

AmerGen

An Exelon/British Energy Company

Clinton Power Station

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RS-01-257

November 8, 2001

10 CFR 50.46

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

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Annual Report of Emergency Core Cooling System Evaluation Model Changes
and Errors for Clinton Power Station

In accordance with 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," paragraph (a)(3)(ii), AmerGen Energy Company, LLC (i.e., AmerGen) is submitting the annual report of the Emergency Core Cooling System (ECCS) Evaluation Model changes and errors for Clinton Power Station (CPS), Unit 1. This report covers the period from November 13, 2000 through November 8, 2001.

Should you have any questions concerning this letter, please contact Mr. T. A. Byam at (630) 657-2804.

Respectfully,



K. A. Ainger
Director – Licensing
Mid-West Regional Operating Group

Attachment: Clinton Power Station, Unit 1, 10 CFR 50.46 Report

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Clinton Power Station

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PLANT NAME: Clinton Power Station Unit 1
ECCS EVALUATION MODEL: SAFER/GESTR - LOCA
REPORT REVISION DATE: 11/08/01
CURRENT OPERATING CYCLE: 8

ANALYSIS OF RECORD

Evaluation Model Methodology: The GESTR-LOCA and SAFER Model for the Evaluation of the Loss-of-Coolant Accident; Volume III, SAFER/GESTR Application Methodology, NEDC-23785-1-PA, General Electric Company, October 1984.

Calculation: Clinton Power Station, SAFER/GESTR-LOCA Analysis Basis Documentation, NEDC-32974P, GE Nuclear Energy, October 2000.

Fuel: GE 10 and GE 14

Limiting Fuel: GE 14

Limiting Single Failure: High Pressure Core Spray (HPCS) Diesel Generator

Limiting Break Size and Location: 1.0 Double Ended Guillotine of Recirculation Pump Suction Piping

Reference Peak Cladding Temperature (PCT): 1550°F

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

10 CFR 50.46 report dated November 13, 2000 (See Note 1)	$\Delta PCT = 0^{\circ}F$
Net PCT	1550 °F

B. CURRENT LOCA MODEL ASSESSMENTS

SAFER Pressure Rate Inconsistency Error (See Note 2)	$\Delta PCT = 5^{\circ}F$
Total PCT change from current assessments	$\Sigma \Delta PCT = 5^{\circ}F$
Cumulative PCT change from current assessments	$\Sigma \Delta PCT = 5^{\circ}F$
Net PCT	1555 °F

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Notes:

1. The referenced letter reported a new analysis of record, therefore there is no PCT change.

Reference: Letter from M. A. Reandeau (AmerGen Energy Company, LLC) to USNRC, "Report of a Change to the ECCS Evaluation Model Used for Clinton Power Station (CPS)," November 13, 2000.

2. SAFER Pressure Rate Inconsistency Error.

An inconsistent core exit steam flow was used in the pressure calculation in the SAFER code when there is a change in the two-phase level. The incorrect calculated pressure may result in premature termination of ECCS condensation and will impact the second PCT. GE evaluated the impact of this error and determined that the impact is an increase of 5 °F in the peak clad temperature (PCT).

References:

Letter from C. P. Collins (Global Nuclear Fuel) to K. Donovan (Exelon), "10 CFR 50.46 Notification – SAFER Pressure Error – 2001-02 – Exelon," CPC: 01-044 dated May 10, 2001.

10 CFR 50.46 Notification Letter 2001-02, "Impact of SAFER Pressure Rate Inconsistency Error on the Peak Clad Temperature (PCT)." Issued by G. A. Watford of Global Nuclear Fuel Fuel Engineering Services, no date.