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 RECIP. NAME: RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Provides response to Generic Ltr 89-19 re A-47: safety implications of control sys in LWR nuclear power plants.

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Donald C. Cook Nuclear Plant Units 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
GENERIC LETTER 89-19, ISSUE A-47: SAFETY IMPLICATIONS  
OF CONTROL SYSTEMS IN LWR NUCLEAR POWER PLANTS

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

Attn: T. E. Murley

March 20, 1990

Dear Dr. Murley:

The following information is provided in response to Generic Letter 89-19. Generic Letter 89-19 recommends that licensees with light water reactor (LWR) nuclear power plants provide an automatic steam generator overfill protection system. The purpose of this system is to prevent water carryover into the main steam lines.

Both Cook Nuclear Plant units have an automatic steam generator overfill protection system, designed by Westinghouse that meets the design and functional testing criteria described in Section 2a and 2b of Enclosure 2 of the generic letter. This overfill protection system has been in operation since the initial startup of each unit. Upon high water level in a steam generator, the steam generator overfill protection system will initiate a trip of the main feedwater pumps (and the main feedwater pumps discharge isolation valves) and close both the main feedwater regulation valves and the main feedwater isolation valves. Our design is based on automatic initiation when two-out-of-three high steam generator level signals are present. The three high steam generator level signals provide input into two protection logic trains. Output signals from each protection train trip redundant main feedwater regulation valve solenoids thereby ensuring closure of these valves. In addition, the steam generator overfill protection signals trip the main feedwater pumps (and the main feedwater pumps discharge isolation valves) and the main feedwater isolation valves. The portion of the overfill protection system from the level sensors through the valve trip signals are safety grade, physically separated between trip channels and between trains. Each channel and each train are powered by independent IE power sources.

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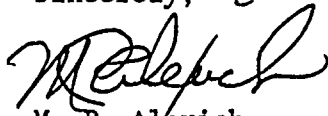
In addition, manual action can be initiated which could close the main feedwater regulating and isolation valves, and trip the main feedwater pumps and their discharge isolation valves.

Technical Specification Section 3/4.3.2, "Engineered Safety Feature Actuation System Instrumentation," requires channel checks, channel calibrations and channel functional tests to be performed at defined intervals to the safety grade portions of the instrument channels. This verifies the operability of the instrument channels. Appropriate plant procedures are in place to perform the surveillance required by the above mentioned technical specifications. The plant's Technical Specifications also require appropriate limiting conditions of operation for the steam generator overfill protection system channels.

In conclusion, we believe that Cook Nuclear Plant has a steam generator overfill protection system that would automatically prevent water carryover into the steam lines even if the steam generator water level control system partially or completely failed.

This letter is submitted pursuant to 10 CFR 50.54(f) and, as such, an oath statement is enclosed.

Sincerely,



M. P. Alexich  
Vice President

ldp

Attachment

cc: D. H. Williams, Jr.  
A. A. Blind - Bridgman  
R. C. Callen  
G. Charnoff  
A. B. Davis - Region III  
NRC Resident Inspector - Bridgman  
NFEM Section Chief

STATE OF OHIO)  
COUNTY OF FRANKLIN)

Milton P. Alexich, being duly sworn, deposes and says that he is the Vice President of licensee Indiana Michigan Power Company, that he has read the forgoing Response to Generic Letter 89-19, Issue A-47: Safety Implications of Control Systems in LWR Nuclear Power Plants and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

M. Alexich

Subscribed and sworn to before me this 20th

day of March, 1990.

Rita D. Hill  
NOTARY PUBLIC

RITA D. HILL  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 6-28-94

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