AWS D1.1 Interpretation

Subject: Tables 4.2 and 4.14
Code Provision: Table 4.2 and Table 4.14
AWS Log: D1.1-06-I02

Inquiry:
(1) AWS D1.1 Table 4.2 appears to be silent regarding base metal qualification on unequal base metal thicknesses – as might occur in a corner or T joint. For a corner or T joint, does AWS require that both base metals qualified on the WPS to fall within the range qualified?

(2) Note d of AWS D1.1 Table 4.2 states that a CJP groove weld on any thickness will qualify any PJP groove weld for any thickness. Therefore, if a fabricator has a WPS that was qualified on a 1/8” plate CJP groove weld, then the WPS is qualified for a CJP weld on a base metal thickness up to ¼”. However, as allowed by note d, if the fabricator does not have a WPS to cover a base metal thickness greater than ¼” for welding a CJP groove weld, then the fabricator may revert to a PJP using this WPS so that any thickness of plate or pipe can be welded. Is this the intent of note d from Table 4.2?

(3) Table 4.14 of AWS D1.1 does not contain SAW or GMAW welding processes for CVN test requirements. If CVN testing is required by the PO, what are the test locations required by AWS D1.1 for these processes?

Response:
(1) No, see 4.9.1.1. The procedure needs to be qualified for the thickness of the weld.

(2) No, see 1.4.1. The fabricator cannot change from a CJP to a PJP without the approval of the Engineer.

(3) Table 4.14 has been revised in D1.1:2008 to include the SAW and GMAW welding processes. CVN test locations are located as noted in 4.34 unless otherwise specified in the contract documents.

AWS D1.1, Structural Welding Code—Steel, is prepared by the AWS Structural Welding Committee. Because the Code is written in the form of a specification, it cannot present background material or discuss the committee’s intent.

Since the publication of the first edition of the Code, the nature of inquiries directed to the American Welding Society and the Structural Welding Committee has indicated that there are some requirements in the Code that are either difficult to understand or not sufficiently specific, and other that appear to be overly conservative.

It should be recognized that the fundamental premise of the Code is to provide general stipulations applicable to any situation and to leave sufficient latitude for the exercise of engineering judgment. Another point to be recognized is that the Code represents the collective experience of the committee; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.