

March 29, 2001

Mr. Gary Van Middlesworth  
Site Vice-President  
Duane Arnold Energy Center  
Nuclear Management Company, LLC  
3277 DAEC Road  
Palo, IA 52324

SUBJECT: DUANE ARNOLD ENERGY CENTER  
NRC INSPECTION REPORT 50-331/01-03(DRP)

Dear Mr. Van Middlesworth:

On March 9, 2001, the NRC completed a baseline team inspection at your Duane Arnold Energy Center facility. The enclosed report documents the inspection findings which were discussed on March 9, 2001, 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 the identification and resolution of problems, compliance with the Commission's rules and regulations and with the conditions of your operating license. Within these areas, the inspection involved a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of the inspection, we concluded that your corrective action program effectively identified and resolved conditions adverse to quality. The inspectors did not identify any issues that questioned the operability of safety-related or risk significant plant equipment. The significance threshold for entering issues into your corrective action program appeared appropriate. One cross-cutting "No Color" finding was identified during this inspection. The cross-cutting "No Color" finding involved the failure to follow station procedures associated with the evaluation of human performance concerns. This "No Color" finding was determined to be a violation of NRC requirements. However, because of its very low safety significance and because the finding has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, 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.

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,

***/RA/***

Bruce Burgess, Chief  
Projects Branch 2  
Division of Reactor Projects

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

Enclosure: Inspection Report 50-331/01-003(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

DOCUMENT NAME: G:\duan\dua2001003 drp.wpd

To receive a copy of this document, indicate in the box "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	Rlll		Rlll				
NAME	Riemer/trn		Burgess				
DATE	03/29/01		03/29/01				

**OFFICIAL RECORD COPY**

ADAMS Distribution:

DFT

BLM (Project Mgr.)

J. Caldwell, RIII

G. Grant, RIII

B. Clayton, RIII

SRI Duane Arnold

C. Ariano (hard copy)

DRP

DRSIII

PLB1

JRK1

BAH3

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-331/01-03(DRP)

Licensee: Alliant, IES Utilities, Inc.

Facility: Duane Arnold Energy Center

Location: 3277 DAEC Road  
Palo, Iowa 52324-9785

Dates: February 20 through March 9, 2001

Inspectors: K. Riemer, Team Leader  
M. Kurth, Resident Inspector  
B. Scott, Reactor Engineer

Approved by: Bruce Burgess, 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:

<b>Reactor Safety</b>	<b>Radiation Safety</b>	<b>Safeguards</b>
<ul style="list-style-type: none"><li>● Initiating Events</li><li>● Mitigating Systems</li><li>● Barrier Integrity</li><li>● Emergency Preparedness</li></ul>	<ul style="list-style-type: none"><li>● Occupational</li><li>● Public</li></ul>	<ul style="list-style-type: none"><li>● Physical Protection</li></ul>

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

IR 05000331-01-03, on 2/20/01-03/09/2001; IES Utilities, Inc. Duane Arnold Energy Center, Unit 1, annual baseline inspection of the identification and resolution of problems.

The inspection was conducted by a regional project engineer, resident inspectors, and a regional reactor engineer. The inspection identified one "No Color" finding of very low safety significance involving a violation for failure to follow procedure classified as a Non-Cited Violation.

### **Identification and Resolution of Problems**

The inspectors concluded that the licensee was effective at identifying, evaluating, and resolving problems within the requirements of the corrective action program. The inspectors found that station personnel effectively identified and entered problems into the corrective action program using action requests. The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. The inspectors identified several examples of minor problems that did not result in any adverse consequences and which were similar to problems identified by licensee staff during recent self-assessments. The significance threshold for entering issues into the program appeared appropriate. The inspectors did not find any reluctance by the station employees to raise safety issues.

### **Cross-Cutting Issue: Problem Identification and Resolution**

No Color. The inspectors identified that the licensee was inconsistent in the application of station requirements for evaluating human performance circumstances. Administrative Control Procedure (ACP) 114.5, "Action Request System," required that all human performance circumstances be investigated either by root cause analysis, fact finding meetings, or completion of fact finding questionnaires (FFQ). The inspectors identified approximately 17 examples (out of the population of 50 human performance circumstance ARs reviewed) where the licensee did not perform a root cause analysis, fact finding meeting, or FFQ and did not provide documentation in the AR to justify why a root cause analysis, fact finding meeting, or FFQ was not completed. The failure to perform a root cause analysis, fact finding meeting, FFQ, or provide justification in the AR was considered to be a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." However, due to its very low safety significance and because the finding has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation.

