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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Duane Arnold Energy Center
Docket 50-331
License No. DPR-49

Response to a Notice of Violation Contained in Inspection Report 5000331/2005011

This letter and attachment are provided in response to the Notice of Violation transmitted with NRC Inspection Report 5000331/2005011.

If you have any questions, please call Steve Catron, Nuclear Safety Assurance Manager at (319) 851-7234.

This letter contains the following new commitment:

DAEC will submit a plant-specific license amendment request to implement TSTF-484 after approval by NRC. This action is anticipated to be completed by March 1, 2006.

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Site Vice President, Duane Arnold Energy Center
Nuclear Management Company, LLC

Enclosure

cc: Region III
D. Spalding (NRC-NRR)
NRC Resident Office

IE04

Nuclear Management Company – Duane Arnold Energy Center
Response to a Notice of Violation
Transmitted with Inspection Report 5000331/2005011

VIOLATION

1. Technical Specification (TS) 3.10.1, Special Operations, "System Leakage and Hydrostatic Testing," allows exemptions of Mode requirements for the performance of primary system leakage and hydrostatic testing. The exemptions allow the plant to operate above 212°F in the reactor coolant system and still be considered in Mode 4, even though the associated temperature would be Mode 3 with the following exceptions: Secondary Containment Isolation Instrumentation, Secondary Containment, Secondary Containment Isolation Valves/Dampers, and Standby Gas Treatment System requirements.

Contrary to this requirement, on April 26, 2005, after completion of the reactor coolant system hydrostatic test and code required Visual Test (VT) - 2 inspections, the licensee violated the requirements of TS 3.10.1 by remaining above 212°F, an unplanned transition from Mode 4 to Mode 3, while conducting control rod scram time testing and without completing all of the Mode 3 TS requirements. The noncompliance of TS 3.10.1 continued through April 27, 2005, when control rod scram time testing was completed and a reactor coolant system cooldown commenced.

This is a violation associated with a Green finding.

2. 10 CFR 50.59, "Changes, tests, and experiments," states, in part, the holder of a license authorizing operation of a production or utilization facility may conduct tests not described in the safety analysis report, without prior Commission approval, unless the proposed test involves a change in the technical specifications incorporated in the license.

Contrary to the above, on August 19, 1999, the licensee authorized the conduct of a test of the control rod scram system with the plant in Mode 4, a test not described in the safety analysis report and requiring a change to the Technical Specifications incorporated into the license, without prior Commission approval. Specifically, the licensee approved changes to Surveillance Test Procedures (STPs) 3.10.1.01, "Non-nuclear Heat Class 1 System leakage Pressure Tests," and 3.10.1.02, "Non-Nuclear Heat Class 1 Ten year System Leakage Pressure Test," which authorized licensed operators to hold the reactor coolant system pressure at 850 to 950 pounds per square inch gauge (psig), following the completion of the reactor coolant system hydrostatic test and the Visual Test-2 inspections, in order to conduct control rod scram time testing, an activity not authorized under the special conditions of Technical Specification 3.10.1. Technical Specification 3.10.1 allowed the licensee to heat up [raise the

pressure] of the reactor coolant system to Mode 3 conditions [greater than 212°F], without meeting the requirements specified in other Technical Specifications for entry into Mode 3, for the limited purpose of conducting reactor coolant system leakage and hydrostatic testing.

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

RESPONSE TO THE VIOLATIONS:

1. REASON FOR THE VIOLATIONS

In 1999, the Duane Arnold Energy Center (DAEC) modified procedures to allow Scram Time Testing during the performance of the Class 1 leak tests. This change was implemented after a multi-disciplined team (Solutions Team) reviewed industry operating experience and various TS LCOs. Specifically, the Solutions Team was formed based upon industry experience that other Boiling Water Reactors (BWRs) were performing Scram Time Testing during leak testing. The Solutions Team evaluated the TS requirements and concluded that the use of various Special Operations LCOs would be needed to allow concurrent testing. The team concluded that TSs had no restrictions as to the number or combination of Special Operations LCOs that could be entered simultaneously. Procedures were subsequently modified to adopt this industry practice.

The specific procedure changes to support scram time testing during leak testing were associated with the Surveillance Test Procedure (STP) 3.10.1-01, "Non-Nuclear Heat Class 1 System Leakage Pressure Tests," and STP 3.10.1-02, "Non-Nuclear Heat Class 1 Ten Year System Leakage Pressure Test." A 10 CFR 50.59 screening was performed in 1999 for the procedure changes that were made to STPs 3.10.1-01 and STP 3.10.1-02. In that screening, it was concluded that the procedure change did not require a change to the Technical Specifications. Part of the procedure changes associated with the screening added steps to hold the reactor pressure at 850-950 pounds per square inch gauge (psig) after the completion of the reactor system hydrostatic test and the Visual Test (VT) - 2 inspections to allow performance of Scram Time Testing.

Subsequent to these procedure changes, scram time testing was performed in the four refueling outages between 1999 and 2005. During each performance of scram time testing, the vessel hydro conditions were extended past the VT-2 inspections performed for the vessel hydro to allow for completion of the scram time testing.

The cause of the violations was a failure to recognize the ambiguity in the wording of the existing TS as to whether it allows the conditions of the vessel hydro to be maintained in order to complete Scram Time Testing.

This conclusion is supported by the fact that several Boiling Water Reactor (BWR) Owners' Group Technical Specification Issues Coordination Committee (TSICC) members currently have a concern regarding the ambiguity in the wording that related to maintaining the conditions of the Leak Test to complete Scram Time Testing, following completion of the VT-2 examination.

To clarify this unintended ambiguity in the current wording, the TSICC has submitted a generic change (traveler) to the Improved Technical Specifications to support the current industry interpretation regarding the allowance to perform Scram Time Testing during the same conditions as the Class 1 Leak Test.

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

On July 22, 2005, STPs 3.10.1-01 and 3.10.1-02 were quarantined to prevent scram time testing during vessel hydro.

On May 5, 2005, TSICC submitted a Technical Specification Task Force Traveler (TSTF-484), "Use of TS 3.10.1 for Scram Time Testing activities", to the NRC for review and approval.

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

DAEC will submit a plant-specific license amendment request to implement TSTF-484 after approval by NRC. This action is anticipated to be completed by March 1, 2006.

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

Full compliance was achieved on July 22, 2005 with the quarantine of the subject STPs.