Guide for Completing Form AB-230

1.0 PURPOSE

To provide guidance for completing Form AB-230, General Engineering Requirements for Boiler and Pressure Vessels Repair and Alteration Procedure.

2.0 APPLICATION

This form is used for documenting repair and alteration procedures for boilers, pressure vessels, thermal liquid heaters, direct and indirect fired heaters under the Safety Codes Act and Regulations.

3.0 GENERAL

The Administrator or a safety codes officer may require a detailed repair or alteration procedure to be submitted for acceptance prior to the start of the work. The detailed procedure may be documented as one of the following:

a) detailed drawings and calculations which clearly outlines the repair or alteration,
b) engineering documents which are outlined in an Owner-User Integrity Management System that gives detail for the repair or alteration, or
c) provide a completed AB-230 Form which clearly describes the scope of the repair or alteration.

AB-230 Form is required for documenting repair and alteration procedures when neither item a) nor b) above can be provided. It is at the discretion of the submitter to choose which of the listed documents above are applicable to document the repair or alteration procedure. The latest version of the AB-230 Form is posted on the ABSA website.

A *Repair* is defined as the work necessary to restore pressure equipment to a safe and satisfactory operating condition, provided that there is no deviation from the original design.

An *Alteration* is defined as any change to an item of pressure equipment as described in the original manufacturer's data report that requires change of design calculations or otherwise affects the pressure-containing capability of the item of pressure equipment. Non-physical changes such as a change in the maximum allowable working pressure (internal or external), minimum design metal temperature or design temperature of a pressure retaining item is an alteration.

4.0 INSTRUCTIONS

The following describes the information required for completing each item of Form AB-230. The headings or numbers in this instruction correspond to the heading and

numbers on Form AB-230. Highlighted areas on the AB-230 form also show the instructions.

For the purpose of this guide, 'repair' shown below, may also mean alteration.

1. Provide the organization's name and address performing the repair.
   The AQP (Alberta Quality Procedure) number and expiry date of the repairing organization is required.
   List the location of installation - LSD, street address and/or facility name.
2. Provide the owner's name and address of the boiler or vessel. The address refers to the owner's head office.
3. Provide the identifying name of the pressure equipment. List the following:
   - CRN (Canadian Registration Number).
   - (A)# Alberta identification number assigned by ABSA Safety Codes Officer.
   - National Board number (if applicable).
   - Manufacturer's serial number.
   - Owner's equipment number.
4. Provide the design conditions as shown on the existing nameplate(s). Indicate the units of measurement (psig or kPa; °F or °C). All design conditions are to be included for shell and tube heat exchangers or multi-part vessels. The field showing shellside and tubeside are for shell and tube heat exchangers.
5. Specify the original ASME code edition, year, and addenda used for the original construction.
6. Give a step-by-step repair procedure. Attachments may be included which gives more detail of the procedure, but it must be referenced in this section. Attach any additional details, drawings, or procedures used.
7. a) Confirm that the UT report is included with the repair procedure. If no UT is performed, then explain why.
   b) Confirm that the Out of Roundness report is included with the repair procedure. This is applicable if the external pressure condition is altered. If this report is required and not included, then explain why.
8. If heat treatment is required in the repair procedure or code specification, then indicate the holding temperature and time.
9. List all non-destructive examination used (ie. 100% MPI, spot radiography, visual, etc.) and identify items examined.
10. a) A pressure test may be required after the repair.
    i) Report the hydrostatic test pressure with units of measure (psi or kPa).
    ii) Report other type(s) of test used in lieu of, or in addition to, hydrostatic pressure test. Other tests require acceptance by ABSA Design Survey.
    b) Confirm that the test procedure is included with the repair procedure. If the test procedure is not included, then explain why.
11. This section allows for remarks or additional comments that are not identified elsewhere in the form. Attachments may be included which give more detail of your remarks or comments. Include the reference document name and number.
12. Provide the anticipated date when the repair will be completed.

Apply the signature of the applicant. Be sure to print the name of the applicant.

Note the section at the bottom of the page identified for ABSA use must not be filled in. Once the repair procedure has been accepted this will be signed and dated by Design Survey. A copy of the acceptance will be returned to you for your reference.