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SUBJECT: Submits response to NRC 970501 request for addl info re
 960711 submittal requesting 5% thermal power uprate on Unit
 2. RAI involved impact of uprating on component cooling water
 & radwaste sys.

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Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1395



June 10, 1997

AEP:NRC:1223C

Docket Nos.: 50-316

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

Gentlemen:

Donald C. Cook Nuclear Plant Unit 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING POWER UPRATE AND RELATED CHANGES

This letter and its attachments constitute a response to the May 1, 1997, NRC request for additional information concerning our July 11, 1996, submittal (AEP:NRC:1223) requesting a 5% thermal power uprate on unit 2. The request for additional information involved the impact of the uprating on component cooling water and radioactive waste systems.

Attachment 1 is a June 6, 1997, letter from Westinghouse to Dr. Vance Vanderburg, which serves as our response to question number 1. Attachment 2 is our response to question number 2.

This letter is submitted pursuant to 10 CFR 50.30(b) and, as such, includes an oath statement.

Sincerely,

A handwritten signature in cursive script, appearing to read 'E. E. Fitzpatrick'.

E. E. Fitzpatrick
Vice President

SWORN AND SUBSCRIBED BEFORE ME

THIS 10 DAY OF June 1997
A handwritten signature in cursive script, appearing to read 'Janice M. Bickers'.
Notary Public

My Commission Expires 2/16/2001

vlb

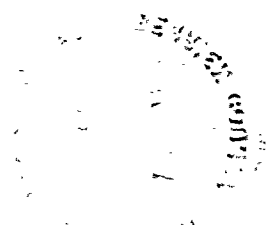
JANICE M. BICKERS
Notary Public, Berrien County, MI
My Commission Expires Feb. 16, 2001

Attachments

c: A. A. Blind
A. B. Beach
MDEQ - DW & RPD
NRC Resident Inspector
J. R. Padgett

9706170229 970610
PDR ADOCK 05000316
P PDR





ATTACHMENT 1 TO AEP:NRC:1223C

RESPONSE TO QUESTION NO. 1
(REQUEST FOR ADDITIONAL INFORMATION
REGARDING POWER UPRATE AND RELATED CHANGES

Question No. 1

"It is stated in Attachment 7 of the July 11, 1996, submittal that Westinghouse's uprating evaluation has shown that the component cooling water system (CCW) flows provided by AEP are acceptable with Unit 2 operating at the uprated conditions. Therefore, no changes to the CCW system are required due to uprating. We have reviewed Westinghouse topical Report, WCAP-14489, "Donald C. Cook Nuclear Plant Unit 2 3600 MWt Uprating Program Licensing Report," but have not been able to locate Westinghouse's evaluation of the impact of plant operations at the proposed power level on CCW. Please provide information to clarify, or provide evaluation to demonstrate, that Unit 2 operations at the proposed uprated power level will have an insignificant or no impact on the CCW system."

Response to Question No. 1

Please see response contained in the following letter dated June 6, 1997, from Westinghouse to Dr. Vance Vanderburg, confirming that the CCW flows are acceptable with unit 2 operating at the uprated conditions.



AEP-97-095, Rev. 2

Westinghouse
Electric Corporation

Energy Systems

Nuclear Services Division

Box 355
Pittsburgh Pennsylvania 15230-0356

Dr. Vance VanderBurg
American Electric Power
500 Circle Drive
Büchanan, Michigan 49107

NSD-NT-ESI-97-317, Rev. 2

June 06, 1997

AMERICAN ELECTRIC POWER
DONALD C. COOK NUCLEAR PLANT UNIT 2
WCAP-14489, "Donald C. Cook Nuclear Plant Unit 2 3600MWt
Upgrading Program Licensing Report," RAI

Dear Dr. VanderBurg:

As part of the Donald C. Cook Nuclear Plant Unit 2 Upgrading Program, Westinghouse used AEP supplied Containment Cooling Water (CCW) Systems data to perform LOCA Long Term Mass and Energy Release and Containment Integrity Analyses as well as Residual Heat Removal cool down calculations. These analyses are documented in WCAP-14489, "Donald C. Cook Nuclear Plant Unit 2 3600MWt Upgrading Program Licensing Report."

In order to complete the LOCA Long Term Mass and Energy Release and Containment Integrity Analyses to support the power uprate, detailed system description information was modeled with respect to the Essential Service Water (ESW) and Component Cooling Water (CCW) systems. The system input information was supplied by AEP. The ESW and CCW system model assumptions included, but were not limited to such items as an ESW temperature of 87.5 °F, flowrates and UAs respective of the upgrading power conditions. With respect to the use of this information, the calculated containment peak pressure was 11.66 psig. The containment design pressure is 12.0 psig. Thus, based on the modeling assumptions for the ESW, and CCW related systems, the containment response results were acceptable for containment integrity pressure and temperature response.