The inspectors performed a risk significance screening of this finding in accordance with NRC Inspection Manual Chapter 0610\*, "Power Reactor Inspection Reports," Appendix B, "Thresholds for Documentation." Because the failure to document the human performance circumstance evaluation as required did not have an actual or credible impact on safety, the issue was not evaluated using NRC Manual Chapter 0609, "Significance Determination Process". However, the finding was more than minor based on extenuating circumstances (Group 3 Questions). The finding was considered to be a substantive cross-cutting issue

because the issue was captured in a number of examples noted in the different functional areas examined during the inspection and across plant departments which indicated an adverse performance pattern.

## Report Details

### **4. OTHER ACTIVITIES (OA)**

#### 4OA2 Problem Identification and Resolution

##### .1 Effectiveness of Problem Identification

###### a. Inspection Scope

The inspectors conducted a review of the Duane Arnold process for identifying and correcting problems at the plant. The inspectors reviewed previous licensee and inspector identified issues related to the seven safety cornerstones in the Reactor Safety, Radiation Safety, and Safeguards strategic performance areas to determine if problems were appropriately identified, characterized, and entered into the corrective action program. The problem identification program and its effectiveness was evaluated by reviewing issues identified in previous NRC inspections, selected corrective action program documents and records, and discussions of the program with licensee personnel.

The inspectors reviewed inspection reports issued over the last year, selected plant modifications and maintenance work orders for high risk systems, various Action Requests (ARs) and corrective action documents, industry operating experience documents, audits, and self-assessments, in order to determine if problems were being identified at the proper threshold and entered into the corrective action process.

The inspectors reviewed records of an internal audit and self-assessment completed by the Duane Arnold corrective action program organization. Several ARs, written by licensee personnel on audit and assessment findings, were reviewed to verify that adequate corrective action had been or was to be taken. The inspectors reviewed other selected licensee audits and self-assessments performed since July 1999. The inspectors conducted the review to determine whether the audit and self-assessment programs were effectively managed, adequately covered the subject areas, and to determine whether the associated findings were appropriately captured in condition reports. In addition, the inspectors interviewed licensee staff regarding the audit and self-assessment programs. The inspectors also reviewed operability evaluations completed since July 1999.

A listing of the specific documents reviewed is attached to the report.

###### b. Issues and Findings

There were no findings identified in this area during this inspection. The licensee was effective in identifying and appropriately characterizing problems. The corrective action program was functional and typically identified and corrected conditions adverse to quality. Station personnel effectively identified and entered problems into the corrective action program using actions requests (ARs). The significance threshold for entering issues into the program appeared appropriate. Corrective actions commensurate with

the significance of the issue were identified and implemented by the licensee. The licensee's audits and assessments were effectively managed, adequately covering the subject areas, and findings and recommendations were appropriately captured in action requests. Operating Experience (OE) condition reports, NRC generic communications, and industry generic communications were appropriately identified for evaluation.

.2 Prioritization and Evaluation of Issues

a. Inspection Scope

The inspectors reviewed inspection reports and corrective action documents to verify that when issues were identified, they were appropriately characterized and entered into the licensee's problem identification and resolution program.

The inspectors attended daily management meetings to observe the assignment of AR categories for current issues and the review of root cause analyses and corrective actions.

The inspectors conducted an independent assessment of the prioritization and evaluation of a selected sample of ARs. The assessment included a review of the category assigned, operability and reportability determinations, extent of condition evaluations, cause investigations, and the appropriateness of the assigned corrective actions. Other attributes reviewed by the inspectors included the adequacy of the root cause analyses and the corresponding corrective actions. The inspectors also assessed licensee evaluations of Non-Cited Violations (NCVs). The inspectors reviewed the methods used by licensee review committees to verify the appropriate evaluation of problems and adequacy of compliance with regulatory requirements. These committees were the Screening Committee and the Evaluation Committee. The review included the controlling procedures, selected records of activities, and attendance of meetings. In addition, the functions, activities, and findings of the groups were discussed with cognizant licensee personnel.

