

APPLICATION OF CODE CASES

In this issue, information is provided on a number of ASME Code Cases including the applicability of these Code Cases in Alberta. An explanation as to what constitutes a Code Case and how Code Cases may be used is necessary. In accordance with ASME, Code Cases are formulated "to clarify the intent of existing requirements or provide, when the need is urgent, rules for materials or constructions not covered by the existing Code rules."

It must be noted that Code Cases are not considered as part of the Code that is adopted by the jurisdictional authorities. As such, the ASME Code

states that "*Manufacturers and users of components are cautioned against making use of revisions and Cases that are less restrictive than former requirements without having assurance that they have been accepted by the proper authorities in the jurisdiction where the component is to be installed.*"

Should you contemplate the use of a Code Case in Alberta, in addition to following all the requirements of the Code Case, you must first contact the inspector of your nearest ABSA office to ensure the use of the Case is acceptable. In the case of vessels for export, designers/manufacturers

should note that Code Case(s) may not necessarily be accepted automatically by the jurisdiction(s) of installation. However, unless otherwise advised by jurisdiction(s) of installation with special construction conditions, for the design review and construction inspection of equipment for export, ABSA will accept the use of Code Case(s) applying only the requirements of the Code Case(s) concerned without imposing any additional requirements. In those cases, it would be up to the designers/manufacturers to secure the necessary acceptance of the Code Case(s) from all the other concerned parties.

APPLICATION OF PROPOSED ASME CODE CASES 2274, 2284 & 2290 FOR USE IN THE PROVINCE OF ALBERTA

Alternative Maximum Allowable Stresses for Section I and Section VIII Division 1 Based on a Factor of 3.5 on Tensile Strength

Proposed Code Case 2284 for ASME Section I and Code Cases 2278 and 2290 for Section VIII Division 1 allow for alternative maximum allowable stresses based on a factor of 3.5. Because of the significant implications of these Code Cases, the use of them for Alberta application was reviewed by the Alberta Boiler and Pressure Vessel Technical Council. These Code Cases, when effective, will be acceptable for equipment construction for use in Alberta provided certain conditions are met, these being:

- (i) *The design submission is accompanied by a written acceptance of the use of the Code Case(s) by the owner/user for custom fabricated units, or*
- (ii) *The design submission is accompanied by a written acceptance of the use of the Code Case(s) by the manufacturer acting as the agent of the owner/user for multiple stock items or similar situations (See U-2(a) of Section VIII, Division 1)*

Information seminars, one in Edmonton and another in Calgary, were conducted last April by ABSA on these proposed Code Cases. A total of over 150 people attended. An information bulletin was also developed and distributed, a copy of

(Continued on page 4)

The 6th China International Exhibition on Boiler & Pressure Vessel Industry

The Ministry of Labour, Peoples= Republic of China, announced that the Sixth China International Exhibition on Boiler and Pressure Vessel Industry will be held in Shanghai, China on November 24-27, 1998. This could be a showcase for organizations in our industry not only to the Chinese market but also to participants from other countries. We understand exhibition space is still available and interested parties should contact Ms. Sun Li of IBPI China >98 Shanghai Office, 915 Jing Sha Jiang Road, Shanghai 200062, PRC, Tel: 8621-62653783, Fax: 8621-62657576. In cooperation with the Centre of Boiler and Pressure Vessel Inspection and Research, China, a flyer on this subject is also available from your nearest ABSA office.

PROPOSED CODE CASE 2260

Alternative Rules For Design of Ellipsoidal and Torispherical Formed Heads for Section VIII Division 1

Proposed Code Case 2260 for ASME Section VIII Division 1 allows for alternative rules for design of ellipsoidal and torispherical formed heads subjected to internal pressure. Additional provisions are required in the Code Case for the alternative design rules. These provisions include restrictions on opening sizes in the knuckle region of the head, maximum metal temperature and others. There is one particularly significant provision in this Code Case in that the Case has been developed for a fatigue life of 400 full pressure range cycles with non-integral attachments and 1000 full pressure range cycles with integral attachments. Design of heads exceeding this fatigue life would require Para. U-2(g) consideration and analysis.

