

PRESSURE POINTS

The Official Newsletter of HSB  Global Standards

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WHAT'S NEW AT ASME

By Codes Services

ASME SUSPENDS ADDENDA SERVICE AND MODIFIES PUBLICATION CYCLE

On November 16, 2009, the ASME Standards and Certification Board of Directors voted to eliminate the addenda service for the ASME Boiler and Pressure Vessel Code. At the time this decision was made, it was yet undecided whether the publication cycle would remain a three year cycle or something different. The decision was made to reduce the publication cycle to two years since many people felt that anything longer than that would be too long a delay in getting important technical revisions published.

The implementation of this new two-year publication cycle will take place over the next three years with the publishing of the 2010 Edition on July 2010 as normal. An addenda will be issued for this edition in July 2011, and then the next publication will be the 2013 Edition. The addenda that will be issued in July 2011 will be a complete reprinting of all the boiler code sections utilizing ASME's new XML publishing system. This will also be the last addenda issued for the boiler code. With the 2013 Edition and beyond, the boiler code will then be published on a two-year cycle. According to ASME, steps have been taken to ensure that the annualized cost to purchasers of the new two-year editions will not exceed the annualized cost when published on a three year cycle.

SAMPLE OF REVISIONS FROM 2010 EDITION OF BOILER CODE

Each year ASME committees approve over 400 revisions to the boiler code. The Codes and Standards staff will be publishing a complete synopsis of all Code changes in the 2010 Edition this fall. In the meantime,

below are a couple of items that we felt would be of interest to Code users.

Section I, PG-26, Corrections to Weld Strength Reduction Factors

A line for C-Mo was added to Table PG-26 to indicate a factor of 1.0 is used up to 850°F (454°C) and include a reference to Note 8. In addition, Note 8 was removed from the line for Cr-Mo steel.

Section VIII, Division 1, Appendix 2 - Bolt Spacing Correction Factor

It is a well known fact that if too few bolts are used on a flange it is possible to develop secondary bending stresses in between the bolts that would lead to non-uniform compression on the gasket. Excessive bolt spacing can result in a flange that is more prone to leakage. The well-known Taylor Forge Bulletin 502 "Modern Flange Design" contained an equation to calculate maximum bolt spacing as well as an equation to adjust the design moment when the bolt spacing exceeded a certain limit. Many companies invoke these rules as part of their internal specifications, but there has always been resistance within ASME Section VIII to add these rules to Appendix 2. From an engineering point of view, it is hard to ignore the presence of this additional stress on the flange and potential for leakage at the joint. With the current provision in UG-99(g), leakage is a Code issue for flanged joints, and the spacing limitation is appropriate. The compromise that was reached during the balloting of this item was that the bolt spacing and correction factor rules would be introduced into Appendix 2, but they would only become mandatory when the vessel is designated for lethal service, or when the user or his designated agent specifies the use of these rules.

Section IX, UT Qualifications of Welders and Welding Operators

Paragraphs QW-142, QW-143 and QW-191 were revised to permit qualifications of welders and welding operators by ultrasonic (UT) examinations on test welds in material $\frac{1}{2}$ inch (13mm) thick or greater in lieu of radiography or mechanical testing. These changes incorporate the provision of Case 2326.

(continued on page 2)

Section IX, Appendix H - Waveform Controlled Welding

Advances in microprocessor controls and welding power source technology have resulted in the ability to develop waveforms that improve control of arc characteristics for pulsed welding. The characteristics selected by the welder or welding operator are no longer limited to amperage, voltage or wire feed speed, as in traditional welding power sources. Widespread use of waveform controlled power sources has resulted in the need to review traditional methods of measuring heat input and specifying welding variables for applicability to this new technology. Work performed by several equipment manufacturers and research organizations has shown significant error in actual power (current, voltage) produced by a waveform controlled power source in measurements obtained using conventional DC or RMS amperage and voltage meters compared to that measured by high frequency sampling methods that account for changes in the wave shape. The error can be on the order of 20% and be in a non-conservative direction.

When qualifying a new welding procedure using waveform controlled welding, the instantaneous energy or power range is used in lieu of the amperage and voltage ranges to determine the heat input per QW-209.1(c). When qualifying a new procedure using nonwaveform controlled welding, either the current (amperage) and voltage is recorded and heat input determined using the methods QW-409.1(a) or QW-409.1(b), or the instantaneous energy or power is recorded and the heat input determined by the method in QW-409.1(c).