In addition, the inspectors reviewed the licensee staff's efforts to capture industry operating experience (OE) issues in the corrective actions program. Documents reviewed included operating event reports, NRC, and vendor generic notices. The inspectors reviewed information recorded since July 1999.

A listing of the specific documents reviewed is attached to the report.

b. Issues and Findings

The inspectors determined that, in general, issues were appropriately characterized and classified, and appropriate evaluations were conducted for significant conditions adverse to quality. One "No Color" inspection finding was identified which was determined to be a Non-Cited Violation involving the failure to follow the station procedure for evaluating human performance circumstances.

Some specific observations are discussed below:

1. Evaluation of Human Performance Concerns

The inspectors reviewed approximately 50 human performance circumstances action requests. Administrative Control Procedure (ACP) 114.5, "Action Request System," required that all human performance circumstances be investigated either by root cause analysis, fact finding meetings, or completion of fact finding questionnaires (FFQ). The procedure allowed for certain exceptions for not completing a root cause analysis, fact finding meeting, or fact finding questionnaire; however, the justification for not completing the investigation was to be documented on the action request.

The licensee was inconsistent in the application of station requirements for evaluating human performance circumstances. The inspectors identified approximately 17 examples (out of the population of 50 human performance circumstance ARs reviewed) where the licensee did not perform a root cause analysis, fact finding meeting, or FFQ and did not provide documentation in the AR to justify why a root cause analysis, fact finding meeting, or FFQ was not completed. The inspectors noted examples in different functional areas and across departments. Specific examples included valve configuration issues for radwaste systems (AR's 23049, 23045); work planning deficiencies that caused work delays until the planning issues were resolved (AR's 22864, 22482); installed temporary modifications that were incomplete due to controlled piping and instrumentation diagrams that were not updated (AR's 21389, 23305); and current procedures that were found not in use (AR's 22405, 22440, 23201). The departments included, but were not limited to, Operations (AR's 22405, 22440, 22482), Radwaste (AR's 23049, 23045, 22744), Radiation Protection (AR's 22686, 22679), Procedure Group (AR's 23035, 22482), and Maintenance (22864).

Criterion V of 10 CFR Part 50, Appendix B, 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 (ACP) 114.5, "Action Request System," Revision 26, required in Section 3.2.9(1), "Human Performance Circumstances," that all human performance circumstances shall be investigated either by root cause analysis, fact finding meetings, or completion of fact finding questionnaires. Administrative Control Procedure 114.5, Attachment 13, "Human Performance Circumstances Guidelines and Fact Finding Questionnaires," allowed certain exceptions to completing a root cause analysis, fact finding meeting, or fact finding questionnaire and stated that "justification for not completing the investigation shall be documented on the action request." Contrary to the above, several human performance circumstances were documented using the action request system (AR's 23049, 23045, 22864, 22482, 21389, 23305, 22405, 22440, 23201, 22744, 22686, 22679, and 23035) and the licensee failed to complete a root cause analysis, fact finding meeting, or fact finding questionnaire and, for the above mentioned ARs, failed to document the justification for not completing the investigations. This Severity Level IV violation (50-331/2001-03-01(DRP)) is being treated as a Non-Cited Violation consistent with Section VI.A.1. of the NRC Enforcement Policy. The licensee initiated Action Request 24346 to evaluate and resolve the finding. The inspectors performed a risk significance screening in accordance with NRC Inspection Manual Chapter 0610\*, "Power Reactor Inspection Reports," Appendix B, "Thresholds for

Documentation.” Because the failure to document the human performance circumstance evaluation as required did not have an actual or credible impact on safety, the issue was not evaluated using NRC Manual Chapter 0609, “Significance Determination Process”. However, the finding was more than minor based on extenuating circumstances (Group 3 Questions). This “No Color” finding was considered to be a substantive cross-cutting issue which was captured in a number of examples noted in different functional areas and across departments which indicated an adverse performance pattern.

