

ABSA THE PRESSURE NEWS

Alberta Boilers Safety Association

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VERIFICATION OF POWER ENGINEERS CERTIFICATION

Alberta Municipal Affairs (AMA) and ABSA propose to post a directory of all power engineers with a valid Alberta certificate of competency.

The Power Engineers Regulation (AR 85/2003) under the Alberta Safety Codes Act requires that power plants, heating plants and thermal liquid heating systems be operated by power engineers holding valid certificates of competency. A certificate remains valid so long as it is renewed annually.

There is an increasing demand from the pressure equipment industry for ABSA to verify power engineers' certifications. In the near future, ABSA and AMA intend to post the

names of all Alberta power engineers with **valid** certificates, along with their file numbers, on the ABSA web site. Employers or individual power engineers will be able to access the information. Employers will be able to verify that their plants are being operated by power engineers with the appropriate certification.

A person will be able to search the directory by either file number or name. The directory will be updated on a regular basis.

Further information about posting of power engineers certification information will be released through the Pressure News and the ABSA Web site, www.absa.ca. ❖

PIPING INSPECTIONS

Part of the "Pressure Integrity Management Program" and integral to having a totally effective inspection program for all pressure equipment in a plant is to include the inspection of all pressure piping. The pressure piping which is located in buildings and not insulated usually gets first attention. The reason is that it is easy to do visuals and take ultrasonic thickness readings. Unfortunately many of the piping failures are occurring outside, on pipe that is on pipe racks and difficult to reach locations. This piping is taken for granted and is often overlooked. Degradation on piping on pipe racks may be due to under-coating or under-insulation corrosion or internal corrosion in deadlegs due to lack of flow.

The consequence of piping failures on pipe racks can be serious. The lengths of piping can be very long with limited number of isolation valves. The result is that, should a failure occur, the content of the entire volume of the piping will be released to atmosphere and, should it find a source of ignition, as is often the case, the results are disastrous.

In conclusion, when setting up a piping monitoring program, include all piping, even outside piping. Insulation should be reviewed. For example, fiberglass insulation that gets wet and is in hot service will cause severe external corrosion. Insulation that is not sealed properly or traps moisture will also result in external corrosion. Coatings that are applied to piping should be monitored. Should this coating fail, it will trap moisture and may even contribute to the corrosion mechanism. We should note the recent example. ❖

ABSA UPDATE SEMINAR

October 28 - Edmonton

October 31 - Calgary

Once again, ABSA is offering a seminar for the pressure equipment industry to address the impact of the most recent ASME Code changes on designers, quality control inspectors and other users of the Codes. The 2003 Addenda have been published and will become mandatory on January 1, 2004.

The meetings have been set for October 28 at the Nisku Inn in Nisku, and October 31 at the Blackfoot Inn in Calgary.

As before, we will take the opportunity to discuss other items of interest such as findings from recent design reviews or ASME shop reviews.

As seating may be limited, we would request that the number of attendees from any one company initially be restricted to two. More openings may become available closer to the meeting dates. Registrations will be accepted on a first-come, first-served basis. Applications may be obtained from your nearest ABSA office or from our website. The deadlines for registration will be Oct. 21 for Edmonton and Oct. 24 for Calgary. ❖

Have you visited us on the Internet yet? - www.absa.ca

WELDED JOINT CATEGORY

Because we commonly receive inquiries on this topic, it was decided that the following clarifications would help the designers and others from the industry to have a better understanding of the Code (ASME BPV Section VIII, Div. 1) definition for a Category 'C' welded joint.

Hoping it would make it clearer, we would re-edit the Code definition for a category 'C' welded joint, per UW-3(a)(3), as follows:

"Welded joints connecting flanges, Van Stone laps, tubesheets or flat heads to:

- main shells,
- formed heads,
- transitions in diameter,
- nozzles or
- communicating chambers

or - any welded joint connecting one side plate to another side plate of a flat-sided vessel."

