AWS D17.1 Interpretation

Subject: Extended Validity and Disqualification
Code Provision: Paragraph 4.2.3.2 and 4.2.3.3
AWS Log: D17.1-01-I02

Inquiry:
1. Does the phrase “…to document welder performance.” [D17.1, 4.2.3.3(2)] require that each “application normally welded” [D17.1, 4.2.3.2] for the purpose of meeting the Extended Validity requirements has to “meet prescribed standards” as implied by the Definition of “welder performance qualification”?[A3.0]?

2. Can the Engineering Authority specify its “prescribed standards” for the “application normally welded” in lieu of the “criteria for Class A welds” [D17.1, 4.3.8.1]?

3. Is it required that the “application normally welded” meet the “prescribed standards” prior to any rework or repair, i.e., at its soonest planned inspection?

4. Does the “auditable record” [D17.1, 4.2.3.2] need to include evidence of conformance to the “prescribed standards” in addition to the evidence that the individual “used the process” [D17.1, 4.2.3.2]?

PROPOSED REPLIES (Both possibilities):

A. A reply of “NO” to Question 1 would confirm that “used the process” equates to what is commonly known as a “Record of Activity”, wherein only welding is done, but it does not include requirements to inspect the “application normally welded” and confirm its conformance to the “prescribed standards”. (This would then relegate any replies to Questions 2 through 4 as inconsequential.) To clarify this, 4.2.3.2(2) of D17.1 should delete the phrase “…to document welder performance”. Otherwise, the “individual’s performance required by 4.2.3.2” [4.2.3.3(2)] would contradict “welder performance” as implied by the Definition of “welder performance qualification” in A3.0.

B. A reply of “YES” to Question 1 would mean that each “application normally welded” for the purpose of Extended Validity in a 6-month period would be purposely equivalent to an initial qualification test, including its inspection and evidence of conformance to prescribed standards, and invokes the prospect of Disqualification. A “YES” to Questions 2 through 4 would logically follow. Consequently, this would require an expanded system for acquiring and maintaining inspection records from
AWS D17.1:2001, Specification for Fusion Welding for Aerospace Applications, is prepared by the AWS Welding in the Aircraft and Aerospace Industry Committee. Because AWS D17.1:2001 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 AWS D17.1:2001, the nature of inquiries directed to the American Welding Society and the Aircraft and Aerospace Committee has indicated that there are some requirements in AWS D17.1:2001 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 AWS D17.1:2001 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 AWS D17.1:2001 represents the collective experience of the committee; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.

Response: No.