



October 21, 1999

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Supplement to 30-Day Report of an Emergency Core Cooling System Evaluation Model Error Required by 10 CFR 50.46

- References:
- (1) Westinghouse Electric Company letter to USNRC, "Interim Report of an Evaluation of a Deviation or Failure to Comply Pursuant to 10 CFR 21.21(a)(2)," dated December 22, 1998.
 - (2) Westinghouse Electric Company letter to USNRC, "Update and Schedule Revision Regarding Westinghouse Interim Report No. 98-029," dated June 29, 1999.
 - (3) R. M. Krich (ComEd) letter to USNRC, "30-Day Report of an Emergency Core Cooling System Evaluation Model Error Required by 10 CFR 50.46," dated July 30, 1999.

Westinghouse Electric Company, in Reference 1, initially reported an Emergency Core Cooling System (ECCS) Evaluation Model error for Byron and Braidwood Stations to the NRC pursuant to 10 CFR 21, "Reporting of Defects and Noncompliance." Westinghouse provided a status update in Reference 2. We received notification from Westinghouse on June 30, 1999,

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of their discovery of the ECCS Evaluation Model error (i.e., LOCBART Zirc-Water Oxidation error) and its potential impact.

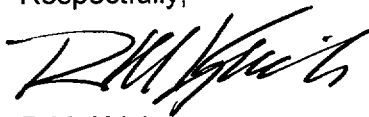
In accordance with 10 CFR 50.46(a)(3)(ii), we submitted a 30-day report (Reference 3) following the discovery of an ECCS Evaluation Model error which could potentially result in a greater than 50°F change in calculated Peak Cladding Temperature (PCT) for the limiting Large Break Loss of Coolant Accident (LBLOCA) analysis, and which could potentially result in exceeding the 10 CFR 50.46 acceptance criterion of 2200°F for PCT for Byron and Braidwood Stations. The purpose of this letter is to inform you that we received notification on September 17, 1999, that Westinghouse has judged that the LOCBART Zirc-Water Oxidation error would have resulted in a greater than 50°F change in calculated PCT for the limiting LBLOCA analysis and the 10 CFR 50.46 acceptance criterion of 2200°F for PCT would have been exceeded for Byron and Braidwood Stations unless attenuated by the peaking factor (i.e., F_q) decrease or burnup increase.

As discussed in Reference 3, preliminary LBLOCA scoping studies performed by Westinghouse indicate that PCT results are acceptable when fuel assembly average burnup levels are greater than 4000 MWD/MTU or when the total peaking factor (F_q) is less than 2.45 for beginning of life conditions. We confirmed that all assembly average burnups for Byron Station Unit 2 and Braidwood Station Unit 1 are beyond 4000 MWD/MTU. The Core Operating Limits Report limit for the monthly surveillance of F_q has been reduced from 2.6 to 2.45 for Byron Station Unit 1 and Braidwood Station Unit 2. However, as a result of the reanalysis performed by Westinghouse, Byron Station Unit 1 and Braidwood Station Unit 2 can operate with an F_q value of 2.5 and still meet the 10 CFR 50.46 acceptance criterion of 2200°F for PCT. Once all assembly average burnups for Byron Station Unit 1 and Braidwood Station Unit 2 are greater than 4000 MWD/MTU, there is no requirement for an F_q reduction. As discussed in Reference 3, the current operating cycles for Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2, were designed with an F_q value less than 2.45, thereby satisfying the 2.5 criterion for F_q .

Based on the above evaluations and compensatory measure, we conclude that the Byron and Braidwood Stations can continue to operate without further restriction and still meet the 2200°F PCT acceptance criterion.

Should you have any questions concerning this letter, please contact Ms. K. M. Root at (630) 663-7292.

Respectfully,



R.M. Krich
Vice President - Regulatory Services

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Braidwood Station
NRC Senior Resident Inspector – Byron Station