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June 9, 1997  
NG-97-1004

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-37  
Washington, D.C. 20555-0001

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License No: DPR-49  
Reply to a Notice of Violation Transmitted with Inspection Report 97007  
File: A-105, A-102

Dear Sir:

This letter is provided in response to the Notice of Violation transmitted with NRC  
Inspection Report 97007.

This letter contains no new commitments.

If you have any questions regarding this matter, please contact my office.

Sincerely,

John F. Franz  
Vice President, Nuclear

Attachment

cc: R. Murrell  
L. Root  
G. Kelly (NRC-NRR)  
A. B. Beach (Region III)  
NRC Resident Office  
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**IES Utilities Inc.  
Reply to a Notice of Violation  
Transmitted with Inspection Report 97007**

**VIOLATION ONE**

Criterion XI of 10 CFR Part 50, Appendix B, requires, in part that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, the inspectors identified that Surveillance Test Procedure (STP) 45C001-Q, "Residual Heat Removal Service Water Operability Test," failed to incorporate the acceptance limits contained in applicable design documents. Instead, the system was tested in a different configuration than assumed in the design basis.

This is a Severity Level IV violation (Supplement 1).

**RESPONSE TO VIOLATION ONE**

**1. REASON FOR THE VIOLATION**

The primary function of the Residual Heat Removal Service Water (RHRSW) system is to provide cooling water to the Residual Heat Removal (RHR) system heat exchangers during various modes of operation of the RHR system. The design bases (and Technical Specification) required flow rate through the RHR heat exchangers is 2040 gallons per minute (gpm) per pump at a total developed head (TDH) of 610 ft.. STP 45C001-Q is performed quarterly to satisfy technical specification requirements. The STP requires the normally open RHRSW strainer backwash valve to be failed closed. The design backwash system flow is approximately 200 gpm. This flow reduction occurs prior to the RHR heat exchangers.

On April 9, 1997, it was determined that the test configuration of closing the backwash valve prior to demonstrating adequate flow rate does not test the system in the most limiting case in that the strainer backwash valve should be in its normal configuration (automatically backwashing the strainer during system operations).

**2. CORRECTIVE ACTIONS TAKEN AND THE RESULTS ACHIEVED**

As part of Duane Arnolds Energy Center's (DAEC) corrective action program, an Action Request (AR) was generated to document this concern. An immediate operability determination was performed and determined that no operability concern

existed. Specifically, a 200 gpm loss of flow would not have decreased actual TDH below the Technical Specification requirement.

STP45C001-Q was revised to remove the step for failing the strainer backwash valve closed.

A review of other similar STPs identified no other instances of testing in a non-limiting configuration.

3. **CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

All corrective actions to prevent further violations have been completed.

4. **DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Full compliance was achieved on May 29, 1997 when STP45C001-Q was revised to remove the step for failing the strainer backwash valve closed.

**VIOLATION TWO**

Criterion XVI of 10 CFR Part 50, Appendix B requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected and that measures shall assure that the cause of the condition is determined and corrective actions taken to preclude repetition.

Contrary to the above,

- a) On April 8, 1997, the licensee identified that corrective actions taken in response to a violation on October 25, 1996, were not adequate to preclude repetition. As a result, incorrect acceptance criteria for emergency service water (ESW) temperatures were used from February 9 until April 8, 1997.
- b) On April 10, 1997, the licensee identified that corrective actions taken in response to previous violation regarding control of document change forms (DCFs) were not adequate to preclude repetition. As a result, main steam low pressure instruments were left outside the correct acceptance criteria from March 26 until April 11, 1997.

This is a Severity Level IV violation (Supplement 1).

## **RESPONSE TO VIOLATION TWO**

### **1. REASON FOR THE VIOLATION**

#### **VIOLATION 2a**

On April 8, 1997, operators performing STP 42A001, "Daily Instrument Checks," identified that incorrect ESW temperature acceptance criteria had been used since February 9, 1997. Specifically, an operator documented an incorrect value of 91.9 °F in STP 42A001 on February 9, 1997 (versus the correct value of 91.1 °F), and this incorrect value had been copied daily into the Daily STPs until identified on April 8, 1997. The ESW acceptance criteria is obtained from the most recent performance of STP 48E001-Q, "ESW Quarterly Operability Test."

As discussed in a response to a Notice of Violation contained in Inspection Report 96013, an incorrect acceptance criteria for ESW temperature had been used from October 25 until December 8, 1996. The practice prior to December 8, 1996, had been to record the ESW temperature acceptance criteria on an uncontrolled document in the control room. After the December 8, 1996, issue, operations management directed the operators to stop using the uncontrolled document and instead, copy the acceptance criteria from surveillance to surveillance. This corrective action was less than adequate to prevent recurrence.

#### **VIOLATION 2b**

On February 23, 1997, a DCF was issued to revise acceptance criteria and as-left values for main steam low pressure instrumentation calibration per STP 42A003-Q. When the STP was performed on March 25, 1997, the DCF was not in the test package and, therefore, the old acceptance criteria were used. As a result, all four pressure switches were left outside of the new acceptance criteria.

### **2. CORRECTIVE ACTIONS TAKEN AND THE RESULTS ACHIEVED**

#### **VIOLATION 2a**

An AR was generated to review this issue. An immediate review determined that no operability concerns existed. Actual ESW performance was well within the proper acceptance criteria.

STP 48E001-Q was revised to include a data sheet which is filled out with the ESW acceptance limit, date recorded and by which operator. This data sheet is then placed in the ASME Data Book in the control room (replacing the previous data sheet). STP

42A001 was revised to designate that the ESW acceptance limit for the Daily STP is obtained from the ASME Data Book.

**VIOLATION 2b**

An AR was generated to review this issue. Subsequent investigation determined that all four main steam low pressure switches met the DCF "as-found" requirements. Engineering concurred that there was no immediate operability concern with the switches. STP 42A003-Q was immediately performed with the DCF acceptance criteria and as left values on April 11, 1997, to restore the instruments to the proper as-left tolerances.

A root cause analysis was performed to review this incident and previous similar incidents. As a result, the Procedure Department has implemented a process for issuing STPs on a day-to-day basis. Daily issuance of STPs greatly reduces the number of STPs to be tracked and updated when a DCF or new revision are implemented and minimizes the possibility of missing an STP. The daily issuance process includes DCF and revision checks to ensure the proper version of the STP is being issued for work.

3. **CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

**VIOLATION 2a**

All corrective actions to prevent further violations have been completed.

**VIOLATION 2b**

All corrective actions to prevent further violations have been completed.

4. **DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

**VIOLATION 2a**

Full compliance was achieved on April 8, 1997, when the correct ESW acceptance limit was incorporated into STP 42A001.

**VIOLATION 2b**

Full compliance was achieved on April 11, 1997 when STP 42A003-Q was performed with the correct set points.