

# AmerGen

A PECO Energy/British Energy Company

AmerGen Energy Company, LLC  
Oyster Creek  
U.S. Route 9 South  
P.O. Box 388  
Forked River, NJ 08731-0388  
Telephone: 609 971 4000

November 14, 2000  
2130-00-20304

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

**Subject: Oyster Creek Nuclear Generating Station (OCNGS)  
License No. DPR-16  
Docket No. 50-219  
Modification to Proposed Alternative Repair of Control Rod Drive Housing  
Interface with Reactor Vessel**

**Reference: AmerGen letter No. 2130-00-20300 dated November 10, 2000, "Alternative  
Repair of Control Rod Drive Housing Interface with Reactor Vessel"**

AmerGen Energy Co., LLC (AmerGen) requested NRC approval of an alternative repair to two leaking control rod drive (CRD) housings in the referenced letter. As discussed in our referenced letter, we stated that "wall thinning of 3% - 5% in the housing thickness is required in order to achieve a continuous contact pressure between the housing and the vessel bore." Section 2.3.1 ("Wall Thinning") of BWRVIP-17 ("Roll/Expansion Repair of Control Rod Drive and In-Core Instrument Penetrations in BWR Vessels," EPRI TR 106712, November 1996), states that "wall thinning must be sufficient (3-5%) to ensure adequate seal." The purpose of this letter is to document that the minimum appropriate wall thinning of 3-5% percent was achieved during the roll repair at Oyster Creek for both Control Rod Drive Housing Repairs, and that the basis for the alternative repair remains the same as discussed in the referenced letter.

Another consideration is that roll expansion causes cold working of the CRD housing and thus a concern about Intergranular Stress Corrosion Cracking (IGSCC). The post roll UT data suggests that a nominal wall reduction of 5.8% for CRD 42-43 and 6% for CRD 46-39 was achieved during the repair. However, the rolling process wall reduction depends on the mechanical arrangement of the roll repair tooling which is established prior to rolling, and confirmed on the mockup. The stop collar setting which controls diametral expansion to .070 inches  $\pm$ .006 inches is set the same way in the field as it was in the mockup. The UT measurements confirmed that the wall reduction of at least 4% was achieved. The apparent additional wall reduction indicated by the UT measurements is of no concern with regard to IGSCC susceptibility for the CRD housing material. In addition the portion of the CRD housing with the cold work is in a residual compressive stress state which mitigates any concern with IGSCC initiation at that location.

A001

2130-00-20304

Page 2 of 2

Regarding the roll transition area, the average Rockwell b hardnesses in the transition region were measured to be less than 95 Rb as documented in BWR VIP-17 and it's references. IGSCC is not a concern for hardness below 95 Rb. Finally, the temperature in the CRD is typically below 200 °F, and is alarmed at 250 °F in the control room.

Based on the above evaluation, the 6% reduction in wall thickness as a result of the roll repair is acceptable and does not change the basis for the acceptability of the alternative repair.

If you should have any additional questions or require any additional information, please contact Mr. George B. Rombold at 610-765-5516.

Very truly yours,



Ron J. DeGregorio  
Vice President, Oyster Creek

cc: H.J. Miller, Administrator, Region I, USNRC  
L.A.Dudes, USNRC Oyster Creek Senior Resident Inspector  
H.N.Pastis, USNRC Oyster Creek Senior Project Manager  
File No. 00086