



FirstEnergy Nuclear Operating Company

Perry Nuclear Power Plant  
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December 17, 2012  
L-12-447

10 CFR 50.46

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT:  
Perry Nuclear Power Plant, Unit No.1  
Docket No. 50-440, License No. NPF-58  
Report of Changes Pursuant to 10 CFR 50.46

On November 29, 2012, Global Nuclear Fuel – Americas, LLC (GNF) issued a change in the evaluation model regarding the emergency core cooling system (ECCS) - loss of coolant accident (LOCA) methodology used for the Perry Nuclear Power Plant (PNPP). Pursuant to 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors," FirstEnergy Nuclear Operating Company (FENOC) is notifying the Nuclear Regulatory Commission (NRC) of this change.

The change is associated with a change in ECCS-LOCA analysis -- from the GESTR-LOCA to utilization of the PRIME fuel properties. The estimated result is the PNPP post LOCA peak cladding temperature (PCT) has increased by 20 degrees Fahrenheit (°F).

The attachment contains a summary of the 10 CFR 50.46 changes and errors, including the most recent change, applicable to the GE14 fuel in use at PNPP. The summation of the absolute values of these changes and errors results in a value that meets the definition of a significant change as defined by 10 CFR 50.46(a)(3)(i). Therefore, pursuant to 10 CFR 50.46(a)(3)(ii), NRC notification of the recent error is required within 30 days.

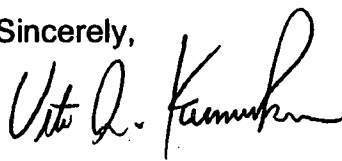
As a result of incorporating this change and previously reported changes and errors, the PNPP PCT is 1570°F and continues to satisfy the 10 CFR 50.46(b)(1) criteria of PCT not to exceed 2200°F .

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The impact on the ECCS evaluation model does not result in any challenge to the 10 CFR 50.46(b) acceptance criteria. This change has been evaluated and there are no other known errors or changes to be evaluated at this time. The overall evaluation model is considered acceptable; therefore, a reanalysis is not required.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 315-6810.

Sincerely,

A handwritten signature in black ink, appearing to read "Vito A. Kaminskas". The signature is fluid and cursive, with the first name "Vito" and last name "Kaminskas" clearly legible.

Vito A. Kaminskas

Attachment:

Perry Nuclear Power Plant 10 CFR 50.46 Changes and Errors

cc: NRC Region III Administrator  
NRC Resident Inspector  
NRC Project Manager

Attachment  
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Vendor Notification Number	Summary of Change/Error	Licensing Basis Peak Clad Temperature (PCT) Impact	Licensee Report of Notification (Accession No.)
2001-02	Impact of SAFER <sup>1</sup> pressure rate inconsistency error.	PCT impact for GE14 fuel is +5 degree Fahrenheit (°F).	ML020710641
2002-01	Impact of SAFER core spray injection elevation error.	PCT impact for GE14 fuel is +15°F.	ML030710170
2002-02	Impact of SAFER bulk water level error.	PCT impact for GE14 fuel is 0°F.	ML030710170
2002-04	Impact of SAFER04 computer platform change.	PCT impact for GE14 fuel is 0°F	ML030710170
2002-05	Impact of error in WEVOL <sup>2</sup> calculation of downcomer free volume.	PCT impact for GE14 fuel is 0°F.	ML030710170
2003-01	Impact of SAFER level/volume table error.	PCT impact for GE14 fuel is +5°F.	ML040710502
2003-03	Impact of SAFER initial steam separator pressure drop error.	PCT impact for GE14 fuel is 0°F.	ML040710502
2003-05	Impact of postulated post-LOCA <sup>3</sup> hydrogen-oxygen recombination.	PCT impact for GE14 fuel is 0°F.	ML040710502
2006-01	Impact of top peaked power shape for small break LOCA analysis.	PCT impact for GE14 fuel is 0°F.	ML062490520 ML070390113
2011-02	Impact of database error for heat deposition for 10X10 fuel bundles.	PCT impact for GE14 fuel is +25°F.	ML112290919
2011-03	Impact of updated formulation gamma heat deposition to channel wall for 10X10 fuel bundles.	PCT impact for GE14 fuel is -40°F.	ML112290919
2012-01	Impact of change in fuel properties from GESTR to PRIME	PCT impact for GE14 fuel is +20°F.	This submittal
<b>TOTAL</b>	Summation of the absolute values of the changes/errors.	<b>110°F</b>	

- Notes: 1. SAFER – Name of the code developed by General Electric Company which calculates long term reactor vessel inventory and peak cladding temperature for LOCA and loss of inventory events.
2. WEVOL – Name of a code that is used to calculate the weight and volume inputs for jet pump plant SAFER analyses.
3. LOCA – Loss of coolant accident.