October 20, 2000

EA-00-057

Mr. David Wilson
Vice President, Nuclear
IES Utilities, Inc.
Alliant Tower
200 First Street SE
P. O. Box 351
Cedar Rapids, IA 52406-0351

SUBJECT: DUANE ARNOLD INSPECTION REPORT 50-331-00-09(DRP)

Dear Mr. Wilson:

On September 30, 2000, the NRC completed an inspection at your Duane Arnold Energy Center facility. The enclosed report presents the results of that inspection. The results of this inspection were discussed on September 29, 2000, with Mr. R. Anderson and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to reactor safety, verification of performance indicators, event followup, and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC identified an issue that was evaluated under the risk significance determination process and was determined to be of very low safety significance. The issue has been entered into your corrective action program and is discussed in the summary of findings and in the body of the enclosed inspection report. The issue was determined to involve a violation of NRC requirements. This violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A.1 of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Duane Arnold Energy Center facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available **electronically** for public inspection in the NRC Public Document Room **or** from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from* the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

Original signed by
Melvyn N. Leach

Melvyn N. Leach, Chief
Reactor Projects Branch 2

Docket No. 50-331
License No. DPR-49

Enclosure: Inspection Report 50-331-00-09(DRP)

cc w/encl: E. Protsch, Executive Vice President -
Energy Delivery, Alliant;
President, IES Utilities, Inc.
Robert G. Anderson, Plant Manager
K. Peveler, Manager, Regulatory Performance
State Liaison Officer
Chairperson, Iowa Utilities Board
The Honorable Charles W. Larson, Jr.
Iowa State Representative

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Sincerely,

/s/Melvyn N. Leach

Melvyn N. Leach, Chief
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-331
License No:	DPR-49
Report No:	50-331-00-09(DRP)
Licensee:	Alliant, IES Utilities Inc. 200 First Street S. E. P. O. Box 351 Cedar Rapids, IA 52406-0351
Facility:	Duane Arnold Energy Center
Location:	Palo, Iowa
Dates:	August 17 through September 30, 2000
Inspectors:	P. Prescott, Senior Resident Inspector M. Kurth, Resident Inspector
Approved by:	Melvyn N. Leach, Chief Reactor Projects Branch 2 Division of Reactor Projects

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and

increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

Duane Arnold Energy Center
NRC Inspection Report 50-331-00-09(DRP)

IR 050-331-00-09, on 08/17-09/30/2000; IES Utilities, Inc; Duane Arnold Energy Center, Unit 1, Resident Operations Report

The report covers a 6-week period of resident inspection.

- NO COLOR. The inspectors identified that instrument and calibration technicians performed procedural steps out of sequence for a surveillance test on water level instrument trip set points. The inspectors determined that the procedural steps were performed out of sequence due to the difference in training and the sequence of procedural steps. Also, eleven similar surveillance tests were previously completed by performing the steps out of sequence. Although the performance of the procedural steps out of sequence did not affect the operability, availability, or reliability of the level instruments, the finding suggested a problem that was more than an isolated case that has a potential to impact safety. Based on the extenuating circumstances and in accordance with Manual Chapter 0609, a Non-Cited Violation was issued for failing to perform surveillance test procedures in the given sequence as required by procedures. (Section 1R22.1)

Report Details

Summary of Plant Status: The licensee operated the plant at full power at the beginning of the inspection period. On September 20, 2000, a casing leak was identified on the "B" reactor feed pump. At 9:09 a.m., operators commenced a controlled reduction to 50 percent reactor power. Operators reached 50 percent power at 11:11 a.m. After repairs were completed on the "B" reactor feed pump, operators began to return the plant to full power at 2:10 a.m. on September 22. Full power operation was resumed at 1:59 a.m. on September 24. The plant remained at essentially full power for the remainder of the inspection report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed a partial walkdown of accessible portions of the systems listed below to verify system operability. The inspectors verified the correct valve position of all the valves in the primary system flowpath using the system piping and instrumentation drawings (P&IDs), system mechanical checklist, and verified breaker alignments using the system electrical checklist. The inspectors observed instrumentation valve configurations and appropriate meter indications. The inspectors verified lubrication and cooling of major components by direct observation of the components. The inspectors observed proper installation of hangers and supports during the walkdown and verified operational status of support systems by direct observation of various parameters. Control room switch positions for the system were observed. The inspectors also evaluated other conditions such as adequacy of housekeeping, the absence of ignition sources, and proper component labeling. The walkdowns were performed while maintenance was being performed on the corresponding train or following a surveillance test to ensure the system was properly restored to standby readiness.

