

tive tracking tool for both in-house needs and to avoid possible repetitive welder qualification testing from taking place.

Q: I'm hoping you can help us settle an argument. The code for this project is the 2008 edition of AWS D1.1. We need to fabricate some boxed-in sections made from flat plate that will have open root (no backing) single-sided complete joint penetration (CJP) welded T-joints and corner joints (they need to be complete penetration, and there is no way to backgouge). I say this requires a 6GR welder as the production welds require similar skills to the 6GR test for getting proper root penetration. We would have to test some guys as we don't have any 6GR welders. My coworker says a 6G open root welder can do these welds, which would mean we won't have to test anyone. Who is right?

A: Your colleague wins the argument. Look at the lower left-hand side of Table 4.10 of AWS D1.1 (for TUBULAR qualification tests). If you follow the "Groove" line to the right, and then find "6G" and follow that to the right where it intersects with the column "Production Plate Welding Qualified" and "Groove CJP" column, you will see that it says "All." This means that a 6G welder is qualified to weld flat plate CJP welds in all positions.

You will have noticed that there is also a footnote "i" to 6G, which reads, "i, Qualification for welding production joints without backing or backgouging shall require using the Figure 4.24(A) joint detail." This means that to weld open root (no backgouge) joints, the 6G welder needs to have taken an open root test.

Q: I've been a power plant NDE guy for a long time, but due to some recent economic upheaval, I've had to take a job in another industry and so I'll now be doing my first ultrasonic testing to AWS D1.1. This is very different from the requirements of ASME Section V to say the least. I've been trying to learn the ropes and get things cleaned up around here (my new company has a collection of old rusty cal blocks, drawers

full of bits and pieces of transducers, etc.). Besides our IIW blocks, out of the mess I've been able to recover a couple of DC blocks, an SC block that looks homemade, and a number of other homemade blocks.

I'm trying to understand the D1.1 calibration requirements. It looks like I can either use the IIW block and carry that around with me all day (what a pain!) or use the DC and SC blocks if I adjust the sensitivity to that achieved with the IIW block (per section 6.23.1 of AWS D1.1). I prefer the second option, and I know how to adjust the sensitivities, but my boss tells me our client is uncomfortable with this and insists on the IIW block. Are there any other options?

A: Clause 6 of AWS D1.1 is not particularly easy to read and understand; there are numerous subclauses that seem to contradict one another, and this leads to exactly the sort of situation you describe in which there are differences of opinion. For instance, the subclause you referred to (6.23.1, under the heading "Reference Standards") does indeed seem to indicate that the only options are the ones you described. At 6.25.5 (under the heading of "Calibration for Angle-Beam Testing"), however, the Code reads, "Calibration for angle-beam testing shall be performed as follows (see Annex H, H2.4 for alternative method)." Annex H is a "normative" annex, meaning that it is part of the Code — in other words, if there is an "alternative" method detailed in Annex H and you use it, you are still in conformance with the Code.

H2.4 of D1.1 deals with sensitivity calibration, and does allow the use of the SC block. We suggest that you discuss these code provisions with your boss (to get his/her support) and then discuss it with your client. You may also want to consider procuring or having made a DSC block (as shown in Fig. H.1 of D1.1). If your new company has a machine shop, it could make one. A DSC block is easier to carry around than an IIW block, but also affords the capability of checking screen range, search unit exit point, and search unit angle. Those capabilities may help make your client more comfortable with the arrangement. ♦

Inspection Trends encourages question and answer submissions. Please mail to the editor (mjohansen@aws.org).

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