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Mr. John Goshen
c/o Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

January 8, 2010

Subject: Response to Request for Information on HI-STORM 100 System Drawing D3923 Sheet 3 (TAC NO. L60542)

References:

[1] NRC Letter (Goshen) to Holtec (Anton), dated December 9, 2009
[2] HI-STORM 100 Final Safety Analysis Report, HI-2002444

Dear Mr. Goshen:

Holtec has evaluated the outer closure ring weld (1/8" fillet weld) identified on Holtec licensing drawing 3923 sheet 3 as a result of the request in Reference [1]. The evaluation included review of procedures and travelers for this weld for various user sites. Note that while PCI is the only welding company performing the MPC closure welds at Diablo Canyon, PCI and other welding companies have performed the MPC closure welds at other sites.

The principal staff concern is that the weld is such that the 'as-welded' condition cannot be measured using a standard fillet gauge and objective evidence to demonstrate that the weld joint conforms to the drawing may therefore not be available.

The location of this particular fillet weld and the surrounding base material does create a situation where after the weld is placed measurements cannot be taken with a standard fillet weld gauge. However, Holtec has reviewed the welding procedures/travelers from various user sites and has determined that sufficient measures are taken during the weld preparation, placement, and inspection to ensure that the correct weld size is attained. Specifically, they all specify that measurements are to be taken to ensure that the "land" available in the vertical and horizontal direction is greater than or equal to 1/8" prior to placing the weld. If either of the weld legs is less than the required 1/8" length, actions are taken to achieve the required length. To increase the leg size in both the horizontal and vertical direction, grinding of the closure ring is permitted. Note that the vertical leg size is typically greater than 1/8" because the closure ring is 3/8" thick with a 1/8" chamfer.

After completion of the weld the procedures indicate that the weld should be visually examined. Some procedures require measurement using a choice of fillet weld gauge, machinist's scale, or a tape measure to verify the weld. The land area remaining is measures compared to the land area measured prior to welding to ensure the leg length is met. The weld is also checked for a flat or convex profile.

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Other procedures verify the weld size by visually inspecting the weld volume. If measurements prior to welding indicate the vertical leg and horizontal leg are greater than 1/8" each and the weld completely fills this space, without a convex profile, then the weld is confirmed to be at least 1/8".

Additionally, as indicated in the HI-STORM 100 FSAR [2] Section 9.1.1, "ASME Code welding shall be performed using welders and weld procedures that have been qualified in accordance with ASME Code Section IX and the applicable ASME Section III Subsections (e.g., NB, NG, or NF, as applicable to the SSC). AWS code welding may be performed using welders and weld procedures that have been qualified in accordance with applicable AWS requirements or in accordance with ASME Code Section IX." Additionally the MPC Closure ring to MPC shell weld NDE requires a PT in accordance with ASME Section V, Article 6 (PT) with acceptance criteria in accordance with ASME Section III, Subsection NB, Article NB-5350. These requirements dictate that the HI-STORM 100 welds are performed and inspected by qualified personnel and ensures compliance with the fabrication drawings and integrity of the weld.

In summary, Holtec considers that welds determined to meet the drawing requirements by a qualified and certified inspector using a procedural approach as described above ensures compliance with the fabrication drawings and ensures acceptability of the welds.

Nevertheless, to clarify the approach that is needed to ensure the weld size, Holtec will add a note to the drawing to require verification and documentation of the size of the horizontal and vertical "land" before welding.

Please do not hesitate to contact us if you require anything further.

Sincerely,

Dr. Stefan Anton
Vice President of Engineering
Holtec Technical Services
Holtec International

cc: Mr. Eric Benner, USNRC
Mr. Douglas Weaver, USNRC
Holtec Group 1