## 2. Root Cause Analysis (RCA) Observations

The team reviewed approximately 12 RCAs and concluded that the end product was good. The root cause(s) appeared appropriate, corrective actions were established with owners and milestones specified, and the corrective actions were implemented in accordance with the licensee’s programs. However, the inspectors identified several potential RCA program weaknesses:

- a. Extent of Condition - The majority of the RCA’s reviewed by the team did not clearly or formally address extent of condition. The Duane Arnold RCA procedure did not require the extent of condition to be evaluated in the RCA investigation/evaluation.
- b. Effectiveness Reviews - The RCA’s reviewed by the team did not formally address the effectiveness of the corrections. The team also identified that the RCA procedure did not require effectiveness reviews for implemented corrective actions to determine if actions were effective in resolution of the issue.

The inspectors performed a sample review of past RCAs and did not identify any adverse consequences as a result of the above potential program weaknesses. The station also identified these weaknesses through the self-assessment process, and had added (prior to the NRC inspection team’s arrival on site) requirements for assessing the extent of condition and effectiveness of corrective actions. The revised RCA procedure was scheduled to be issued in March 2001. The station had also looked back at all root causes performed for the prior two years to ensure no past problems existed.

## 3. Operability Evaluations (OE)

The team reviewed approximately ten operability evaluations, and determined that the OE’s were not, in most cases, a “stand-alone” document. Additionally, it was noted the OE format was not consistent. This issue has been raised earlier by the resident inspectors and the item was in the corrective action program, as AR 21752, to be evaluated and addressed by the licensee.

.3 Effectiveness of Corrective Action

a. Inspection Scope

The inspectors reviewed selected ARs and associated corrective actions to evaluate the effectiveness of corrective actions. The inspectors reviewed Action Requests, operability determinations, and root cause reports to verify that corrective actions, commensurate with the issues, were identified and implemented in a timely manner, including corrective actions to address common cause or generic concerns. The inspectors reviewed information recorded since July 1999.

During review of a sample of corrective action documents, the inspectors assessed the adequacy of corrective actions to properly address the identified cause(s) of the issue or event. The inspectors also verified the implementation of a sample of corrective actions. The samples were selected based on their importance in reducing operational risks.

A listing of the specific documents reviewed is attached to the report.

b. Issues and Findings

There were no findings identified in this area. The team reviewed a large sample of Action Requests and concluded that the corrective actions taken for significant conditions adverse to quality were effective for the resolution of the issues. No weaknesses were identified for "Effectiveness of Corrective Actions". As documented in the above report section, the licensee's program did not formally require effectiveness reviews for AR's. The inspectors did not identify any significant consequences resulting from a lack of formal effectiveness reviews. The station had already captured this issue via self-assessment and entered the item into the station corrective action process for evaluation and resolution.

.4 Assessment of Safety-Conscious Work Environment

a. Inspection Scope

During the conduct of interviews, document reviews and observations of activities, the inspectors looked for evidence that suggested plant employees may be reluctant to raise safety concerns. The inspectors also discussed the implementation of the Employee Concerns Program conducted per Administrative Control Procedure (ACP) 114.7, "Employee Safety Concerns", Revision 6 with the station's program owner and reviewed a recent Safety Conscious Work Environment self-assessment.

b. Issues and Findings

For the limited review performed in this area, there were no issues or findings identified.

#### 4OA6 Management Meetings

##### .1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. R. Anderson and other members of licensee management on March 9, 2001. 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  
J. Bjorseth, Manager, Engineering  
R. Brown, QA Manager  
D. Curtland, Operations Manager  
H. Giorgio, Radiation Protection Manager  
J. Karrick, Licensing  
B. Klotz, AR Administrator  
B. Murrell, Regulatory Communications Supervisor  
K. Peveler, Manager, Regulatory Performance  
K. Putnam, Manager Licensing  
C. Schrock, VP Operations  
W. Simmons, Maintenance Superintendent  
G. Van Middlesworth, Site General Manager  
K. Young, Training Manager

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

50-331/2001-03-01	NCV	Failure to Follow Procedure for Evaluation of Human Performance Concerns
-------------------	-----	--

### Closed

50-331/2001-03-01	NCV	Failure to Follow Procedure for Evaluation of Human Performance Concerns
-------------------	-----	--