- "B" residual heat removal service water (RHRSW) system ("A" RHRSW out of service (OOS) for Preventive Work Order (PWO) work during walkdown)

- High pressure coolant injection (HPCI) system (Reactor Coolant Isolation Cooling (RCIC) OOS for PWO work during walkdown)

The following documents were reviewed and used to conduct the system walkdown:

- P&IDs: BECH-M122, BECH-M123, and BECH-M146
- Procedure Checklist: Operating Instruction (OI) 416, Revision 21
- Procedure Checklist: OI 152, Revision 46

b. Findings

There were no findings identified.

1R05 Fire Protection

.1 Area Fire Protection Inspections

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for any fire protection degraded conditions. The inspectors reviewed open fire protection impairment requests to prioritize the plant area fire plan (AFP) zones inspected and conducted discussions with the fire protection program engineer. The inspectors placed emphasis on control of transient combustibles and ignition sources; area material condition; operational lineup and operational effectiveness of the fire protection systems, equipment, and features; and the material condition and operational status of fire barriers used to prevent fire damage or fire propagation.

In particular, the inspectors verified that all observed transient combustibles were being controlled in accordance with the licensee's administrative control procedures. In addition, the inspectors observed the physical condition of fire detection devices, such as overhead sprinklers, and verified that any observed deficiencies did not impact the operational effectiveness of the system. The inspectors also observed the physical condition of portable fire fighting equipment, such as portable fire extinguishers. The inspectors verified the equipment was located appropriately and that access to the extinguishers was unobstructed. The inspectors verified that fire hoses were installed at their designated locations and the physical condition of the hoses was satisfactory and access unobstructed. The inspectors observed and verified the physical condition of passive fire protection features such as fire doors, ventilation system fire dampers, fire barriers, and fire zone penetration seals and verified the items were properly installed and in good physical condition. The areas inspected were:

- Pump house safety-related piping area using Fire Plan Volume II, "Fire Brigade Organization," AFP-30, Revision 23

- Fire pump and fire pump day tank rooms using Fire Plan Volume II, "Fire Brigade Organization," AFP-29, Revision 23

- Reactor building residual heat removal (RHR) valve room using Fire Plan Volume II, "Fire Brigade Organization," AFP-6, Revision 22

b. Findings

There were no findings identified.

.2 Fire Brigade Drill Performance

a. Inspection Scope

The inspectors observed a fire brigade drill on August 23, 2000. The inspectors observed the drill to verify that: protective clothing and turnout gear was properly donned; breathing apparatus was properly worn and used; hoses were capable of reaching the location, laid out without constrictions, equipped with the proper nozzle, and charged or simulated charged; the fire area was entered in a controlled manner; sufficient equipment was brought to the scene to fight the fire; the team leader's directions were thorough and effective; radio communications were effective; effective smoke removal operations were utilized; the pre-plans were used; and the drill scenario was followed and the objectives met.

b. Issues and Findings

There were no findings identified.

1R06 Flood Protection Measures

(Closed) Violation (VIO) 50-331/1-2000-003: "Lack of Guidance in External Flood Mitigation Procedure." The inspectors identified procedural deficiencies for external flood mitigation plans. The most significant concern was the lack of procedural guidance for sealing the emergency service water (ESW) and residual heat removal service water (RHRSW) pump hatches to prevent system inoperability during design basis flood conditions.

