

Paul Swift
Manager, Nuclear Engineering Services

CENG

a joint venture of



Constellation
Energy



R.E. Ginna Nuclear Power Plant, LLC
1503 Lake Road
Ontario, New York 14519-9364

585-771-5208
585-771-3392 Fax

Paul.Swift@cengllc.com

March 26, 2010

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: **R.E. Ginna Nuclear Power Plant**
Docket No. 50-244

10 CFR 50.46 Annual ECCS Report

References: (a) Westinghouse Letter LTR-LIS-10-94, Subject: 10 CFR 50.46 Annual Notification and Reporting for 2009, dated February 3, 2010

In accordance with the requirements in 10 CFR 50.46 paragraph (a) (3) (ii), this annual Emergency Core Cooling System (ECCS) report is hereby submitted by R.E. Ginna Nuclear Power Plant, LLC (Ginna LLC). Westinghouse, the provider of Loss of Coolant Accident (LOCA) analysis services for the R.E. Ginna Nuclear Power Plant, has provided an update to peak cladding temperature (PCT) margin in Reference (a).

Enclosed please find Attachment 1, "Westinghouse LOCA Evaluation Model Changes," which is the 2009 annual report of corrections to the R.E. Ginna Nuclear Power Plant ECCS Evaluation Models. This report summarizes changes made to both the large break LOCA (LBLOCA) and small break LOCA (SBLOCA) analyses. The "LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets" are enclosed as Attachment 2.

Should you have any questions regarding the information in this letter, please contact Mr. Thomas Harding at (585) 771-5219.

Very truly yours,



Paul Swift

Attachments: (1) Westinghouse LOCA Evaluation Model Changes
(2) LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets

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cc: S. J. Collins, NRC
D. V. Pickett, NRC
Resident Inspector, NRC

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

R.E. Ginna Nuclear Power Plant, LLC

March 26, 2010

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

GENERAL CODE MAINTENANCE (Discretionary Change)

Background

Various changes have been made to enhance the usability of codes and to streamline future analyses. Examples of these changes include modifying input variable definitions, units and defaults; improving the input diagnostic checks; enhancing the code output; optimizing active coding; and eliminating inactive coding. These changes represent Discretionary Changes that will be implemented on a forward-fit basis in accordance with Section 4.1.1 of WCAP-13451.

Affected Evaluation Model(s)

1996 Westinghouse Best Estimate Large Break LOCA Evaluation Model
1999 Westinghouse Best Estimate Large Break LOCA Evaluation Model, Application to PWRs with Upper Plenum Injection
2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM

Estimated Effect

The nature of these changes leads to an estimated PCT impact of 0°F.

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

UPPER PLENUM WETTED PERIMETER OVERPREDICTION (Non-Discretionary Change)

Background

The open hole wetted perimeter above the peripheral assemblies was incorrectly accounted for in the Ginna BELOCA vessel model. The net impact of this change is an over-estimation of the outer global channel wetted perimeter at several elevations at the top of the upper plenum. An evaluation of the impact was performed on the current licensing-basis analysis results. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Model(s)

2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM

Estimated Effect

This error was evaluated to have a negligible impact on the Large Break LOCA analysis results, leading to an estimated PCT impact of 0°F for 10 CFR 50.46 reporting purposes.

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

ERROR IN ASTRUM PROCESSING OF AVERAGE ROD BURNUP AND ROD INTERNAL PRESSURE

(Non-Discretionary Change)

Background

An error was discovered in the processing of the burnup and rod internal pressure inputs for average core rods in ASTRUM analyses. The correction of this error has been evaluated for impact on current licensing-basis analyses and will be incorporated into the ASTRUM method at a future time. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Model(s)

2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM

Estimated Effect

This error was evaluated to have a negligible impact on PCT, leading to an estimated impact of 0°F for 10 CFR 50.46 reporting purposes.

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

DISCREPANCY IN METAL MASSES USED FROM DRAWINGS (Non-Discretionary Change)

Background

Discrepancies were discovered in the use of lower support plate (LSP) metal masses from drawings. The updated LSP metal masses have been evaluated for impact on current licensing basis analysis results and will be incorporated on a forward-fit basis. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Model(s)

SECY UPI WCOBRA/TRAC Large Break LOCA Evaluation Model

1996 Westinghouse Best Estimate Large Break LOCA Evaluation Model

1999 Westinghouse Best Estimate Large Break LOCA Evaluation Model, Application to PWRs with Upper Plenum Injection

2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM

Estimated Effect

The lower support plate mass error is relatively minor and would be expected to have a negligible effect on the Large Break LOCA analysis results, leading to an estimated PCT impact of 0°F for 10 CFR 50.46 reporting purposes.

