Case N-880

Alternative to Procurement Requirements of IWA-4143 for Small Nonstandard Welded Fittings
Section XI, Division 1

Inquiry: What alternatives may be used for performing welded fabrication of Class 1, 2, or 3 small, nonstandard, welded fittings, in lieu of IWA-4142.1(b)(4) or (5) and IWA-4143, when the Construction Code is Section III?

Reply: It is the opinion of the Committee that, as an alternative to the requirements of IWA-4142.1(b)(4) or (5) for acceptance of material by the Owner, and IWA-4143 for limiting fabrication of nonstamped parts to the Owner’s facility, when the Construction Code is Section III, an Owner or Repair/Replacement Organization may accept fabrication of small, nonstandard, welded fittings fabricated away from the Owner’s facilities, by an organization whose Quality Assurance Program does not comply with IWA-4142. The following requirements and all other applicable requirements of Article IWA-4000 shall be met:

(a) Use of this Case is limited to NPS 2 (DN 50) or smaller, sleeve-coupled or other specially-designed, patented, or nonstandard fittings.1

(b) This Case shall not be used for fittings that are available from an ASME Certificate of Authorization Holder.

(c) The fitting fabricator shall comply with the following requirements:

(1) Welding Procedure Specifications (WPSs) and welders or welding operators shall be qualified in accordance with applicable Section III and IX technical requirements.

(2) Materials, including welding materials, shall comply with Section III, NB/NC/ND-2000, except NB/NC/ND-2610, as applicable to the assigned classification (IWA-1320).

(3) Visual inspection of weld joint fit-up shall be performed prior to welding, and completed welds shall be visually inspected after welding, for compliance with fabrication drawings, WPS, and applicable Section III and IX requirements.

(4) For fittings exceeding the size limits of IWA-4131.1, the ANII shall be given an opportunity to witness fit-up and welding.

(d) The Owner or Repair/Replacement Organization shall verify the materials, welding qualification, performance of welding, and weld quality, as follows:

(1) Accept materials, including filler materials, in accordance with the requirements of IWA-4142.1(b)(4) or (5) of the 2007 Addenda or later Editions or Addenda.

(2) Supervise qualification of welding procedures and welders or welding operators. The ANII shall be given an opportunity to witness welding procedure and performance qualification and review associated documentation.

(3) Review welding filler material for compliance with the Welding Procedure Specification (WPS).

(4) Supervise and monitor performance of welding, including assignment of qualified welding procedures and welders or welding operators. The ANII shall be given an opportunity to witness welding and review weld or welding operator continuity records.

(5) Perform nondestructive examination of all welds, as follows:

(a) Visual inspection shall be performed for weld size and shape, for compliance with fabrication drawings, WPS, and applicable Section III and IX requirements.

(b) Welds shall be nondestructively examined in accordance with Section III, NB/NC-2500 or NB/NC-5200, as applicable. Class 3 welds shall be examined in accordance with the Class 1 or 2 requirements.

(c) For fittings exceeding the size limits of IWA-4131.1, the ANII shall be given an opportunity to witness these examinations.

(d) Fittings meeting the provisions of IWA-4131.1 may be accepted and installed without Repair/Replacement Plans, Data Reports, or Authorized Inspection. For larger fittings, up to NPS 2 (DN 50), the procedures for accepting fittings in accordance with this Case shall be made available to the ANII or AIA prior to acceptance of the material; Repair/Replacement Plans and Data Reports are required only for installation activities.

The Committee’s function is to establish rules of safety, relating only to pressure integrity, governing the construction of boilers, pressure vessels, transport tanks and nuclear components, and inservice inspection for pressure integrity of nuclear components and transport tanks, and to interpret these rules when questions arise regarding their intent. This Code does not address other safety issues relating to the construction of boilers, pressure vessels, transport tanks and nuclear components, and the inservice inspection of nuclear components and transport tanks. The user of the Code should refer to other pertinent codes, standards, laws, regulations or other relevant documents.