As a supplement to the containment pressure and temperature response results completed for the power uprate program to assist AEP with CCW cooldown analysis, Westinghouse calculated and provided temperatures and heat loads for the containment spray and residual heat removal exchangers for various time intervals in the containment response transient. This effort was provided to AEP.

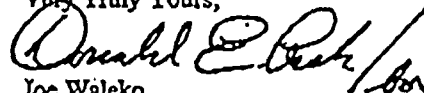
The CCW flow rates were also used as input to the RHR cool down calculations performed as part of the upgrading program. The results of the RHR cool down calculation demonstrate that the RHR system is capable of cooling the plant within the licensing requirement of 36 hours of a reactor shutdown.

NSD-NT-ESI-97-317, Rev. 2
AEP-97-095, Rev. 2
June 06, 1997

Based on the above analyses and calculation, it was determined that the CCW flows used in the uprating program are acceptable with the Donald C. Cook Nuclear Plant Unit 2 operating at the uprated conditions.

Should you have any questions, please contact Mr. Don Peck (412-374-5683) or me.

Very Truly Yours,

A handwritten signature in dark ink, appearing to read "Joe Waleko", with a stylized flourish at the end.

Joe Waleko
Account Manager
North American Field Sales

DEP/bbp

cc: Andre Feliciano - AEP

ATTACHMENT 2 TO AEP:NRC:1223C

RESPONSE TO QUESTION NO. 2
REQUEST FOR ADDITIONAL INFORMATION
REGARDING POWER UPRATE AND RELATED CHANGES

Question No. 2

"It is stated in attachment 7 of the July 11, 1996, submittal that the design of the waste disposal system, as described in the UFSAR, is not affected by the uprating of unit 2. However, it is not clear that the existing design of the radwaste (liquid, solid, and gaseous) systems is based on a core power level which bounds the proposed core power level of 3588 MWt. Please provide information to clarify, or provide evaluation to demonstrate, that plant operations at the proposed uprated power level will have an insignificant or no impact on the radwaste systems."

Response to Question No. 2

The impact on the radioactive waste systems will be minimal. There will be a small impact on the water processing wastes, resins, and filters. The impact on the other waste systems, such as the dry active waste and gaseous and liquid effluents, will be negligible because the effluents are far below the regulatory limits, and the dry active waste contains little radioactivity. Each of the impacts on the waste streams is explained more fully below.

An increased power level of 5% will lead to a proportional increase in the activation of the impurities in the reactor coolant. The reactor coolant cleanup system uses resins and filters to remove the impurities from the coolant. These resins and filters are changed out either on radiation levels or prior to major plant evolutions so as not to impact the plant at an inconvenient time (e.g., the resins were changed out in January 1997, so as not to impact the schedule or resources during the unit 1 outage at the end of February 1997). It could be expected that the volume of waste may be as much as 5% greater if the resins and filters are changed out on radioactivity. Prior to improvements in the fuel design and chemistry control, the curie content in the reactor coolant system was higher than 105% of today's nominal values. The systems used to clean up the reactor coolant will be unchanged. The equipment and procedures used to handle the change-out and preparation of the waste will remain the same, so the impact will be negligible.

The liquid and gaseous effluents from the plant will continue to be processed and monitored in the same manner after the uprate. The sources for the effluents are varied, but because of the systems already in place to process the radioactivity, there will be less than a 5% increase in the amount of radioactivity released in the plant effluents. In addition, the amount of radioactivity released from the plant is already a small fraction of the limits allowed in 10 CFR 20. In 1996, the liquid and gaseous effluents from the plant were less than 1% and 0.1%, respectively, of the limits established in 10 CFR 20. Even if the radioactivity released in effluents is increased by 5%, the doses are expected to still be less than 1% and 0.1%, respectively, for liquid and gaseous effluents. The additional radioactivity will not impact the systems or alter the plant effluents in a significant manner.

Dry active waste is created when materials come in contact with the contamination that originates in the core. The radioactivity could increase as much as 5%, but the sources of the contamination would be unchanged because of the uprate, and the number of articles that become contaminated will remain the same. The amount of

radioactivity on these articles is already very small and their overall effect is expected to be negligible. No additional dry active waste volume is expected because of the uprate.