ATTACHMENT (1)

Westinghouse LOCA Evaluation Model Changes

HOTSPOT GAP HEAT TRANSFER LOGIC (Non-Discretionary Change)

Background

The HOTSPOT code has been updated to incorporate the following changes to the gap heat transfer logic: (1) change the gap temperature from the pellet average temperature to the average of the pellet outer surface and cladding inner surface temperatures; (2) correct the calculation of the pellet surface emissivity to use a temperature in °R (as specified in Equation 7-28 of Reference 1) instead of °F; and (3) revise the calculation of the gap radiation heat transfer coefficient to delete a term and temperature adder not shown in or suggested by Equation 7-28 of Reference 1. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Model(s)

1996 Westinghouse Best Estimate Large Break LOCA Evaluation Model

1999 Westinghouse Best Estimate Large Break LOCA Evaluation Model, Application to PWRs with Upper Plenum Injection

2004 Westinghouse Realistic Large Break LOCA Evaluation Model Using ASTRUM

Estimated Effect

Sample calculations showed a minimal impact on PCT, leading to an estimated effect of 0°F.

Reference(s)

1. WCAP-12945-P-A, Volume 1, Revision 2, "Code Qualification Document for Best Estimate LOCA Analysis, Volume I: Models and Correlations," March 1998.

ATTACHMENT (2)

LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets

R.E. Ginna Nuclear Power Plant, LLC

March 26, 2010

ATTACHMENT (2)

LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets

Westinghouse LOCA Peak Clad Temperature Summary for ASTRUM Best Estimate Large Break

Plant Name: R. E. Ginna
Utility Name: Constellation Generation Group
Revision Date: 1/27/10

Analysis Information

EM: ASTRUM (2004) **Analysis Date:** 3/18/05 **Limiting Break Size:** Split
FQ: 2.6 **FdH:** 1.72
Fuel: 422 Vantage + **SGTP (%):** 10
Notes: Uprate to 1811 MWt (inclusive of calorimetric uncertainty) Effective beginning Cycle 33, Mixed Core OFA & 422 V+

	Clad Temp (°F)	Ref.	Notes
LICENSING BASIS			
Analysis-Of-Record PCT	1870	1	(a)
PCT ASSESSMENTS (Delta PCT)			
A. PRIOR ECCS MODEL ASSESSMENTS			
1. HOTSPOT Fuel Relocation Error	37	2	
B. PLANNED PLANT MODIFICATION EVALUATIONS			
1. None	0		
C. 2009 ECCS MODEL ASSESSMENTS			
1. None	0		
D. OTHER*			
1. None	0		

LICENSING BASIS PCT + PCT ASSESSMENTS PCT = 1907

* It is recommended that the licensee determine if these PCT allocations should be considered with respect to 10 CFR 50.46 reporting requirements.

References:

1. RGE-05-32, "Transmittal of Input to Boron Concentration Increase and LOCA Methodology Change Tech Spec Amendment Submittal," April 2005
2. LTR-LIS-07-388, "10 CFR 50.46 Reporting Text for HOTSPOT Fuel Relocation Error and Revised PCT Rackup Sheets for R. E. Ginna," June 2007.

Notes:

(a) Transition cycles containing OFA fuel are bounded by the analysis for 422 V+ fuel.

ATTACHMENT (2)

LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets

Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Small Break

Plant Name: R. E. Ginna
Utility Name: Constellation Generation Group
Revision Date: 1/27/10

Analysis Information

EM: NOTRUMP **Analysis Date:** 4/21/05 **Limiting Break Size:** 2 inch, Hi Tavg
FQ: 2.6 **FdH:** 1.72
Fuel: 422 Vantage + **SGTP (%):** 10
Notes: Uprate to 1811 MWt (inclusive of calorimetric uncertainty), Effective beginning Cycle 33, Mixed Core OFA & 422 V+

	Clad Temp (°F)	Ref.	Notes
LICENSING BASIS			
Analysis-Of-Record PCT	1167	1	(a)
PCT ASSESSMENTS (Delta PCT)			
A. PRIOR ECCS MODEL ASSESSMENTS			
1. None	0		
B. PLANNED PLANT MODIFICATION EVALUATIONS			
1. None	0		
C. 2009 ECCS MODEL ASSESSMENTS			
1. None	0		
D. OTHER*			
1. None	0		

LICENSING BASIS PCT + PCT ASSESSMENTS PCT = 1167

* It is recommended that the licensee determine if these PCT allocations should be considered with respect to 10 CFR 50.46 reporting requirements.

References:

1. RGE-05-32, "Transmittal of Input to Boron Concentration Increase and LOCA Methodology Change Tech Spec Amendment Submittal," April 2005

Notes:

- (a) Transition cycles containing OFA fuel are bounded by the analysis for 422 V+ fuel.