Constellation Energy
Nine Mile Point Nuclear Station

P.O. Box 63
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December 21, 2004
NMP1L 1903

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

SUBJECT: Nine Mile Point Unit Nos. 1 and 2
Docket Nos. 50-220 and 50-410
Facility Operating License Nos. DPR-63 and NPF-69

Report of Changes or Errors Discovered in the Current Acceptable Emergency Core Cooling System Evaluation Model

Gentlemen:

Pursuant to 10CFR50.46(a)(3)(ii), this letter provides this year's annual report concerning changes to, or errors discovered in, the emergency core cooling system (ECCS) evaluation model used for Nine Mile Point Units 1 and 2 (NMP1 and NMP2). Last year's annual report was submitted on December 22, 2003. Since then, General Electric has reported one new change in the latest approved ECCS analysis, which affects the peak clad temperature (PCT) calculations. Licensee Event Report 04-002, "Changes and Errors in the Methodology Used by General Electric and Global Nuclear Fuel to Demonstrate Compliance with Emergency Core Cooling System Performance Requirements," submitted by a letter dated July 12, 2004, specifically addressed this change for NMP1.

The change consists of a postulated new heat source during the Loss of Coolant Accident (LOCA) event. This heat source involves the recombination of hydrogen and oxygen within the fuel bundle during the core heatup. The additional heat would raise the temperature of the steam heat sink in the bundle, resulting in a potential increase in the peak cladding temperature and local oxidation. This recombination is spontaneous at temperatures above approximately 900°F. The hydrogen is generated by the steam-zirconium reaction during heatup. The oxygen enters the vessel either as a dissolved gas in the ECCS water or through the break when the vessel fully depressurizes and draws the containment noncondensible gases back into the vessel. The current LOCA evaluation models do not include this new heat source. An evaluation was performed which determined that the impact on PCT due to this change is 0°F for NMP2 and 25°F for NMP1.

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Based on the above, for NMP1, the maximum increase in PCT due to changes or errors in the latest analysis is 40°F. For NMP2, the maximum increase in PCT is 0°F. The sum of the absolute values of the effect on PCT of all changes or errors in the latest approved ECCS analysis is 40°F for NMP1 and 5°F for NMP2.

The maximum anticipated PCT during a LOCA remains less than 2200°F for NMP1 and NMP2. The cumulative effect on PCT of changes and errors identified since the latest approved ECCS analysis remains less than 50°F for NMP1 and NMP2, and is, therefore, not significant according to the criterion stated in 10CFR50.46(a)(3)(i).

Sincerely

T.G. Mogren / for

William C. Holston
Manager Engineering Services

WCH/RF/jm
cc: Mr. S. J. Collins, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR (2 copies)