Welding procedures previously qualified by nonwaveform controlled welding and heat input determined by QW-409.1(a) may continue to be used for waveform controlled welding provided they are amended to require heat input determination for production welds using the methods of QW-409.1(c). Welding procedures previously qualified using nonwaveform controlled welding and heat input determined by QW-409.9(b) continue to be applicable for waveform welding without changes to the heat input determination method.

Case 2590 - Use of Non-Certificate Holders for Welding, Section VIII, Div. 1

Section VIII holds the Manufacturer (Certificate Holder) fully responsible for all welding on pressure vessels. Recent revisions to paragraph UW-26(d) confirmed that even when a Manufacturer elects to subcontract welding activity, the actual welding work must still be performed at his shop as listed on the Certificate of Authorization. In some situations, these rules can cause hardship for a Manufacturer when they need parts welded using advanced welding machines, such as electron beam welding (EBW) machines. Due to the cost of this type of equipment, it is unreasonable to require all companies supplying parts

welded using EBW to be a certificate holder.

This case provides a relaxation of the subcontracted welding rules whereby a Manufacturer can subcontract the welding of parts to a non-certificate holder when they are utilizing EBW welding. The initial version of this case was limited to welding of copper, nickel and titanium alloys. Subsequent revisions have expanded the scope of this case to include aluminum and austenitic stainless steel material, as well as laser welding and vacuum furnace brazing. Case 2590-2 was approved on March 10, 2010 and will be published in a future Code Case Supplement to the 2010 Edition of the B&PV Code Cases.

ASK THE ENGINEER

By Codes and Standards Group

Q Section VIII, Division 1 specifies the postweld heat treatment temperature and minimum holding time in Table UCS-56. In most cases, these tables do not specify a maximum temperature on the Manufacturer's Data Report (Form U01 or U-1A), is it required to list the code specified minimum values or the actual temperature and hold time?

A Per Note 27 of Table W-3, it is required to record the actual holding temperature and time when postheat treatment is performed.

Q In Section VIII, Division 1, when designing custom flanges per Appendix 2 it is now required to calculate the flange rigidity to ensure leak tightness. Must this check be carried out for both operating as well as gasket seating conditions?

A Yes, the rigidity index must be determined for both the gasket seating and operating conditions in order to establish the governing case.

Should you have any additional questions, please contact your regional TRS account manager, or visit www.HSBGlobalStandards.com

UPCOMING EVENTS

By Marketing

To promote our services and technical expertise, HSB Global Standards participates as thought leaders in many conferences worldwide to promote our services, gain new customers and learn the leading market trends.

In the final quarter of 2010, HSB Global Standards will be participating in several conferences, including American Society for Quality's - Energy and Environmental Division Conference from October 31st through November 3rd in San Antonio, Texas. Then during December, HSB Global Standards will be exhibiting at Power-Gen International - Nuclear Power International in Orlando, Florida, December 14 through December 16.

In 2011, HSB Global Standards will be participating in a number of conferences both in the United States and internationally. HSB Global Standards will be participating at the Platts Nuclear Energy Conference scheduled for February 16th through February 18th in Bethesda, Maryland. In May 2011, HSB Global Standards will be participating in the 19th International Conference on Nuclear Engineering (ICONE19) in Makuhari, Japan. In June, we will take part in PowerGen Europe/Nuclear Power Europe in Milan, Italy.

Throughout 2011, HSB Global Standards will be hosting additional public seminars to both assist our customers and demonstrate our experience to new customers.

If you have a need for a public seminar in your region, please contact Edu_svcs@HSBCT.com

USE OF A TEMPORARY SHOP BY CERTIFICATE HOLDERS

The ASME Conformity Assessment Department has recently issued a new policy to address the need of a Manufacturer (certificate holder) to temporarily occupy additional fabrication space for Code construction. This comes up periodically when the company has the good fortune to secure more work than they can physically handle within their current location, and they need additional fabrication space. Or their current fabrication shop may have size or capacity limitations, and they want to temporarily use another facility for this reason. Prior to the issuance of this new policy, a Manufacturer had no choice but to apply for a second certificate to perform these Code fabrication activities at this new location. The reason is that the ASME Certificate of Authorization is only valid at the address listed on the company's certificate where the ASME audit team verified the Manufacturers capability to produce pressure equipment in full conformance with one or more ASME standards.