Abnormal Operating Procedure 902, "Flooding," was revised to include additional compensatory actions for external flood mitigation planning. In particular, the ESW and RHRSW pump hatches are to be welded shut to prevent system inoperability due to room flooding. This item is closed.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed simulator training for week 3 of cycle 5 on September 12, 2000. The scenario observed followed Evaluated Scenario Guide 25, which included a high hotwell level, partial loss of annunciators, relief valve failure, and electrical anticipated transient without a scram. The inspectors observed communications, procedure adherence, and implementation of emergency operating procedures. Training department supervision indicated that two areas which had been noted in need of improvement for operators were in the areas of annunciator response and in communications. The inspectors verified that training evaluators addressed these problems when operators made errors in these areas. In addition, event classification and reporting actions were observed, although these classifications were not included as part of performance indicator data for this scenario.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule requirements for the systems or components listed below. Documentation reviewed in performance of the inspection is also listed below. The systems or components were selected based upon recent performance problems and the risk significance classification of the systems in the maintenance rule program. The inspectors independently verified the licensee's implementation of the maintenance rule for these systems by verifying that these systems were properly scoped within the maintenance rule in accordance with 10 CFR 50.65; that all failed structures, systems, or components (SSCs) were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65; the appropriateness of performance criteria for SSCs classified as (a)(2); and the appropriateness of goals and corrective actions for SSCs classified as (a)(1). The inspectors also verified that identified issues were identified at an appropriate threshold and entered in the corrective action program.

- Instrument air system
- 125 volt direct current system
- Core spray system

The following documentation was also reviewed:

- Duane Arnold Energy Center (DAEC) Performance Criteria Document, "Instrument Air System," Revision 1
- DAEC Performance Criteria Document, "125 VDC," Revision 3
- DAEC Performance Criteria Document, "Low Pressure Core Spray," Revision 0

b. Findings

There were no findings identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of planned maintenance and emergent work activities. The inspectors reviewed the risk assessment of scheduled maintenance activities associated with work week 35 on the "A" residual heat removal service water system and week 38

on the high pressure coolant injection system. The inspectors verified that scheduled and emergent work activities were adequately managed. In particular, the inspectors reviewed the licensee's program for conducting maintenance risk safety assessments and verified the licensee's planning, risk management tools, and the assessment and management of online risk. The inspectors also verified those licensee actions to address increased online risk during these periods, such as establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff, were accomplished when online risk was increased due to maintenance on risk-significant SSCs. The inspectors observed portions of the maintenance activities to ensure proper management oversight and return to service of the SSCs in a timely manner.

b. Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the technical adequacy of operability evaluations to ensure that the system operability was properly justified and the system remained available, such that no unrecognized increase in risk occurred. The inspectors reviewed the following operability evaluations:

- Action Request (AR) 20284, "Operability Determination for ESW [Essential Service Water]/RHRSW During Freeze Seal for SBGT [Standby Gas Treatment] Instrument Air Compressor Work"

- AR 21394, "Scaffolding in "B" Standby Diesel Generator Room Erected for Four Days Without Engineering Review"

b. Findings

There were no findings identified.

1R16 Operator Workarounds (OWAs)

a. Inspection Scope

The inspectors reviewed operator workarounds to identify any potential effect on the function of mitigating systems or the operators' ability to respond to an event and implement abnormal and emergency operating procedures.

The inspectors reviewed the following OWAs during the inspection period:

- AR 2199, "RHR System: Suction Piping Must be Manually Filled Prior to Initiation of Shutdown Cooling (SDC)"

- AR 2203, “ECP [Engineering Change Package]: Install Two Vent/Fill Valves for RHR Fuel Pool Cooling Suction Piping”

- AR 3520, “SI9247A/B (A and B Recirc Deviation Meters) are Loading Down the Circuit to Where a Deviation Lockup Does Not Occur”

b. Findings

There were no findings identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Engineered Maintenance Action (EMA) A49596, associated with modifications to the nitrogen makeup system and drywell sump suction containment isolation valves. The inspectors reviewed the EMA documentation, including the safety evaluation and drawings, and appropriate sections of the Updated Final Safety Analysis Report (UFSAR). The inspectors reviewed the work order associated with the EMA and observed testing of the valves following the modifications.

b. Findings

There were no findings identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors observed the post-maintenance tests and reviewed test data for the following activities:

- PWO 1110659, “Inspection of the “A” Residual Heat Removal Service Water Pump Discharge Check Valve”

- PWO 1114797, “VOTES [Valve Operation and Testing Evaluation System] Diagnostic Test, RCIC Turbine Steam Supply Isolation Motor Operated Valve MO2404"

- Corrective Work Order (CWO) A44820, “Replace Zener Diode on Main Steam Line “D” Temperature Indicator TIS4480 Due to Age Related Failures”

  CWO A47333, “Realign HPCI Auxiliary Oil Pump and Motor”