The Administrator (Chief Inspector) has ruled that Code Case 2260 will not be accepted for use in Alberta unless the design is accompanied by an Owner/User Design Specification, certified by a registered Professional Engineer experienced in pressure vessel design, with details on the expected fatigue life of the vessel. In addition to pressure cycles, the specification shall also include other cycles which may impact on the fatigue life of the unit (see AD-160 of ASME Section VIII Division 2 for parallel). For declared fatigue life where Para U-2(g) analysis is required, a Manufacturer's Design Report, certified by a registered Professional Engineer experienced in pressure vessel design on the part of the manufacturer, is also required. In all cases, the owner/user shall also ensure that all such cycles be properly documented during the operational life of the pressure vessel.

Employment Opportunities

Visit the ABSA Internet e-mail address for current ABSA job opportunities.

MIXED STEEL; 4" A234 WPB BUTTWELD FITTINGS

We have received information that one to five lengths of pipe out of a shipment of over 1600 lengths supplied by U.S. Steel to Tube Forgings of America Inc. (TFA) was of a different heat/grade of material from ASTM A234 WPB-96 specifications used by TFA to manufacture fittings. The affected TFA fittings are listed below:

4" STD LR 90E & 45E A234WPB Elbows	Heat Codes: G347 & G348
4" x 3" STD LR 90E A234WPB Elbows	Heat Codes: G347 & G348
4" x 2.5" STD LR 90E A234WPB Elbows	Heat Codes: G347 & G348
4" x 2" STD LR 90E A234WPB Elbows	Heat Codes: G347 & G348

We advise that if you are in possession of any of these fittings that you contact immediately:

- the supplier that you received the fittings from. Or
- Mr. Dave Snively; USS; phone number 1-800-227-7113 extension 2776 or 1-440-227-2776

For any such fittings already installed in a pressure plant, you must also notify the ABSA inspector in your area.

ASME SECTION VIII DIVISIONS 1 & 2 EXEMPTION OF IMPACT TESTING OF WELDS FOR WELDING PROCEDURE QUALIFICATIONS

Paragraphs UCS-67 and AM-218.2 of ASME Section VIII Divisions 1 and 2 respectively, provide for "Impact tests of Welding Procedures". Paragraphs UCS-67(a)(2) and AM-218.2(a)(2) were revised by the 1997 Addenda whereby welds for Welding Procedure Qualifications may only be exempted from impact tests when the welding consumables used are classified by impact tests at a temperature not warmer than -55°F by the applicable SFA specification. Since welding consumable specifications are typically classified by impact tests at -50°F, it would be mandatory, effectively July 1, 1998, to require additional impact tests which fall under the existing exemption. With the alertness of ABSA staff, the implications and the resulting hardship for the pressure equipment industry with the 1997 Code changes were brought to the attention of the ASME Code Committees. The ASME Code Committees responded quickly and the effort results in a proposed ASME Code "Intent Interpretation" as well as

proposed Code revisions to rectify the situation.

During the ASME Code Week of April 27-May 1, 1998, the following proposed "Intent Interpretation" received approval for issuance:

Question:

Is it the intent of Section VIII, Division 1, UCS-67(a)(2) and Division 2, AM-218.2(a)(2), that Welding Procedure Qualifications be exempt from impact testing, when the welds are made with welding consumables that are impact tested at a temperature not warmer than the MDMT by the applicable SFA specification?

Reply: Yes

It was also resolved by the Code Committees that Paragraphs UCS-67(a)(2) and AM-218.2(a)(2) of ASME Section VIII Divisions 1 and 2 be revised to reflect the "Intent Interpretation". It is expected that the proposed Code revisions will be

(Continued on page 4)

NEW FOURTH AND FIFTH CLASS POWER ENGINEERING CERTIFICATES OF COMPETENCY

The Government of Alberta, recently approved the new 4th and 5th class Power Engineering Certificates of Competency for introduction into the Safety Codes Act, Engineers' Regulations. The implementation date is 1st September 1998. As a result of this recent approval, Alberta is now consistent with the majority of other Canadian Provinces and Territories with respect to achieving standardization for the new 4th and 5th class Certification programs. In addition to creating greater efficiency of manpower utilization in industry, this will enhance the new certificate holders ability to relocate or transfer to other jurisdictions in Canada as the certifications are considered to be equivalent.

