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## WE'RE MOVING

As of Monday, March 27<sup>th</sup>, 2006, the ABSA Edmonton office will be in a new location at the Edmonton Research Park. Our new address will be:

**9410 – 20 Avenue  
Edmonton, AB T6N 0A4**

Our phone numbers will remain the same:  
Phone: (780) 437-9100  
Fax: (780) 437-7787



In the new building, our Edmonton office employees' extension numbers will have an additional "3" before the existing extension number, e.g. current extension 300 becomes extension 3300.

## WEBSITE OUTAGE

Due to the move to the new location, our website, [www.absa.ca](http://www.absa.ca), will be unavailable between March 23<sup>rd</sup> and March 27<sup>th</sup> (incl.), 2006. There is also a possibility that the outage may be extended due to unexpected technical problems. We will do what we can to get the website launched as soon as possible. We apologize in advance for the inconvenience. ❖

## PUBLIC SEMINAR IMPLEMENTATION OF PESR

### Edmonton

- March 30 and April 20, 2006

### Calgary

- April 4 and 21, 2006

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Previous issues of The Pressure News may contain information which is outdated or no longer valid.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

This Newsletter is a publication of ABSA. Articles may be copied in part or in whole provided credit be given to ABSA.

## NEW LEGISLATION EFFECTIVE APRIL 1, 2006

The *Pressure Equipment Safety Regulation* (PESR) has been approved as Alberta Regulation 49/2006. The *Pressure Equipment Exemption Order* (PEEO) has been approved as Alberta Regulation 56/2006. Both pieces of legislation will come into force on April 1, 2006. The PESR is posted on the Queen's Printer website and the PEEO will be available soon. You can access the legislation at [www.absa.ca](http://www.absa.ca), under "Acts, Regulations and Codes".

To assist with implementing this new legislation, ABSA has scheduled four public one-day Pressure Equipment Safety Regulation Training Seminars as follows: Edmonton – March 30 and April 20; Calgary – April 4 and 21. Seminar cost is \$160.50 GST included. Further information is available on our web site under "Current Information" or "Training News". We will also post information about the legislation. A PESR User Guide has been developed and will be available on our web site before the end of March.

The PESR updates and consolidates the requirements of the current legislation and will repeal and replace two regulations: the *Boilers and Pressure Vessels Regulation* (AR 293/94) and the *Design, Construction and Installation of Boilers and Pressure Vessels Regulations* (AR 227/75). The PEEO will repeal and replace the *Boilers and Pressure Vessels Exemption Order* (AR 300/94) ❖

## PRODUCTION IMPACT TESTING

There is still some misunderstanding in regard to the necessity of performing production impact tests when fabricating carbon and low alloy steel pressure vessels with a minimum design metal temperature (MDMT) lower than -20F. In certain situations it has been interpreted by the shop floor personnel that no production impact testing will be necessary if the design drawings stipulate that the vessel materials are impact test exempt per UCS-66 (UCS-66 (g) or based on a curve C or D material). This assumption is incorrect and production impact testing will, in fact, be required for the vessel unless the welding consumables also have been classified by impact testing to be exempt.

It must be realized that when a vessel is exempted by UCS- 66 (g) or UCS-66 for curve C or D materials this is applicable to the base metal only. The exemption for welding consumables must be per UCS-67(a)(2) (referred from UCS- 66(a)).

It should be noted that carbon steel electrodes (solid wire) and rods used for gas shielded arc welding (SFA-5.18) are qualified, at best, to a minimum temperature of -20F for impact tested values. Therefore, a vessel fabricator wanting to exempt these welding consumables from production impact testing has two options:

- 1) have the welding consumable manufacturer certify the electrode by impact testing to the MDMT of the vessel (see Interpretation VIII-1-01-64)
- 2) have a specific heat, batch or lot of wire electrode impact tested following the procedure of the applicable SFA specification to the MDMT of the vessel

Using either of these options would require complete control of the welding consumable used by the vessel fabricator. Also the actual electrode use would have to be verified by the Authorized Inspector. ❖

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## TEMPORARY CERTIFICATES OF COMPETENCY

The policy on the issuance of Temporary Certificates of Competency has been revised. Effective January 01, 2006 the following changes have been implemented.

### Option A – Unavailability or Training

Applicants for Option A temporary certificates of competency must have a minimum of 6 months qualifying experience and the educational prerequisites for the requested certificate as required by the Power Engineers Regulation (AR 85/2003). A maximum of 3 temporary certificates may be issued unless positive progress is made towards obtaining the higher level certificate of competency. There has been no change in the duration of Option A temporary certificates of competency.

