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 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316  
 AUTH. NAME AUTHOR AFFILIATION  
 FITPATRICK, E. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele  
 RECIP. NAME RECIPIENT AFFILIATION  
 Document Control Branch (Document Control Desk)

SUBJECT: Submits response to violations noted in Insp Repts  
 50-315/94-07 & 50-316/94-07. Corrective actions: seal leakoff  
 problems led to raising CCW temp corrected during Unit 1  
 1994 refueling outage.

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AEP:NRC:1212D

Donald C. Cook Nuclear Plant Units 1 and 2  
Docket Nos. 50-315 and 50-316  
License Nos. DPR-58 and DPR-74  
NRC INSPECTION REPORT NOS. 50-315/94007 (DRS); 50-316/94007 (DRS)  
REPLY TO NOTICE OF VIOLATION

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

Attn: Mr. J. B. Martin

June 21, 1994

Dear Mr. Martin:

This letter is in response to a USNRC letter dated May 27, 1994, that forwarded a notice of violation to Indiana Michigan Power Company. The notice of violation contained a violation identified during an inspection conducted by Messrs. K. Salehi and C. Gill from April 11 through April 22, 1994. The violation is associated with the operating temperature of the Component Cooling Water (CCW) system.

Our reply to the notice of violation is provided in the attachment to this letter.

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

Sincerely,

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

E. E. Fitzpatrick  
Vice President

dr

Attachment

cc: A. A. Blind  
G. Charnoff  
W. T. Russell, NRC - Washington, D.C.  
NRC Resident Inspector  
NFEM Section Chief  
J. R. Padgett

9406290336 940621  
PDR ADDCK 05000315  
Q PDR

JE01

STATE OF OHIO)  
COUNTY OF FRANKLIN)

E. E. Fitzpatrick, 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 NRC INSPECTION REPORT NOS. 50-315/94007 (DRS); 50-316/94007 (DRS) REPLY TO NOTICE OF VIOLATION and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

E. E. Fitzpatrick

Subscribed and sworn to before me this 21<sup>st</sup>  
day of June, 19 94.

[Signature]  
NOTARY PUBLIC  
Commission expires 3-9-96

ATTACHMENT TO AEP:NRC:1212D

REPLY TO NOTICE OF VIOLATION

### Background

A routine safety inspection was conducted by Messrs. C. Gill and K. Salehi from April 11 through April 22, 1994. The inspection was to determine if design changes, engineering support, and corrective actions were effectively controlled and implemented. The inspection identified one violation. The violation was for failure to perform a required safety evaluation of a proposed change in the facility, as described in the Updated Final Safety Analysis Report (UFSAR), to ascertain whether the proposed change involved an unreviewed safety question. The violation is that the UFSAR temperature of 95°F for the Component Cooling Water (CCW) supply was authorized to be increased to 105°F for Unit 1 by the Operations Department Superintendent without a required safety evaluation and without a revision to the CCW operating procedure, which specified a 95°F limitation. Subsequently, the CCW supply temperature increased to 110°F during a transient induced by intermittent boric acid evaporator operation on January 27 and 28, 1994. A contributing factor to exceeding CCW specified supply temperature was the failure of the operations department to reset the CCW supply (heat exchanger outlet) temperature alarm setpoint from 95°F to 105°F.

This violation was set forth in a letter containing the notice of violation dated May 27, 1994, from Mr. Mark A. Ring, Chief, Operations Branch. The letter was received June 6, 1994. Our response to the notice of violation is contained within this document.

### NRC Violation

"10 CFR 50.59 requires, in part, that changes made to the facility as described in the safety analysis report be evaluated in accordance with 50.59(a) to determine, in part, if an unreviewed safety question exists.

Section 9.5.3 of the D. C. Cook Nuclear Plant Updated Safety Analysis Report (USAR) states that the Component Cooling Water (CCW) system component design data are listed in Table 9.5-3. Table 9.5-3 states that the shell side CCW heat exchanger outlet design water temperature is 95°F.

Contrary to the above, the Unit 1 CCW heat exchanger outlet water temperature as described in Table 9.5-3 of the USAR was authorized to be exceeded, and was actually exceeded, on January 27, 1994, without the required evaluation to determine if an unreviewed safety question existed. Specifically, the Operations Department Superintendent authorized increasing the temperature limit to 105°F at 1915 hours on January 27, 1994, and subsequently the operator increased the temperature above 95°F. The temperature was allowed to increase to 110°F.

This is a Severity Level IV violation (Supplement I)."

### Response to Violation

In the cover letter to the notice of violation the NRC requested that we address in our response the safety significance of the event, the identified concerns and contributing factors, and the conclusions of an ongoing root cause team investigation. The following provides the requested information:

### Safety Significance

The operation at 105°F with subsequent CCW supply temperatures as high as 110°F because of a transient induced by intermittent boric acid evaporator operation on January 27 and 28, 1994 was of no safety significance. The maximum Component Cooling Water (CCW) temperature for the Donald C. Cook Nuclear Plants Unit 1 and 2 is 120°F for Westinghouse supplied equipment. The reactor coolant pump thermal barriers are the limiting component for the CCW maximum temperature, and the limiting modes of operation occur during the plant cooldown or post-LOCA. The other Westinghouse supplied components have limits greater than 120°F.