A. GENERAL

- ◆ The New 4th and 5th class Power Engineering Certificates of Competency, and all associated Examinations will be implemented in Sept. 1998. At that time, existing examinations for 4th Class, Fireman, BOA and BOB will no longer be available, except for those students currently enrolled in an applicable distance learning initiative.
- ◆ The New 4th Class Certificate of Competency is a combination of the existing 4th Class and the Building Operator 'A' Certifications.
- ◆ The 5th Class Certificate of Competency is a combination of the existing Fireman Class and the Building Operator 'B' Certifications.
- ◆ Holders of existing valid certificates (4th Class, Fireman, BOA and BOB) are allowed to continue to function in accordance with the Engineers' Regulations (ie) the existing certificates remain effective. Alternatively, there is the option to upgrade to the new Certifications by successfully completing a mini upgrade course through one of the technical institutes, and then, in each case, challenging the Upgrade Examination.
- ◆ Individuals who hold both a valid Fireman's **and** a valid BOB Certificate can make application to be grand-fathered to the new 5th Class Certificate in Sept. 98.
- ◆ Individuals who hold both a valid 4th **and** a valid BOA Certificate can make application to be grand-fathered to the new 4th Class Certificate in Sept. 98.
- ◆ There will be some individuals currently enrolled in a distance learning program for the current 4th Class, Fireman's, BOA or BOB, who may not successfully finish the course, or attain the required work experience by Sept 98. The following exceptions will be made for these individuals:
 - Write the existing Alberta Government examinations for 4th, Fireman's, BOA or BOB, during an interim period of approximately 4 months (until 31 December 98) provided the required experience has been achieved in accordance with the Engineers' Regulations, **OR**
 - Successfully complete the correspondence course, and then successfully complete an applicable mini upgrade course through a technical institute. Candidates may then attempt to write the examination for the new 4th Class or the 5th Class, provided the required experience has been achieved in accordance with the Engineers' Regulations.
- ◆ Syllabi for the new 4th and 5th Class Power Engineering Certificate of Competency Examinations, and for the mini Upgrade Examinations will be available by June 98.
- ◆ It is strongly suggested that all Power Engineers, including existing 4th Class, Firemen, Building Operators 'A' and 'B', and those individuals wishing to attempt new 4th and 5th Class Power Engineering Examinations obtain a copy of the Safety Codes Act, Revised Engineers Regulations for reference.
- ◆ The Alberta Boilers Safety Association will be revising the Examination Application form to

accommodate the new 4th and 5th Class examinations, and the Upgrade Examinations.

- ◆ The fees for examination and certification remain the same, and would therefore be as follows:
 - A fee of \$20.00 for each examination paper.
 - A fee of \$40.00 for the 5th Class Certificate of Competency.
 - A fee of \$60.00 for the new 4th Class Certificate of Competency.
- ◆ Individuals upgrading to a new Certificate of Competency will not be required to return their existing certificate(s), however, for the existing Certificate(s) to remain valid, the renewal fee must be paid annually.
- ◆ New examinations will be in "multiple choice" format with 150 questions each for part A and part B of the new 4th, 150 questions for the 5th, and approximately 50 questions for each of the Upgrade Examinations.

B. NEW FOURTH CLASS

- ◆ The new 4th Class Certificate of Competency is a combination of the existing 4th Class and Building Operator 'A', and as such allows the holder to operate any heating plant, or a power plant as described in the Engineers' Regulations.
- ◆ Individuals wishing to attempt the new 4th Class Alberta Government examinations in Sept 98, will require proof of experience in accordance with the Engineers' Regulations in **BOTH** a heating plant, and a power plant, **OR**, experience in one of the plants **PLUS** successful completion of the new 4th Class course.
- ◆ Holders of a valid existing 4th Class Certificate have the option to upgrade to the new 4th Class Certificate, by successfully completing a mini upgrade course through one of the technical institutes, **OR**, by gaining the required experience in a **heating plant** in accordance with the

(Continued on page 4)

(Continued from page 3)

Engineers' Regulations, and then, in either case, challenging the applicable Upgrade Examination.