The welded joint may be: a butt weld, a corner weld or a double fillet weld (other rules of the Code regarding the configuration, size(s), etc. will still apply).

Here are some examples of the questions we answered.

Q. Is the weld joining a weld neck flange to its nozzle neck a category 'B' joint?

A. No. It is a category 'C' joint.

Q. Is the weld joining two sections, e.g. pipe-to-elbow joint, of the nozzle neck a category 'B' joint?

A. Yes.

Q. Is the weld joining a body flange to the main shell or head a category 'B' joint?

A. No. It is a category 'C' joint.

Q. Is the weld joining a hubbed tubesheet to the main shell a category 'B' joint?

A. No. It is a category 'C' joint (see Interpretation VIII-1-95-04).

We understand that we may not have covered the entire spectrum on this issue and therefore we recommend that if you may have a particular configuration about which you are unsure, contact ABSA's Design Survey Department for clarification.



ELIGIBILITY OF EXAMINATION CANDIDATES

As everyone is well aware, the Power Engineers Regulation (Alberta Regulation 85/2003) has replaced the Engineers' Regulations (AR319/75) as of May 1, 2003.

Section 28(g) of the Regulation allows for the disqualification, for up to one year, of an examination candidate who fails three consecutive examination papers. The intent of the disqualification is to allow time for the candidate to learn the material. Upon careful review and with consultation, we have now posted an interpretation of this section of the Regulation.

If an examination candidate fails any three examination papers in succession, or fails the same examination paper three times, the candidate will incur a six (6) month disqualification from writing any examination.

An additional failure will result in a further six (6) month disqualification from writing any examination. Each subsequent failure will incur a one (1) year disqualification.

Exam results older than three (3) years are not considered in assessment for disqualification.

For a complete explanation of this and other sections of the Power Engineers Regulation check out our Web site at www.absa.ca. ❖

PERFORMANCE QUALIFICATION CARDS

All Authorized Testing Organizations are again reminded that as of October 1, 2003 it is a requirement to employ individuals who hold Welding Examiner Certificate of Competency to conduct performance qualification tests.

Also the Performance Qualification Card will be required to show the Welding Examiner's signature and the Welding Examiner's Certification File Number (E-XXXXX). ❖

SAFE DISCHARGE OF HYDROCARBONS

A recent incident in a plant with a release of hydrocarbons due to popping of the safety relief valve affected a significant number of people working in the area. The released hydrocarbons did not result in an explosion or fire. However, the potential sources of ignition (direct fired heaters, project job, welding etc.) were very close to the point of release and could have lead to a terrible disaster.

In view of this incident, here are some questions we should consider in evaluating potential releases:

1. Is there any location where hydrocarbon can be released into the atmosphere perhaps due to the popping of safety relief valve on a storage tank, sphere, reactor, etc?

2. If so, does the relief valve discharge in a safe place; for example is the discharge of the relief valve connected to a flare header or is it directly open to atmosphere?
3. If open to atmosphere, is this hydrocarbon heavier than air or lighter than air? Is there a source of ignition in the area of the discharge?
4. If the source of the hydrocarbon is a storage tank, is the location of the storage tank safe, in case of accidental release of hydrocarbon?
5. Are all the instrumentation and controls in good working condition and are documented operating procedures in place and being followed? ❖

DEADLINE FOR INSPECTOR CERTIFICATION

Since the In-Service Pressure Equipment Inspector Certification program was implemented in October 2001, a total of 213 of inspectors have been certificated. This is a significant increase in numbers when compared to the 31 non-ABSA Safety Codes Officers who were in place before this program is implemented.

Information Bulletin No IB02-002, Certification of In-service Pressure Equipment Inspectors Directive, issued by Chief Inspector and Administrator Dr. K.T. Lau on February 12, 2002 makes certification mandatory as of January 1, 2003 for all persons responsible for certification of pressure equipment in Alberta.

Candidates for certification as in-service inspectors must satisfy certain requirements that include education, experience and third-party certification. Most candidates are also required to pass an examination on Pressure Equipment Safety Legislation (PESL).

