

From: Mel Shannon
To: Renee Pedersen
Date: 7/25/05 11:46AM
Subject: Re: ACTION: DPO-2005-003 Panel Report

Renee, I can say that my concerns have been heard. I would like to stress that I think the licensee needs to perform the piping inspections (UT NDE for thickness and NDE for cracks) as recommended in the report. I would like to point out that the whip restraint temperatures were measured at 210 degrees and the feedwater was at 465 degrees (with the insulation package installed) so the use of 200 degrees and 450 degrees in the calculation was not overly conservative as stated in the report. In fact the licensee operated at least one cycle without the insulation installed which would cause the restraints to be at an even lower temperature. This is just for comment, no other actions are necessary on this part of the issue.

For Concern 1, Part C, the report stated that "there is no validity to this concern." Could you have the team provide a basis for this conclusion?

I can understand the answer if the pipe is allowed to bend and absorb the stress. However in this case, with the piping restrained, and for example equal stress applied to both sides, the stresses should be cumulative. I think that is one of the reasons that licensees are cautioned about welding the restraints directly to the piping. I thought of the problem like this, 1) the lower thermal expansion of the whip restraint vs the pipe is like tightening up the nut of the whip restraint. 2) If I tighten up the nut on opposite whip restraints, the pipe does not bend and the stresses from each tightened bolt add to the total stress on the pipe. 3) This would be what would happen to a bolt that was attached at both ends, tightening up the nut on one end $\frac{1}{2}$ half turn would apply a certain stress, tightening the nut on the other end $\frac{1}{2}$ turn would cause the stress to double. Am I missing something? If I am wrong you have my apology.

Do I need to do anything else?

Thanks for listening to my concern.