### Discussed

None

## LIST OF ACRONYMS USED

AR	Action Request
CFR	Code of Federal Regulations
DAEC	Duane Arnold Energy Center
DRP	Division of Reactor Projects
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
IR	Inspection Report
NRC	Nuclear Regulatory Commission
OI	Operating Instruction
OWA	Operator Workaround
P&IDs	Piping and Instrumentation Drawings
PWO	Preventive Maintenance Order
SSCs	Structure, System, or Components
STP	Surveillance Test Procedure
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report

## 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.

<u>Inspection Procedure</u>		
<u>Number</u>	<u>Title</u>	<u>Report Section</u>
71152	Problem Identification & Resolution	4OA2
(none)	Meetings, Including Exit	4OA6

## LIST OF DOCUMENTS REVIEWED

### Corrective Action Program Description

- \* Administrative Control Procedure (ACP) 114.4, "Corrective Action Program", Rev. 7
- \* ACP 114.3, "LER Processing and Root Cause Analysis", Rev. 10
- \* ACP 114.5, "Action Request System", Rev. 26
- \* ACP 1410.6, "Temporary Modification Control", Rev. 27

### Procedures

- \* Reactor Engineering Department Instruction 009, "Scram Response Evaluation Instruction"
- \* ACP 101.01, "Procedure Use and Adherence", Rev. 13
- \* Quality Assurance Procedure (QAP) 1116.4, "Internal Assessment Program", Rev. 16
- \* QAP 1114.2, "Performing and Reporting Trend Analysis", Rev. 14
- \* Radwaste Handling Procedure (RWH) 3402.4, "Processing Contents of 1T-72 Waste Surge Tank"
- \* CKTBKR-G080-07, "GE AM4.16-350-2H Medium Voltage Breaker Overhaul", Rev. 4
- \* ACP 102.1, "Review of Industry-Related Documents", Rev. 13
- \* NG-00-1583, "WANO/INPO SOER 99-01 "Loss of Grid" Effectiveness Review"
- \* ACP 114.7, "Employee Safety Concerns", Rev. 6

### Action Requests (ARs)

- 21389 "Incorrect Drawing Referenced and Marked-up in Temp Mod 00-012"
- 23007 "Control Room Drawings not Marked-up to Show Installation of Temp Mod 00-052"
- 23305 "Temp Mod 99-076 Installed and Affected Drawings Not Marked-up"
- 23653 "TSC Copy of Drawing Not Marked-up for Temp Mod 01-01"
- 18372 "Timeliness of Corrective Action Implementation"
- 22796 "4160 VAC Breaker Failure to Close"
- 22375 "4KV GE Magna-blast Breaker Refurbishment"
- 23475 "DAEC Warehouse Oil Storage"
- 16011 "1P49 Operability"
- 20666 "Instruments Out-of-Tolerance"
- 21293 "Power Uprate DTR-601 Identified Potential S/U Transformer Overloading"
- 16282 "Drywell Sump System"
- 19638 "CRD Pump Oil Change"
- 19025 "QAM Chapter 3 Needs Revision"
- 16430 "Grid Disturbance Cycled 345 KV Breakers in Switchyard"
- 16205 "Evaluated Changing UFSAR 7.3.9 Stroke Time Limit for MO-4423 & MO-4424"
- 17633 "1D45 (120 Volt Uninterruptible AC Power Supply) Input Fuse Cycling"
- 22877 "LS3218A (SBDG Jacket Cooling Water Level Switch) Failed to Trip During Cal."
- 17100 "1D1 (125 VDC Div I Battery) Failed Part of Performance Discharge Test Capacity > 90% of Previous Discharge Test"
- 17168 "Evaluate Replacement of 1D1, 1D2, 1D4, & 1D93 (125 & 250 VDC Battery)"

22143 "Review GE "Most Probable Cause of Failure Report" V-0032-KE1 (DAEC 4160 Breaker 1A210 "GENERAL SERVICE WATER PUMP 1P-89C")

18262 "Reactor Scram Occurred When LT 45431 Valving Into Service Per STP 3.3.3.2-01"

18515 "Unintentional Loss of All Fuel Pool Cooling For 2 ½ Days"

20519 "Reactor Scram"

18431 "INPO SEN 210, Reactor Scram Caused by Rapid Injection of Cold Water"

19013 "Review GE Part 21 Notification: Minimum Test Voltage for GE Type AK/AKR Circuit Breaker"

19014 "NRC IN2000-01:Operational Issues Identified in BWR Trip and Transient"

