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 AUTH. NAME AUTHOR AFFILIATION  
 HUNTER, R.S. Indiana & Michigan Electric Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 DENTON, H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards revised pages correcting errors in 801210 submittal  
 re auxiliary feedwater sys automatic initiation & flow  
 indication.

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P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

January 23, 1981

AEP:NRC:00307F

Donald C. Cook Nuclear Plant Units 1 & 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
Auxiliary Feedwater System Automatic Initiation and Flow Indication

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Denton:

This letter transmits two (2) revised pages, correcting errors of an administrative nature, in the attachment to our letter dated December 10, 1980 (AEP:NRC:00307E). The revisions are indicated by bars on the right hand margin and have been discussed with members of your staff. The revised pages should be inserted into the attachment to our AEP:NRC:00307E submittal, replacing the corresponding pages which are to be discarded.

On page 1 of the attachment to AEP:NRC:00307E, item B.iv), the words in brackets "(either Unit)" have been deleted since this was inadvertently carried over from the time when the operation of the motor driven auxiliary feedwater pumps was shared by both Units. The motor driven pumps do start automatically from the initiation signals within their own Unit.

On page 2, in the response to item 2, the last sentence has been revised to correctly indicate that the BOP inverter is an emergency load for the surveillance testing of the safety-related station battery per Table 4.8-1 of our Technical Specifications. Operability of the safety related station batteries is required by the Technical Specifications and not of the BOP inverter as the original sentence might have implied.

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Mr. Harold R. Denton, Director

-2-

AEP:NRC:00307F

We hope that this has not caused any inconvenience in your staff's review efforts on this matter.

Very truly yours,

A handwritten signature in dark ink, appearing to read "R. S. Hunter", with a stylized flourish extending to the right.

R. S. Hunter  
Vice President

cc: R. C. Callen  
G. Charnoff  
John E. Dolan  
R. W. Jurgensen  
D. V. Shaller - Bridgman  
Region III Resident Inspector at Cook Plant - Bridgman

ATTACHMENT TO AEP:NRC:0307E

These responses are in the same format as the enclosure to Mr. S. A. Varga's October 31, 1980 letter.

Response To Item 1:

The operating bypasses associated with the automatic initiation logic are as follows:

A. Turbine Driven Auxiliary Feedwater Pump (TDAFP):

There are no bypasses in the TDAFP logic which prevent automatic initiation.

B. Motor Driven Auxiliary Feedwater Pumps (MDAFP):

The MDAFP's are automatically started by:

- i) low-low steam generator water level in any one of the four steam generators,
- ii) undervoltage of RCP bus (2/4 logic),
- iii) any safety injection actuation signal derived from:
  - a. pressurizer pressure - low,
  - b. differential pressure between steam lines - high,
  - c.i. steam flow in two steam lines - high coincident with either Tavg-low-low or coincident with steam line pressure-low (Unit 1 only),
  - c.ii. steam line pressure - low (Unit 2 only),
  - d. containment pressure - high, and
  - e. manual
- iv) blackout safeguards sequence
- v) loss of main feedwater pumps

There are two (2) bypasses in the MDAFP automatic initiation logic:

1. The P-11 interlock in the Reactor Protection System (RPS) logic is used to allow the manual block of the safety injection actuation signal generated from pressurizer pressure-low. This interlock is reset automatically when pressurizer pressure goes above 1915 psig for Unit 1 and 2010 psig for Unit 2.
2. The P-12 interlock in the RPS logic is used to allow the manual block of the safety injection actuation signal generated from; (a) steam flow in two steam lines-high coincident with steam line pressure-low, in Unit 1 and (b) steam line pressure-low, in Unit 2. This interlock (both Units) is reset automatically when primary system temperature is above the Tavg-low-low setpoints of 541OF.

The remaining signals which generate a safety injection actuation (which in turn automatically initiates the MDAFP starting) and the other automatic MDAFP start signals listed above do not have bypasses in the auxiliary feedwater initiation logic.

Response To Item 2:

The auxiliary feedwater flow indicators, FFI-210, FFI-220, FFI-230 and FFI-240 are fed from the balance-of-plant inverter in each unit (non-class IE). This is an uninterruptable power source which is fed from the CD battery of Unit 1 and the AB battery of Unit 2 (safety related station battery). One instrument channel per steam generator is provided. The flow indication instruments are located on Panel SG in the main control room and on the appropriate hot shutdown panel for each unit. Also, each pump has a discharge pressure indicator in the control room, FPI-244, FPI-253, FPI-254. The pressure indicators are powered from the same source as the flow indicators (FFI's). The BOP inverter is an emergency load for the safety related station battery per the surveillance requirements of Technical Specification 3/4.8.2.3.

Response To Item 3:

The steam generator level measurement systems are all supplied from the vital instrument buses which are Class IE uninterruptable power sources. There are 4 independent vital instrument buses, Channels 1, 2, 3 and 4.

The level instrumentation for the Steam Generators is tabulated below:

A. Steam Generator No. 1

BLP-110, Channel 4 Indicator  
BLP-111, Channel 2 Indicator-Recorder