

February 26, 2009

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Washington, D.C. 20555-0001

DOCKETED  
USNRC

February 26, 2009 (11:13am)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of  
Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.  
(Vermont Yankee Nuclear Power Station)  
Docket No. 50-271-LR; ASLBP No. 06-849-03-LR

Gentlemen:

In connection with an NRC Staff audit of the confirmatory environmentally assisted fatigue ( $CUF_{en}$ ) analyses that were provided to the parties to this proceeding on January 8, 2009, Entergy identified that Table 6 of Calculation 0801038.306 for the reactor recirculation outlet (RO) nozzle utilized Alloy 600 material properties instead of those for stainless steel. A supplemental evaluation using the proper input values determined that the environmentally adjusted cumulative usage factor  $CUF_{en}$  at a non-limiting location in that nozzle (the safe end) increased from less than 1% of the allowable value to approximately 4% of the allowable value. In performing this supplemental evaluation, all calculation methods have been maintained; the limiting calculated  $CUF_{en}$  for the RO nozzle of 0.119 remains unaffected. Therefore, the result of this finding is inconsequential.

Entergy has identified two other changes that should be made to the calculations for the RO nozzle, neither of which affects the results:

- In Calculation 0801038.306, a stress concentration factor (SCF) was used in the analysis of the nozzle blend radius, whereas use of such a factor is only needed for the nozzle safe end. Since the SCF is greater than 1.0, its use led to increasing the conservatism of the

CUF<sub>en</sub> calculation for the nozzle blend radius. Removing the SCF that was applied to the blend radius will have no impact to the final conclusions of the calculation.

- With respect to Calculation 0801308.304, the definition of one thermal stress transient (Transient #9) is slightly different from the one used in the previous refined analysis Calculation No VY-16Q-306. Since Entergy intended to use the same thermal stress transient definitions for both sets of calculations, the definition of the transient in Calculation 0801308.304 will be modified to make it the same as for the refined calculation. Changing the definition of this thermal stress transient will have no impact on the results of the fatigue calculation for the nozzle.

In addition, Entergy identified the following editorial changes that should be made to the analysis of the reactor core spray (CS) nozzle:

Calculation 0801038.302 for the CS nozzle. The TOTAL stresses listed in Table 4 for Node 2166 at a time of 66,165 seconds are incorrect. However, the correct numbers are used in the analysis and are contained in all of the supporting computer files.

Calculation 0801038.302 for the CS nozzle. Section 4.5 includes the statement: "The location of the nozzle loads is at 137.0625 inches [4] from the center of the RPV." The dimension of 137.0625 inches is correct; however, it cannot be found in Reference [4]. A different reference will be listed as the source of the dimension.

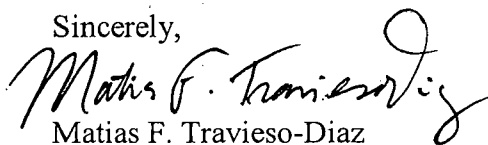
Calculation 0801038.303 for the CS nozzle. This calculation will be revised to update the reference contained in it for Calculation 0801038.302 from Revision 0 to Revision 1, once Calculation 08010308.302 is revised.

None of these editorial changes affect either the methodology used in the calculation or the calculation's results.

Entergy has initiated a condition report to address the above items. Upon completion of the corrective action review that will close out the condition report, the calculations of record will be revised.

As noted above, the conclusion that the CUF<sub>ens</sub> for both nozzles are less than unity is not affected by the changes discussed in this letter.

Sincerely,



Matias F. Travieso-Diaz  
Counsel for Entergy

cc: Service List

## CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing letter were served on the persons listed below by deposit in the U.S. Mail, first class, postage prepaid; where indicated by an asterisk, by electronic mail; and where indicated by a double asterisk, by both overnight and electronic mail, this 26<sup>th</sup> day of February, 2009.

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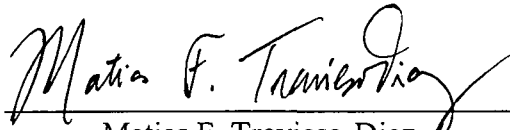
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