19041 "INPO O&MR-429, Oscillating Primary to Secondary Steam Generator Leak Rate"

19298 "INPO O&MR-426, Plant Transients Due to Troubleshooting"

19404 "Review NRC RIS 2000-06: Consolidated Line Item Improvement Process for Adopting Standard Tech Spec Changes for Power Reactors"

19432 "NRC RIS 2000-07: Use of Risk-informed Decision Making in License Amendment Reviews"

19729 "INPO SEN-212, High Bearing Temperatures"

19746 "Review GE SIL 617: GE Type AK-15/25 Circuit Breaker and MVT Flux Shifter Failure to Reset"

20768 "Review GE SIL 001, Rev. 6 SIL for Applicability to DAEC"

21096 "NRC IN 2000-10: Recent Events Resulting in Extremity Exposures Exceeding Regulatory Limits"

21471 "NRC RIS 2000-12: Resolution of Generic Safety Issue B-55, Improved Reliability of Target Rock SRVs"

22297 "NRC IN 2000-12: Potential Degradation of Fire Fighter Primary Protective Garments"

22807 "NRC IN 2000-17: Crack in Weld Area of Reactor Coolant System Hot Leg Piping at VC Summer"

22814 "NRC RIS 2000-21: Changes to the Unplanned Scram and Unplanned Scram with Loss of Normal Heat Removal Performance Indicators"

24004 "OE 11708: RCIC Steam Supply Bypass Valve Seat Leakage"

22796 "OE 11627: Magne-Blast Vertical Lift Circuit Breaker Failed to Close Following Maintenance"

19824 "Review MD-45 Rotating Equipment Master Lube List"

17751 "Review Items Issued by CMARs/PMARs/PWOs/CWOs for Lubricants Specified"

20224 "Oil Related Discrepancies Between MD045 & PWO/PMAR"

20231 "Remove "P#" References From Lubrication Related PPTs"

22405 "Incorrect Procedure Revisions Found in Training Center for AOP915 (Shutdown Outside Control Room)"

22430 "Revision '3' of STP 3.4.1-02, 'Single Loop Operation' Used Instead of Revision '4'"

23201 "Issuance of Revision #3 to OI 442A2 Was to Have Been Coordinated with Revisions to OI515 and Bech M-142 But Wasn't"

23489 "The 1203 Series ACPs Have Been Changed and Renumbered But the Control Room Copy Was Not Updated"

22440 "Revision 17 of IPOI 6 'Cold Weather Operations' Was Issued While Revision 16 Checklist Was In Progress"

22679 "Year 2000 Evaluated Exercise: Worker Accessed the Refueling Bridge FME Sone Wearing a Hard Hat"

21705 "PWO 1112359 (Lube & Inspect MO2030-0) Wasn't Completed by its Drop Dead Date"

21704 "PWO 1112355 (Lube & Inspect MO2000-0) Wasn't Completed by its Drop Dead Date"

22868 "Wrong Gas Bottle Connected to PCM in Chemistry Lab"