### Option B – Holiday, Emergency or Sick Relief

Applicants for Option B temporary certificates of competency must have a minimum of three months qualifying experience. Option B temporary certificates of competency will be limited to a maximum of one (1) month in duration.

For more information on the policy, please visit our website at [www.absa.ca](http://www.absa.ca), go to the Power Engineer group and then click on the Certification tab. ❖

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## USE OF ABSA'S NAME OR LOGO ON PROMOTIONAL MATERIALS

ABSA is frequently asked by industry for permission to use the ABSA logo in various forms of advertising including brochures, websites, and signs.

The ABSA logo is a registered trademark and may not be used without ABSA's permission. So as to avoid misleading the public regarding any hint of affiliation, partnership or endorsement, ABSA does not allow its logo to be used by anyone.

As ABSA is a jurisdictional authority, not only must we be completely independent of all persons and companies that deal with us under the Safety Codes Act, but we must be perceived by all observers as being independent.

Additionally, companies may not use words indicating a special relationship to ABSA. An organization that holds a valid certificate of authorization issued by ABSA may use the wording "Certificate of Authorization issued by ABSA"; however, words like "ABSA certified" are misleading and are not permitted. ❖

## WELDING PROCEDURE QUALIFICATION TEST COUPONS

On several occasions over the past year the qualification of a Welding Procedure Specification (WPS) has been questioned because there was inconclusive evidence that welding of the procedure qualification test coupon had been completed in accordance with Code requirements.

Welding on items that are constructed to the *ASME Boiler and Pressure Vessel Code* must be completed by following a WPS. A WPS is a written procedure that is prepared to provide direction for making production welds to Code requirements. A Procedure Qualification Record (PQR) is the record of the actual welding variable values used in welding a test coupon which is subsequently tested to qualify one or more WPS's. The PQR must be certified by the Manufacturer or Contractor (i.e., the organization that will use the WPS for Code work), verifying that the information in the PQR is a true record of the variables that were used during the welding of the test coupon and that the reported test results are in compliance with the Code.

The specific responsibilities of the Manufacturer or Contractor in the production and certification of the Procedure Qualification Record are provided by paragraph QW-201 in Section IX of the ASME Code. Two critical responsibilities are:

1. the welders used to produce weldments to be tested for qualification of procedures must be under the full supervision and control of the Manufacturer or Contractor during the production of the PQR test coupons, and
2. the coupons must be welded either by direct employees or by individuals engaged by contract for their services as welders under the full supervision and control of the Manufacturer or Contractor.

To conclusively establish that PQR test coupons were welded in accordance with Code requirements, whenever direct employees are not used to weld a PQR test coupon, it is essential that records of the contract with the individual welder employed to produce the coupon be retained (e.g., a cancelled cheque). In the case where direct employees are utilized to produce a PQR test coupon, retention of any record substantiating direct employment would acceptably document Code requirements had been met (e.g., a performance qualification test record, AB-76 form). ❖

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## SAFETY VALVE MAINTENANCE FOR YOUR PROTECTION

There is one item on all boilers, water heaters and pressure vessels that has been installed for the protection of people who are or may be in the vicinity of the equipment. This very important piece of equipment is the pressure relief valve (PRV) and is installed to ensure the equipment doesn't fail catastrophically due to overpressure. These PRV's require testing on a regular basis (preferably monthly) to ensure that they will work when they are needed.

The testing of PRV's is a simple task, but the importance cannot be over stated. A simple procedure would be to first locate the PRV on the equipment; it will be on the top of the boiler or vessel, or side in the case of water heaters, or air receivers. These PRVs are valves with a lifting lever or device (rings, etc.) on the top side of the valve.

Following these precautions when testing PRV:

- Wear gloves and safety eye wear to ensure your protection.
- Stand to the side of the discharge pipe; don't stand in front of the valve discharge.
- Locate the inlet isolation valve and shut off switch for the equipment. This is a precaution in the event of a problem's arising from the PRV's failing during testing, to enable the person testing the PRV to shut off the equipment if required.
- Locate the testing/lifting lever or device on the top of the PRV.
- With system pressure at at least 75% of the PRV set pressure, gently lift the lever, while watching the outlet pipe for flow of the product from the vessel or boiler and continue to open the valve until fully opened. If the valve is very stiff or seized do not force it open, shut down the equipment and replace the valve with a new one of the applicable specification (see last bullet).
- Watch the flow out of the discharge piping. Allow the flow to continue until a clean stream is coming out of the discharge pipe. Then allow the valve, which is spring loaded, to snap shut.
- Watch the discharge pipe to be sure the flow stops. This may take a few minutes to drain all the fluid from the lines.
- If the flow doesn't stop completely, the procedure can be repeated again to see if the valve will re-seat properly.
- If the PSV will not open with the lifting lever, it requires changing immediately, as it would not function when required and an explosion could occur with deadly results.
- If the PRV doesn't close properly and is leaking, it requires changing, but would probably work if it was required. A leaking PRV should be replaced as soon as possible.
- Ensure that the replacement valve is sized properly; this information will be on the boiler nameplate. The information to be noted is the MAWP (maximum allowable working pressure) usually stated in PSI (pounds per square inch); the new valve must have its set pressure at or lower than this pressure. The second piece of information is the minimum PRV relieving capacity; this may be in lb/hr (pounds per hour) or in BTU/hr and the new valve must have this rated capacity or higher to ensure safety. ❖