The inspectors verified that the post-maintenance tests observed demonstrated the systems and components were capable of performing their intended safety function. Also, the inspectors reviewed the applicable sections of Technical Specifications (TS) requirements, the UFSAR, and the following plant procedures:

- TS 3.3.6.1, “Primary Containment Isolation Instrumentation”
- TS 3.7.1, “Residual Heat Removal (RHR) Service Water System”
- UFSAR Section 7.3.3, “Instrumentation”
- OI 416, “RHR Service Water System,” Revision 21
- Surveillance Test Procedure (STP) 3.5.1.05, “HPCI System Operability Test,” Revision 8

Following the completion of the tests, the inspectors verified that the test equipment was removed and that the equipment was returned to a condition in which it could perform its safety function.

b. Findings

There were no findings identified.

1R22 Surveillance Testing

.1 Routine Surveillance Testing Observations

a. Inspection Scope

The inspectors observed surveillance testing on risk-significant equipment and verified that the SSCs selected were capable of performing their intended safety function. The inspectors verified that the surveillance tests satisfied the requirements contained in TS, the UFSAR, and licensee procedures. During surveillance testing observations, the inspectors verified that the test was adequate to demonstrate operational readiness consistent with the design and licensing basis documents and that the testing acceptance criteria were clear. The inspectors also verified that the impact of the testing had been properly characterized during the pre-job briefing; the test was performed as written and all testing prerequisites were satisfied; and that the test data was complete, appropriately verified, and met the requirements of the testing procedure. Following the completion of the test, the inspectors verified that the test equipment was removed and that the equipment was returned to a condition in which it could perform its safety function.

The following surveillance testing activities were observed:

- STP NS791012, “K10 (Offgas Stack Normal Range Effluent Radiation Monitoring System) Functional Test,” Revision 1

- STP 3.3.6.1-10, “Reactor Low Low Water Level Isolation and Low Low Low Water Level Channel Calibration,” Revision 2

- STP 3.3.5.1-03, “Functional Test of LPCI Loop Select - Reactor Vessel Water Level Low-Low Instrumentation,” Revision 5

b. Findings

During the performance of STP 3.3.6.1-10, “Reactor Low Low Water Level (ATWS/ARI Trip/RWCU Isolation) and Low Low Low (Main Stream Line Isolation Trip) Channel Calibration,” Revision 2, the inspectors observed instrument and calibration (I&C) technicians perform procedural steps out of sequence. The procedure instructed the technicians to perform a functional test of water level instrument trip set points, then a channel calibration verification. However, the technicians were performing both activities in parallel. Step 4.1 of the surveillance test states, “All steps pertaining to a particular instrument are to be performed in sequence and the STP steps carried through to completion, unless stated otherwise.” Also, Administrative Control Procedure (ACP) 101.01, “Procedure Use and Adherence,” classifies an STP as a continuous use procedure and defines continuous use as, ”...performing each step in the sequence given, and proceeding to the next step.” The I&C supervisor explained that the technicians were performing the level instrument functional test and channel calibration verification as trained. The inspectors determined that the following similar surveillance tests were previously completed with procedural steps performed out of sequence:

- STP 3.3.1.1-05, “Reactor High and Lo Water Level (HPCI, RCIC, RPS, PCIS) Instrument Level Calibration,” Revision 3
- STP 3.3.5.1-06, “Calibration of ECCS Related Reactor Vessel Water Level - Low (Confirmatory) Instrumentation,” Revision 3
- STP 3.3.5.1-20, “LPCI Loop Select Recirculation Pump DP Calibration,” Revision 1
- STP 3.3.5.1-22, “Recirculation Riser DP A>B Instrument Calibration,” Revision 0
- STP 3.3.5.1-27, “HPCI Pump Discharge Flow - Low (Bypass) Instrument Calibration,” Revision 1
- STP 3.3.5.1-35, “Core Spray Pump Discharge Flow - Low (Bypass) Instrument Calibration,” Revision 3
- STP 3.3.5.1-36, “LPCI Pump Discharge Flow Low (Bypass) Instrument Channel Functional Test/Calibration,” Revision 1
- STP 3.3.6.1-27, “RCIC Steam Line High Flow - High Channel Calibration,” Revision 2
- STP 3.3.6.1-44 “HPCI Steam Line High DP Instrument Channel Calibration,” Revision 2

The inspectors determined I&C technicians performing procedural steps out of sequence to be a generic concern based on the difference in the procedural steps and the training provided and that similar surveillance tests were previously completed by performing procedural steps out of sequence. The inspectors determined that the

finding did not affect the operability, availability, or reliability of the level instruments trip functions.