- ◆ Holders of a valid existing BOA Certificate have the option to upgrade to the new 4th Class Certificate, by successfully completing a mini upgrade course through one of the technical institutes, OR, by gaining the required experience in a **power plant** in accordance with the Engineers' Regulations and then, in either case, challenging the applicable Upgrade Examination.

C. FIFTH CLASS

- ◆ The 5th Class Certificate of Competency is a combination of the existing Fireman's and Building Operator 'B', and as such allows the holder to operate either a heating plant not exceeding 3000 kW, or a power plant as described in the Engineers Regulations.
- ◆ Individuals wishing to attempt the 5th Class examinations in Sept 98, will require proof of experience in accordance with the Engineers Regulations in BOTH a heating plant and a power plant, **OR**, experience in one of the plants PLUS successful completion of the 5th Class course.
- ◆ Holders of an existing valid Fireman glass Certificate have the option to upgrade to the 5th Class Certificate by successfully completing a mini upgrade course through one of the technical institutes, OR by gaining the required experience in a **heating plant** in accordance with the Engineers Regulations, and then, in either case, challenge the applicable Upgrade Examination.
- ◆ Holders of an existing valid BOB Certificate have the option to upgrade to the 5th Class Certificate, by successfully completing a mini upgrade course through one of the technical institutes, OR, by gaining the required experience in a **power plant** in accordance with the Engineers' Regulations, and then, in either case, challenging the applicable Upgrade Examination.

(Continued from page 1)

which is available at your nearest ABSA office. It is expected that ASME will approve these Code Cases shortly and immediately thereafter, notify the public of the Cases through the ASME publication Mechanical Engineering. For concerned parties, please monitor ASME communications. On receiving the effective date(s) of these Code Cases, we will also post a notification in our web page:
<http://www.edmonton.freenet.ab.ca/absa>.

(Continued from page 2)

published in the 1999 Addenda for to 1998 ASME Code edition.

For the 1995 editions of ASME Section VIII Divisions 1 and 2 (with the 1997 addenda) as well as the new 1998 editions of these Code Divisions to be published and released shortly, the last temperature of "-55°F" in both Paragraphs UCS-67(a)(2) and AM-218.2(a)(2) should be read as "the MDMT". Accordingly, welds for Welding Procedure Qualifications may be exempted from impact tests when these welds are made with welding consumables that are impact tested at temperature not warmer than the MDMT by the applicable SFA specification.

Contents	
Application of Code Cases	1
Proposed Code Cases 2274, etc.	1
6th China International Exhibition	2
Proposed Code Case 2260	2
4" A234 WPB Butt weld Fittings	2
Exemption of Impact Testing	2
New 4th & 5th Class	3

ABSA OFFICES

Edmonton - Head Office
 #200, 4208 - 97 Street
 Edmonton, Alberta T6E 5Z9
 Tel (403) 437-9100
 Fax (403) 437-7787

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

Grande Prairie
 #203, 10109 - 97 Avenue
 Grande Prairie, Alberta T8V 0N5
 Tel (403) 538-9922
 Fax (403)538-9400

Lethbridge
 3rd Floor, 200 - 5 Avenue South
 Lethbridge, Alberta T1J 4C7
 Tel (403)381-5423
 Fax (403)382-4426

Medicine Hat
 Main Fl., 346 - 3rd Street S.E.
 Medicine Hat, Alberta T1A 0G7
 Tel (403)529-3520
 Fax (403)529-3632

Red Deer
 #402, 4406 Gaetz Avenue
 Red Deer, Alberta T4N 3Z6
 Tel (403) 341-6677
 Fax (403) 341-3377

St. Paul
 Room 407, 5025 - 49 Avenue
 St. Paul, Alberta T0A 3A4
 Tel (403)645-6350
 Fax (403)645-6352

Internet address
<http://www.freenet.edmonton.ab.ca/absa>

This Newsletter is a publication of Alberta Boilers Safety Association (ABSA). ABSA grants readers permission to make photocopies of this Newsletter for free distribution to employees and business associates. Articles may be copied in part or in whole provided credit be given to ABSA.

