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 submittal AEP:NRC:1223.

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August 27, 1997

AEP:NRC:1223F

Docket No.: 50-316

U. S. Nuclear Regulatory Commission  
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Gentlemen:

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

This letter and its attachment constitute a response to the July 24, 1997, NRC request for additional information regarding our July 11, 1996, 5% thermal power uprate submittal AEP:NRC:1223. The request for additional information primarily involves the impact of the uprating on the instrument set points.

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

Sincerely,

E. E. Fitzpatrick  
Vice President

SWORN AND SUBSCRIBED BEFORE ME

THIS 27th DAY OF AUGUST 1997  
  
JANET K. DYKSTRA  
Notary Public

JANET K. DYKSTRA  
NOTARY PUBLIC - BERRIEN COUNTY, MI  
MY COMMISSION EXPIRES 07/01/00

My Commission Expires 07/01/00

vlb

Attachment

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

9709040278 970827  
PDR ADDCK 05000316  
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ATTACHMENT TO AEP:NRC:1223F

REQUEST FOR ADDITIONAL INFORMATION  
REGARDING POWER UPRATE AND RELATED CHANGES RESPONSE

NRC Question

"In order to assure that the revised instrument set points are well within the safety limits, please provide the following information for each changed instrument set point:

Part 1

"Change in the set point;"

Response to Part 1

Four instrument setpoint changes were proposed in the Cook Nuclear Plant unit 2 uprate submittal. These are OTAT, safety injection on pressurizer pressure low, safety injection on steam line pressure low, and steam line isolation on steam line pressure low. The submittal also includes a proposal to change the OPAT setpoint allowable value. The change for each setpoint is indicated in the following list as an ordered pair, with the current value first and the proposed value second for each setpoint, or in the case of OTAT, for each changed parameter or coefficient.

Maximum T'	576.0° F, 581.3° F
Maximum P'	2235 psig, 2235 psig, or 2085 psig
Tau 1	28 secs, 22 secs
K1	1.09, 1.17
K2	0.01331, 0.0268
K3	0.00058, 0.00111
Low $\Delta I$ Break point	-33%, -16%
Low $\Delta I$ Penalty Slope	3.5%/%, 2.05%/%
High $\Delta I$ Penalty Slope	1.0%/%, 2.7%/%
SI on pressurizer pressure low	1900 psig, 1815 psig
SI on steam line pressure low	600 psig, 500 psig
Steam line isolation on steam line pressure low	600 psig, 500 psig

Part 2

"Calculated worst case drift and page reference to the calculation that covers the drift including uncertainty calculation where applicable;"

Response to Part 2

When performing uncertainty calculations for setpoints, 2 drift terms are utilized: a drift term associated with the instrument sensor (transmitter, resistance temperature detector, etc.), and a drift term associated with the instrument rack.

For transmitter sensors, the drift term utilized in the uncertainty calculations is 1% of span and is considered a bounding value for the transmitters installed at Cook Nuclear Plant. This is the value that was used in the uncertainty calculations performed for the safety injection (SI) on pressurizer pressure low, SI on steam line pressure low, and steam line isolation on steam line pressure low setpoints.

To assure that the transmitters associated with the pressurizer pressure and steam line pressure instrument loops are bounded by the 1% drift term, a statistical analysis was performed on as-found/as-left calibration data that has been collected since the installation of the new Foxboro Spec 200 Protection System (Circa 1994). The statistical analysis confirmed that the drift value for these transmitters is bounded by the 1% value utilized in the uncertainty calculations.

For the RTD sensors associated with the OPAT and OTAT setpoint uncertainty calculations, a drift term of 0.73° F (or 0.72% of span) is utilized. This value has been provided by Westinghouse and is considered a bounding value.

The bounding value for the rack drift term is 1% of span. This value has been substantiated to be a bounding value for the instrument racks installed at Cook Nuclear Plant by Westinghouse.

### Part 3

"Allowable value; and"

### Response to Part 3

The proposed changes in allowable values are indicated as ordered pairs with the current value first and the proposed value second for each setpoint in a format similar to that used to address item 1.

OTAT	1.3% span, 3.75% span
OPAT	3.0% span, 2.59% span
SI on pressurizer	
pressure low	1890 psig, 1805 psig
SI on steam line	
pressure low	585 psig, 480 psig
Steam line isolation on	
steam line pressure low	585 psig, 480 psig

### Part 4

"Safety limit and page reference to the document that specifies the safety limit."

### Response to Part 4

The safety limits are found in attachment 6 to our July 11, 1996, submittal. Attachment 6 is WCAP-14489. The page references to the safety limits in WCAP-14489 are as follows in a format similar to that used to address items 1 and 3.

OTAT	K1 = 1.37, Table 3.3-4, page 3.3-30
OPAT	K4 = 1.17, Table 3.3-4, page 3.3-30
SI on pressurizer pressure low	1715 psia, Table 3.1-3, page 3.1-17 for LBLOCA* 1715 psia, Table 3.1-13, page 3.1-28 for SBLOCA* 1700 psig, Table 3.3-3, page 3.3-29
SI on steam line pressure low	344 psig, Table 3.3-3, page 3.3-29
Steam line isolation on steam line pressure low	344 psig, Table 3.3-3, page 3.3-29**

\*Values from RTSR Analysis Tables were used for all analyses.

\*\*Table 3.3-3 indicates "not applicable" for this function. It was confirmed with the Westinghouse analyst that this means the LOFTRAN model uses the same setpoint for safety injection and steam line isolation. Therefore, 344 psig is the correct value.