### Concerns and Contributing factors

There were two concerns and two contributing factors identified in the NRC cover letter. The concerns are: 1) the authorization by the Operations Department Superintendent to increase CCW temperature from the 95°F to 105°F without a required safety evaluation and without a revision to the CCW operating procedure; and 2) the subsequent CCW supply temperature increased to 110°F during a transient induced by intermittent boric acid evaporator operation. The two contributing factors identified in the NRC cover letter are: 1) inadequate communications between the CCW system engineer and the operations department; and 2) failure of the operations department to reset the CCW supply temperature alarm setpoint from 95°F to 105°F.

The Operations Department Superintendent authorization to increase CCW temperature above the temperature of 95°F was made in response to an RCP seal leakoff concern and was not based on direction received through a formal process. The authorization did not result in an unsafe condition; however, it was not within the established plant controls for performance of such an activity. The NRC states the contributing factor to this can be attributed to inadequate communications. The Operations Department, the System Engineer and the Columbus Engineering staff discussed the ability of the system to operate at a higher temperature, however none of the parties recognized the need for a safety review, before allowing the CCW system to be operated above 95°F. This issue will be addressed through the development of an instruction to establish controls on technical guidance.

The CCW supply temperature increase to 110°F during a transient induced by intermittent boric acid evaporator operation resulted from the failure of the procedure governing the actions required for blocked alarms to address a situation where conditions which cause a standing High/Low alarm are intentionally created. The guidance for blocked alarms will be revised to cover such conditions.

#### Conclusions of Root Cause Team Investigation

As referenced in section 2.3 of inspection report 50-315/94007 (DRS); 50-316/94007 (DRS) Condition Report No. 94-0779 was initiated to investigate the concerns and take corrective actions as needed based on unresolved item 315/94002-12 (DRP). The investigation was not confined to the specific CCW concerns but included relative related events beginning with the September 1993 RCP-14 lower oil pot annunciator alarm.

The root cause investigation was conducted by a multi-disciplinary team and looked generically at the control room command and control process and the use of engineering judgement in making unit operational decisions. The conclusions of the root cause team investigation are as follows:

As a result of the events two Operating Philosophy and Practices (OPP) were revised. OPP.1, Control Board Monitoring During Non-Emergency Operational Conditions, was revised and became effective May 16, 1994. The document specifically requires that when controlling processes in manual, the Unit Supervisor will specify the range at which the variable should be controlled. The entire control room team should be aware of the values. Changes to the control range will be announced to the team. The standard also states that the control room team will monitor applicable parameters on an increased frequency when a process controller is in manual. The Unit Supervisor will specify parameters to be monitored and the frequency at which the parameters are to be monitored. Finally the standard requires the Unit Supervisor to be informed when off normal trends or conditions are identified. The second Operating Philosophy and Practices to be revised was OPP.7, Annunciator Response. This OPP was revised and became effective May 25, 1994. The document directs that any significant unexpected alarms are to be logged in the control room log as determined by the Unit Supervisor, and that annunciator response procedures are to be consulted to verify that automatic actions occurred as expected and to check for applicable necessary subsequent actions.

In the area of engineering judgement, the investigation concluded that the engineering judgement applied throughout the period included management review and approval and proved to be accurate based on the subsequent evaluation and maintenance of RCP-14 during the refueling outage. It was concluded based on the CCW event that a mechanism was required to control activities that affect quality as is noted in the corrective actions taken to avoid further violations.

The response to the Notice of Violation is as follows:

1. Admission or Denial of the Alleged Violation

Indiana Michigan Power admits to the violation as cited in the NRC Notice of Violation.

2. Reasons for the Violation

The root cause for this event was the use of an informal process to obtain technical guidance on increasing Component Cooling Water (CCW) temperature to mitigate excessive RCP seal leak off. This resulted in the failure of the efforts to develop a strategy for dealing with increased RCP seal leak off which included all of the necessary actions to increase CCW temperature. The operations department should have been aware that although engineering judgement indicated that 105°F CCW supply water would not significantly damage the CCW system or the equipment it cooled, this temperature was beyond the source document temperature of 95°F.

3. Corrective Actions Taken and Results Achieved

On February 13, 1994 the Component Cooling Water (CCW) temperature was restored below 95°F. The seal leakoff problems which led to raising the CCW temperature were corrected during the Unit 1 1994 refueling outage.

4. Corrective Actions Taken to Avoid Further Violations

Interim and long term instructions will be developed on acceptable methods to obtain technical direction for activities affecting quality where the direction is not derived from approved source documents. The interim instruction will be in place by 7/29/94. The long term instruction will be in place by 12/30/94.

5. Date When Full Compliance will be Achieved

Full compliance was achieved on February 13, 1994 when the Component Cooling Water temperature was restored to a condition below 95°F.