## NEW FEE SCHEDULE EFFECTIVE APRIL 1, 2006

Effective April 1, 2006, most of the fees collected by ABSA in accordance with the Fee Schedule will increase by 5%. This increase reflects the change in the Alberta Consumer Price Index since the last fee increase.

All fees for Design Survey, Quality Programs, Shop Inspections, Initial and Installation Inspection, Special Inspections and Annual Registration will increase 5%. These are the fees under Schedules A to F of the Fee Schedule.

However, not all the fees for Power Engineers, Pressure Welders, Welding Examiners and In-Service Inspectors under Schedules G to I of the Fee Schedule will increase by 5%. The following fees remain unchanged:

- annual registration fee for Power Engineers Certificate of Competency,
- duplicate certificate fee for Power Engineers, In-Service Inspectors Pressure Welders, and Welding Examiners,
- duplicate performance qualification card fee, and
- Welding Examiner examination fee.

Refer to the **New Fee Schedule** that is effective April 1, 2006 at [www.absa.ca](http://www.absa.ca) for details. For any questions or concerns, contact Allan McCallister at (780) 437-0281 Ext. 305 (Ext. 3305 after March 24). ❖

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## CHANGING THE SERVICE OF A VESSEL

In today's business environment in Alberta, with the tight supply of materials, manpower and shop availability, redeployment of an end-user's surplus vessels or purchasing a used vessel from someone else is sometimes the most expeditious way to get that needed pressure vessel. The reuse of a used pressure vessel commonly involves putting that vessel into a service other than that for which it was originally designed.

Recently, ABSA became aware of a situation where a vessel was changed from an NGL service to a CO<sub>2</sub> storage service. An engineering assessment was requested by the company because it was noted that the vessel, in its new service, was operating at a temperature of -34°C but was designed for -29°C. The engineering assessment revealed that not only was the MDMT not adequate for the new service, but that there were other issues. The specific gravity of CO<sub>2</sub> is much higher than that of NGL. Calculations showed the shell thickness was in fact slightly below the minimum thickness required when the static head was considered and that the saddle supports were not adequate for the loading now applied. The vessel has since been removed from service by the owner.

Whenever a vessel is changed from one service to another, a thorough assessment of all design parameters must be carried out. This is part of an effective management of change program. The other lesson to be learned from this incident is that owners should always be aware of the operating parameters for each vessel. These operating parameters should be reviewed on a regular basis to ensure that no changes have occurred that might affect the integrity of the vessel. Operating parameters are not only the pressure and temperature boundaries but also such things as the composition of the fluids which are being contained in the vessel. One cannot have a good Integrity Management System without knowing what one has, how it is designed, and how it is being operated. ❖

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## ABSA OFFICES

Edmonton - Head Office  
Effective March 27, 2006  
9410 - 20 Avenue  
Edmonton, Alberta T6N 0A49  
Tel (780) 437-9100  
Fax (780) 437-7787

Grande Prairie  
#203, 10109 - 97th Avenue  
Grande Prairie, Alberta T8V 0N5  
Tel (780) 538-9922  
Fax (780) 538-9400

Fort McMurray  
Mailing Address:  
8115 Franklin Avenue, Box #30  
Fort McMurray, Alberta T9H 2H7  
Tel (780) 714-3067  
Fax (780) 714-2380

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

Calgary  
Tower 3,  
#590 1212-31st Avenue N.E.  
Calgary, Alberta T2E 7S8  
Tel (403) 291-7070  
Fax (403) 291-4545

Lethbridge  
#300, 515 - 7th Street South  
Lethbridge, Alberta T1J 2G8  
Tel (403) 394-1011  
Fax (403) 327-2483

Medicine Hat  
#103, 346 - 3rd Street S.E.  
Medicine Hat, Alberta T1A 0G7  
Tel (403) 529-3514  
Fax (403) 529-3632

Red Deer  
#304, 4406 Gaetz Avenue  
Red Deer, Alberta T4N 3Z6  
Tel (403) 341-6677  
Fax (403) 341-3377