Persons who held standard certification as Safety Codes Officer - Boilers prior to October 2001 and are not working for ABSA are eligible for certification without examination. There is **no deadline for these Safety Codes Officers** for certification without examination.

A candidate who does not meet all the certification requirements may be

eligible for certification without examination under specific consideration of equivalencies, if evidence of at least 5 years employment as Chief Inspector (or equivalent) under an ABSA-accepted Owner-User program is provided.

The deadline for certification without examination based on equivalencies is December 31, 2003.

For further information about In-Service Pressure Equipment Inspector Certification, please visit our web site www.absa.ca following the Education and Certification link or contact our Edmonton office at (780) 437-9100 ext 318. ❖

DR. K. T. LAU HONOURED BY CSA



Our Chief Inspector, Dr. Ken K. T. Lau, Administrator of Pressure Equipment Safety for the Province was honoured by the Canadian Standards Association (CSA) on finishing his term Chairing the CSA B51 Boiler, Pressure Vessel, and Pressure Piping Code Committee. Picture shows Ken was being presented a memento by Mr. T. Slimmon of TransCanada PipeLines Limited, incoming Chair of the B51 Committee on behalf of the CSA during the annual CSA B51 Technical Committee meeting August, 2003. Ken served as the Vice Chair of the Code Committee between 1998-2000 and then as Chair from 2000 to 2003. Ken led the recent rewrite effort with the publication of the 2003 edition of the Code. The memento and the Certificate of Recognition presented to him by CSA noted his outstanding contribution to the CSA in furthering standardization in the field of boiler, pressure vessel and pressure piping and his leadership on the CSA B51 Committee. ❖

PWHT OF USED VESSELS

The stress relieving of a used pressure vessel which was not stress relieved when built poses a problem unless full, detailed consideration is given to all of the code requirements for postweld heat treated (PWHT) vessels. The concerns are primarily the effect of heat treatment on: the material properties; the welding procedure qualification test results; and, if applicable, the production impact tests. The ASME Code requires these physical test results to represent the materials and welds in their final heat treated condition, which would not be true of the original vessel subsequently being PWHT'd. Code paragraph UCS-85(f) provides some relief from the material test results for P-No. 1, Group 1 & 2 materials that receive no other heat treatment during fabrication than postweld heat treatment below the lower transformation temperature of the material. Other materials such as those listed in ASME Section VIII, Div. 1, Part UHT do not enjoy this relaxation of the general requirement.

Should circumstances require the as-welded vessel subsequently to be PWHT'd, specimens will likely have to be cut from the vessel, subjected to the proposed heat treatment and

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physically tested. All test results would have to pass the requirements of the material specification or ASME Section IX, as applicable. The tests would include tensile tests, bend tests across welds and possibly impact tests if the vessel was originally impact tested. Each of these tests would have to be done for each heat of plate in the vessel and each WPS used in the construction of the vessel. Note that for quenched and tempered materials, SA-20 and Section VIII, Div. paragraph UHT-6 have additional

requirements as to the number and type of tests that may apply. Keeping the PWHT temperature well below the original tempering temperature of the Q & T material would also have to be a major consideration.

Vessel owners and users are cautioned also to consider any detrimental effects of the proposed heat treatment of a used vessel, which may result from service-related changes to or contamination of the original material. ❖

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St. Paul
Please note that our St. Paul office has been closed. All services will be provided through the Edmonton Office.

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

ALERT - MISUSE OF PROPANE CYLINDERS

CTC/DOT propane cylinders are commonly found in BBQs and other applications. Modification of propane cylinders or use of propane cylinders outside their original design application create safety hazard as well as being illegal. We know of incidents as a result of these cylinders being modified and used to generate steam or as air receivers. An information bulletin developed by Alberta Transportation with input from Alberta Municipal Affairs and ABSA has now been released publicly. Beware that these cylinders can not be accepted for use as pressure vessels under the provisions of the Safety Codes Act. ❖

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