The inspectors performed a risk significance screening of the failure to perform the surveillance test procedural steps in sequence in accordance with NRC Inspection Manual Chapter 0609, "Significance Determination Process." Because the failure to perform the procedural steps in sequence as required did not affect the operability, availability, or reliability of the level instruments trip functions, the issue was not evaluated using the Significance Determination Process. However, the finding suggested a problem that was more than an isolated case that has a potential to impact safety. Also, the finding was considered to be a violation of procedures. Therefore, the inspectors determined that extenuating circumstances existed.

The 10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented procedures and shall be accomplished in accordance with these procedures. Administrative Control Procedure 101.01, "Procedure Use and Adherence," Revision 11, Step 2.7(a) requires that surveillance test procedures are continuous use and are to be performed in the sequence given. Contrary to the above, on August 28, I&C technicians failed to perform STP 3.3.6.1-10 in the given sequence, as required. The Severity Level IV violation (50-331/20009-01 (DRP)) is being treated as Non-Cited Violation consistent with Section VI.A.1. of the NRC Enforcement Policy. The licensee initiated Action Request 21564 to evaluate and resolve the finding.

.2 (Closed) VIO 50-331/3-1999-032: "Failure to Follow Procedure During Fuel Movement." During placement of new fuel into the fuel pool, a fuel handling supervisor allowed fuel movement without a reactor engineer present. The two fuel bundles moved during the time the reactor engineer was not present were verified to be in the proper location in the fuel pool. Licensee management determined that the responsible fuel handling supervisor needed several remedial actions. A performance improvement plan for the individual was developed and all associated actions were completed. The supervisor completed a review of all refueling procedures to ensure the procedures could be completed as written. The supervisor completed formal reactor engineer qualifications. Also, the fuel handling supervisor performed several on-the-job observations of work in the plant, focusing on strict procedural adherence.

Fuel handling procedures were enhanced to provide additional guidance concerning responsibilities, expectations, and authorities for fuel handling supervisors and fuel handling crews. Included in the guidance is a requirement for the members of a fuel handling crew to notify the responsible fuel handling supervisor prior to leaving the refuel floor. Shortly after this problem, the licensee entered into a refueling outage. The inspectors did not observe any procedure adherence problems during fuel movements required to support the refueling outage. This item is closed.

1EP1 Exercise Evaluation

a. Inspection Scope

The inspectors evaluated the licensee's conduct and subsequent critique of a routine emergency plan training drill on August 16, 2000. Emergency plan implementing procedures were reviewed to ensure that classification, notification, and protective action recommendations (PARs) development recommendations were implemented. The inspectors verified the licensee's critique of classification, notification, and PAR during the drill. The inspectors assessed the licensee's drill critique to determine if identified weaknesses and deficiencies were documented using the corrective action program. Also, the inspectors verified that the training evolution was of appropriate scope to be included in the performance indicator (PI) statistics.

b. Findings

There were no findings identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Cornerstone: Mitigating Systems

.1 Unplanned Scrams per 7,000 Critical Hours

a. Inspection Scope

The inspectors reviewed control room operator logs, monthly operating reports, and performance indicator data packages for the first and second quarter of the year 2000 to verify that performance indicators reported to the NRC were accurate. The inspectors also interviewed appropriate engineering personnel responsible for data collection.

b. Findings

There were no findings identified.

.2 Scrams With a Loss of Normal Heat Removal

a. Inspection Scope

The inspectors reviewed control room operator logs, monthly operating reports, and performance indicator data packages for the first and second quarter of the year 2000 to verify that performance indicators reported to the NRC were accurate. The inspectors also interviewed appropriate engineering personnel responsible for data collection.

b. Findings

There were no findings identified.

.3 Unplanned Power Changes per 7,000 Critical Hours

a. Inspection Scope

The inspectors reviewed control room operator logs, monthly operating reports, and performance indicator data packages for the first and second quarter of the year 2000 to verify that performance indicators reported to the NRC were accurate. The inspectors also interviewed appropriate engineering personnel responsible for data collection.

b. Findings

There were no findings identified.

