is easier to read and has fewer ambiguities: readability is less often a matter of judgment. When design surveyors accept hard copy submissions and the records are scanned to be kept electronically, they are almost invariably scanned in monochrome black and white.
- **If a document is required to be signed, it is usually acceptable to scan a document that was physically signed.** If a document is generated electronically and must be signed, it is acceptable to submit a document that has an image representative of the person’s signature on it: at this time, there is no requirement that they be signed with a cryptographic electronic signature, although this may be a requirement of an organization’s quality control program or of a third-party organization, particularly in cases where a professional engineer authenticates the document electronically. (AB-41 Statutory Declaration forms are a notable exception to this, as they are required to be signed under witness of a commissioner of oaths or notary public and submitted in original hard copy. At this time, as a concession due to the COVID-19 pandemic, it is acceptable to submit AB-41 Statutory Declaration forms electronically and with a non-notarized signature.)
- **Do not protect the file with a password, or enable any other PDF security features.** Design surveyors work with these files extensively when they are submitted, and may need to shuffle or delete pages. When they are finished with the review, they assemble the documents that need to be kept into a single PDF file that is adopted as the government record, and these activities can be hindered if the files are found to have password protection. Unfortunately, it is not practical to manually check each file for password protection upon receipt. In many cases, design surveyors do not discover that a file is protected until they are otherwise ready to register the design, and this has often led to last-minute delays in completing registrations of design submissions that were otherwise ready for registration.
- **The PDF file returned to the submitter is a copy of the registered design.** In the past, documents were required to be submitted in duplicate, and a separately stamped copy was returned to the submitter after registration. In many cases, with the advent of scanning, a copy of the scanned government record can now be returned to the submitter, rather than a separately stamped document. Some submitters have noted that they no longer receive a copy with a full-color stamp and original signature; however—and again, this can be seen as counterintuitive—the result is superior, because the submitter receives an actual copy of the record, rather than a separately stamped copy of a separate set of identical drawings. It can be noted also that the document that is returned to the submitter does not need an applied password or other special protection from modification, because it is not the official registration record: it is simply a copy of the official record that is stored on our servers. ❖

ASME CODE UPDATE SEMINAR

Due to the circumstances that have presented themselves this year with respect to the COVID-19 pandemic, ABSA has had to take the unfortunate step of cancelling the in-person sessions of the 2020 ABSA Code Update Seminar that were planned for October. Registration fees have been refunded for those who were already registered.

ABSA recognizes that this seminar is crucial to Alberta industry. Even though only a relatively small number of codes and standards are expected to have revisions published this year, many people have made a habit of attending annually in order to keep up to date with changes to publications, and other important industry information. Many people also rely on the seminar in order to help meet continuing education requirements.

In lieu of the regular in-person seminar, ABSA will be developing educational content for electronic delivery relating to updated codes and standards, and other topics of interest. Although remote electronic delivery does not provide for the same level of interactivity and networking opportunities that seminar attendees look forward to each year, the situation presented to us has severely limited our options, and we expect that learners will find it convenient to work from their own environments, without having to travel physically to the seminar.

Several options for electronic delivery are current being investigated. If you would like more information as it becomes available, please consider subscribing to our seminar news email subscription service. You can subscribe on our [website](#), by navigating to the 'Subscriptions' page along the top, and then selecting 'Subscribe to Seminar News'. ❖

TEMPORARY DEFERRAL OF IN-SERVICE INSPECTIONS

As a part of its response to the coronavirus pandemic, ABSA has developed a method of deferring some inspections of in-service equipment by temporarily allowing owners to complete their own condition assessments.

Eligible owners are being asked to complete a reporting form which guides them through looking for common service-related problems and evidence of deterioration, and which provides for a means of documenting the assessment. The completed form is certified by the owner and sent to a safety codes officer along with photographs and other supporting evidence, who then reviews the assessment and is able to make a final decision about deferring the inspection.

