AWS D1.1 Interpretation

Subject: Essential Variables
Code Edition: D1.1-94
Code Provision: Table 4.5
AWS Log: D1.2.50

Inquiry: There is an inconsistency in Table 4.5, under the heading “Essential Variable Changes to PQR Requiring Requalification” Item 32 and Item 33. In Item 32 the Code states, “A change in groove type (e.g., single-V to double-V) qualification of any CJP groove weld qualifies for any groove detail complying with the requirements of 3.12 or 3.13.” Subsection 3.12 permits the use of several square-groove welding joint designs: B-P1a, B-P1b, and B-P1c. Subsection 3.13 permits the use of several square-groove welding joint designs: B-L1b, B-L1b-GF, B-L1-S, B-L1a-S, TC-L1b, TC-L1-GF, and TC-L1-S.

In Item 33 the Code states: “A change in the type of groove to a square groove and vice versa.” I would understand that statement to mean that, for example, a process such as GMAW-S, qualified using B-U6-GF under the provisions of Item 32 would not be allowed application to ANY of the prequalified square-groove welding joint designs that are permitted by Item 32.

These items conflict with each other.

Response: No, essential variables 32 and 33 are not in conflict. What may be allowed in 32 regarding the use of non-square-groove weld details to qualify a square-groove joint is further restricted by 33. The Code is correct as written.