40A3 Event Followup

.1 (Closed) Licensee Event Report (LER) 50-331/2000-002-00: "Turbine Trip and Reactor Scram Due to Main Generator Lockout." This LER was discussed in Inspection Report 50-331/2000003. No new findings were identified. This item is closed.

.2 (Closed) LER 50-331/2000-003-00: "Actuation of Engineered Safety Feature, Primary Containment Isolation, from a Planned Fuse Removal." On July 18, 2000, during pre-planned maintenance activities on the "B" standby gas treatment (SBGT) system logic, an unexpected, invalid essential safety feature actuation occurred. Specifically, a planned fuse removal resulted in an unexpected isolation of a containment nitrogen makeup valve, CV-4311, and the "B" recirculation mini-purge valve, CV-1804B, in response to a primary containment isolation system (PCIS) actuation. The licensee was performing a scheduled ten-year PWO to replace a normally energized timing relay in the logic of the"B" SBGT system.

A work control center supervisor made the decision to modify the Group III-B isolation portion of the work by adding steps in the PWO to reset the PCIS signal and restore "B" recirculation mini-purge.

Although there was no violation of procedures in the changes made to the PWO, the changes made were not thoroughly reviewed to ensure a workable PWO. Also, system engineering performed an inadequate review of the fuse removal request. The inspectors determined that the proposed corrective actions were adequate to address the problems noted. The inspectors determined the procedure weaknesses that resulted in an unplanned PCIS isolation constituted a violation of minor significance and is not subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This item is closed.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. R. Anderson and other members of licensee management at the conclusion of the inspection on September 29, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Anderson, Plant Manager
W. Simmons, Maintenance Superintendent
D. Curtland, Operations Manager
R. Hite, Manager, Radiation Protection
J. Bjorseth, Manager, Engineering
K. Peveler, Manager, Regulatory Performance
G. Van Middlesworth, Site General Manager
D. Wilson, Vice President Nuclear

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-331/2000009-01	NCV	Failure to Perform Procedure in Given Sequence

Closed

50-331/3-1999-032	VIO	Failure to Follow Procedure During Fuel Movement
50-331/2000-002-00	LER	Turbine Trip and Reactor Scram Due to Main Generator Lockout
50-331/2000-003-00	LER	Actuation of Engineered Safety Feature, Primary Containment Isolation, From a Planned Fuse Removal
50-331/1-2000-003	VIO	Lack of Guidance in External Flood Mitigation Procedure
50-331/2000009-01	NCV	Failure to Perform Procedure in Given Sequence

Discussed

None

LIST OF ACRONYMS USED

ACP	Administrative Control Procedure
AFP	Area Fire Plan
AR	Action Request
CFR	Code of Federal Regulations
CWO	Corrective Work Order
DAEC	Duane Arnold Energy Center
DRP	Division of Reactor Projects
EMA	Engineered Maintenance Action
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
I&C	Instrument and Calibration
IR	Inspection Report
LER	Licensee Event Report
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
OI	Operating Instruction
OOS	Out of Service
OWA	Operator Workaround
P&IDs	Piping and Instrumentation Drawings
PAR	Protective Action Recommendations
PCIS	Primary Containment Isolation System
PI	Performance Indicator
PWO	Preventive Maintenance Order
RCIC	Reactor Coolant Isolation Cooling
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
SBGT	Standby Gas Treatment
SSCs	Structure, System, or Components
STP	Surveillance Test Procedure
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VIO	Violation

LIST OF BASELINE INSPECTIONS PERFORMED

The following inspectable-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure		Report Section
Number	Title	
71111-04	Equipment Alignment	1R04
71111-05	Fire Protection	1R05
71111-11	Licensed Operator Requalification	1R11
71111-12	Maintenance Rule Implementation	1R12
71111-13	Maintenance Risk Assessment and Emergent Work Evaluation	1R13
71111-15	Operability Evaluations	1R15
71111-16	Operator Workarounds	1R16
71111-17	Permanent Plant Modifications	1R17
71111-19	Post Maintenance Testing	1R19
71111-22	Surveillance Testing	1R22
71114-01	Exercise Evaluation	1EP1
71151	Performance Indicator Verification	40A1
71153	Event Followup	40A3
71153	Cross-Cutting Issues	40A4
(none)	Meetings, Including Exit	4OA6