Owners do not need to apply to participate in the program, as eligibility is being considered on a case-by-case basis. Some of the factors being considered include the nature of the equipment, the availability of skilled personnel, the risks associated with a site visit, and the risks associated with deferring the inspection. Equipment owners who are considered eligible are being contacted with further information when equipment inspections are due.

This temporary program helps to ensure that pressure equipment can continue to be maintained and operated safely, while in some cases enabling inspectors and owners to avoid the risks associated with unnecessary travel. ❖

DOCUMENTS ISSUED BY ABSA

The following documents issued by ABSA are available at www.absa.ca.

2020-01-07 – *AB-519: Pressure Piping Alternative Test Methods, Edition 2, Revision 1*, was issued with clarified requirements for persons undertaking in-process examination of closure welds.

2020-02-18 – *AB-537: Thermal Liquid Heating System (TLHS) Requirements, Edition 1, Revision 0*, was issued to specify requirements and provide compliance guidance relating to requirements for thermal liquid heating systems.

2020-04-02 – *IB20-007, Interpretation: Inspection and Servicing Requirements for In-Service Pressure Equipment*, was issued with a temporary modification to AB-506 to allow submissions of collective inspection deferral requests, rather than requiring individual submissions for each deferral.

2020-04-02 – *IB20-008, Interpretation: Justification of SA-105 Flanges for Low Temperature Service in ASME Section VIII-1 2019 Edition*, was issued to clarify new code rules relating to the use of SA-105 flanges, especially with respect to the continued use of previously registered designs and required documentation for SA-105 made to fine-grain practice.

2020-04-03 – *IB20-009, Variance No. VA20-002: Variance to Section 2(1) of the Power Engineers Regulation*, was issued to temporarily permit chief power engineers to concurrently work as a shift engineer in a power plant, due to work site absenteeism caused by the COVID-19 pandemic.

2020-04-08 – *IB20-010, Interpretation: Expiry of Examination Papers Passed and Operating Experience Gained for Certification under the Power Engineers Regulation (AR 85/2003)*, was issued to temporarily freeze the seven-year expiry period of examination and experience qualifications for power engineer certification.

2020-04-08 – *IB18-004-R1, Interpretation: Pressure Equipment Safety Regulation Section 35: Reporting Unsafe Conditions, Accidents and Fires*, was issued to establish a separate timeline for owner-users to report certain unsafe conditions, accidents, and fires. A list of reference documents was also added to the bulletin.

2020-04-27 – *AB-538: Integrity Management Requirements For Mechanical Refrigeration Systems Containing Ammonia, Edition 1, Revision 0*, was issued to establish minimum requirements for integrity management systems associated with ammonia-based mechanical refrigeration systems.

2020-04-30 – *IB20-012: Variance to the Power Engineers Regulation: Renewal of Special Steam-Powered Traction Engine Operator's Certificate of Competency*, was issued to temporarily allow a special steam-powered traction engine operator's certificate of competency to be renewed based on recognition of operating experience in lieu of a practical exam.

2020-05-07 – *IB20-013, Interpretation: Pressure Equipment Safety Regulation Section 6, Pressure Welders Regulation Section 8, ASME Code Case 2996*, was issued to clarify the use of Code Case 2996 in Alberta for ASME qualification extensions due to the COVID-19 pandemic, and to extend its provisions to several types of Alberta certificates of competency.

2020-05-14 – *IB20-014, Variance to Section 18(1) of the Power Engineers Regulation: Qualifying to Take a 3rd Class Power Engineer's Certificate of Competency Examination*, was issued to temporarily allow students enrolled in a 3rd class power engineering program to write 3rd class examinations, even if they do yet not hold a valid 4th class certificate of competency.

2020-05-15 – *IB20-015: ABSA COVID-19 Measures*, was issued to outline and discuss measures taken by ABSA related to COVID-19, as they affect various stakeholders.

Other documents have been updated with editorial and other minor corrections only. ❖

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