The process for a Manufacturer to request permission to perform Code fabrication on a temporary basis at a new shop location is very straightforward. The Manufacturer would discuss its needs with the Authorized Inspection Agency (AIA), and the AIA would then conduct an audit of the temporary shop location, collecting the following information that will ultimately be reported back to ASME in the form of an audit report:

1. The address of the temporary shop location and its distance from the current shop address listed on the Certificate(s) that the temporary shop will operate under;
2. Verification that the AIA of Record will be providing inspection service at the temporary shop location and

the temporary shop will be serviced by the same AI; Note that to assure that it is feasible for the same AI to service the temporary shop location, ASME is recommending that the separation between the current and temporary location be no more than 200 miles.

3. Verification that the temporary location (building and personnel) is under the full control of the Certificate Holder and the temporary shop is adequately staffed with personnel qualified to perform the activities addressed in the approved quality control program;
4. Verification that the Certificate Holder's QC Manual identifies the temporary location and the Code activities to be performed there;
5. Verification that the Code work to be performed at the temporary location falls within the scope of Code activities listed on the Certificate Holders Certificate of Authorization;
6. A list of the Code activities that will be performed at the temporary location;
7. An estimate of the number and a description of the type of Code items that will be fabricated at the temporary location.

Upon acceptance of the AIA audit report, ASME will issue to the Certificate Holder a letter allowing for temporary use of the new shop for a period not to exceed one year. The fee for issuance of this temporary letter is \$1305.00. No more than one temporary use letter will be issued to a Certificate Holder at any one time, and no more than two temporary use letters will be issued during a three-year period.

This new policy is a win-win for both the Manufacturer as well as ASME. It affords the Manufacturer the flexibility to expand his operations on a short-term basis without incurring the cost of acquiring a new certificate. From ASME's perspective, they are assured that any code fabrication taking place at a location not covered by an existing certificate will have third-party inspection in compliance to the applicable ASME standards.

Please see the following ASME webpage for complete details on this new policy:

http://www.asme.org/Codes/CertifAccred/Certification/Application_Forms_2.cfm

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One State Street • PO Box 299 • Hartford, CT 06141-0299
(800) 417-3437 • (860) 722-5705 Fax

Editor: Stephen McKelvey (860) 722-5450

Contributors:

• Thomas Pastor • Richard Prendergast • Linda Gannelli

**THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS
HONORS
ROBERT WIELGOSZINSKI
WITH
THE SAFETY METAL AWARD**

Robert Wielgoszinski, Principal Code Consultant for HSB Global Standards received the 22nd National Board of Boiler and Pressure Vessel Inspectors Safety Medal Award at the 79th General Meeting in San Antonio, Texas.

The prestigious Safety Award from the National Board of Boiler and Pressure Vessel Inspectors was presented to Mr. Wielgoszinski for his outstanding contribution and dedication to public safety by developing and promoting codes and standards for the safe construction, installation and repair of boilers and pressure vessels, and having done so with the highest degree of integrity and professionalism.

Mr. Wielgoszinski has devoted more than 35 years to the pressure equipment industry, he holds National Board Commission No. 7931 with "A", "B", "N", "NS" and "IS"

endorsements. For the past 14 years, he has served as a member of the NBIC Committee, representing Authorized Inspection Agencies, and currently presides as Vice Chairman. In 1994, he was appointed a member of the National Board Examination



Committee, a position he holds today on what is now the Committee on Qualifications for Inspections. Since 1989, he has served on numerous ASME committees, including the Subcommittee on Accreditation, the Standards Committee on Qualifications for Authorized Inspection, the Committee on Boiler and Pressure Vessel Conformity Assessment and the Section I and Section IV Standards Committee.

The Safety Medal Award is the highest honor bestowed by the National Board of Boiler and Pressure Vessel Inspectors. It recognized the commitment and dedication of one very special industry professional to the discipline and safety in its every form.

P R E S S U R E P O I N T S

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HSB Global Standards
P.O. Box 299
One State Street
Hartford, CT 06141-0299

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