- 22482 "Near Miss: Operations Testing Specified ion PWO 1114789 Would Have Left Reactor Vessel Pressure PS4637 Isolated"
- 22864 "Insufficient Planning Prior to Asking WCC to Sign on Work for Turbine Lube Oil Conditioner"
- 22686 "Contaminated Masslin Found Outside the Posted Contaminated Area"
- 22690 "Fixed Contamination Found on Tool Bucket in Non-RMA"
- 23049 "Acid Tank Area Eye Wash Station Valve Found Open, But Should Have Been Closed for Freeze Protection"
- 22744 "Incorrect Revision of Control Form 'RW-I-4' Used for Radwaste Drums 00-N-010, 012, and 009"
- 21511 "Tagout 1410 Requested Standby Diesel Generator Normal Start Compressor Be Isolated, But the Isolation Valves for the Pressure Switch Were Not Included on Tagout"
- 22990 "Failed to Document LCO Condition When Drywell Nitrogen Makeup Inlet Isolation Valve Was Tagged Out"
- 22655 "Sump Pump 1P-272A and 1P-272B Seal Water Supply Isolation Found Out of Position"
- 22910 "Found Methane Bottle in Nitrogen Bottle Cabinet for 161Kv/22Kv Single Phase Transformer"
- 23035 "After Clearing Tagout 000749, Radwaste Operator Found Drain Valve V64-0135 Mispositioned"
- 22409 "Discharge Header Isolation to 1T-251, V69-0151, Found Out of Position Closed"
- 18776 "Identify and Document Standard Work Practices for Instrumentation Valving In and Out, Filling and Venting, and Re-pressurization"
- 18196 "Implement Enhancements to I&C Training on Instrumentation Filling, Venting, and Re-pressurizing"
- 18821 "Review the Need to Changing Practices Such as Filling and Venting Transmitters"
- 18658 "Create New STP"
- 18640 "Identify Possible Plant Trips That May Result From Instrument Calibrations on Balance of Plant Systems"
- 18703 "Reinforce Expectation of ACP 101.01 Revision 10 Section 3.5, Step (2)(e)"
- 18702 "Review UFSAR Design Limits"
- 19354 "Review the Methodology of Training & Qualifying the ERO Staff"
- 17633 "1D45 (120 Volt Uninterruptible AC Power Supply) Input Fuse Blowing"
- 22959 "STP 3.7.5-01 'Control Building Chiller Operability' Does Not Collect Enough Parameter Data to Adequately Demonstrate the Functional Ability of 1VCH001A&B"
- 22811 "Resolution to AR 20672 Satisfies the Assignment, But Fails to Identify 'Causes' or 'Corrective Actions to Prevent Recurrences'"
- 22474 "All Requirements of CKTBKR-5188-01 Were Not Complied With During the '6 Year Inspection' on CB2820 & CB0710"
- 23035 "STP 3.8.1-04 'Standby Diesel Generator Operability Test (Slow Start From Norm Start Air)' Was Revised to Set 'Pre-lube Timer' to '2 Min' But No Step Was Included to Reset the Timer to '1 min'"
- 22863 "Fire Protection Panel 1C040 H-6 Annunciator ARP Needs Revision for Cardox Level, LIS8505 Setpoint"
- 20238 "QA Assessment of the Security Plan/Contingency Plan Resulted in Eight Recommendations"
- 21434 "Review Concerns Associated with the Large Number of Emergency Planning Siren Battery Failures This Summer"
- 22179 "M&TE Out of Tolerance Clamp on Ammeter, DAEC ID# AO69"
- 22681 "Radioactive Materials Found in Domestic Water Room"

18266 "Minimum Staffing Levels/Unsafe Security Practice"  
19068 "Develop Standard for an HP Task for Marinelli Gas Sampling"  
20804 "Emergency Planning Siren 15J Reported as Inoperable on 7/5/2000 And Again on 7/10 And 7/17"  
22116 "Fission Product Barrier EALs - Unisolable Primary System Leakage"  
20250 "Contraband Discovered in a 'Non-Site Designated Vehicle' During Security Search"  
21380 "Missed Firewatch"  
20825 "Emergency Planning Siren Test Report - August 2000"  
19762 "Locked High Radiation Area Key Custodian Responsibilities"  
18379 "Failure of Drywell Personnel Hatch LLRT"  
20829 "DAEC Siren Operability Reports For The June and July Monthly Tests Show a Significant Negative Trend in Siren Operability"  
18555 "Procedure Adherence"  
17654 "HP Not Present During MO-1909 Work"  
20241 "Potential URI, Assess Authorization Versus Need to Have Access"  
19066 "Focused Self Assessment: Year 2000 RWPs For Completeness And Compliance With Procedural Requirements"  
18689 "Drill Issue: Review EAL Basis Document For Possible Improvement"  
14395 "Review NRC IN 99-01"  
20352 "Simulator - OSS Office Status Board"

#### Operability Determinations

#### Root Cause Evaluations

#### Duane Arnold Energy Center Audits and Assessments

- \* 2000 DAEC Corrective Action Program Self Assessment (July 17 - 21 2000)
- \* DAEC Response to CAP Self-Assessment
- \* QA AR Trend Report 1st Quarter, 2000
- \* QA AR Trend Report 2nd Quarter, 2000
- \* QA AR Trend Report 3rd Quarter, 2000
- \* QA AR Trend Report 4th Quarter, 2000
- \* Human Performance Self-Assessment
- \* Duane Arnold Energy Center Operations Department Third Quarter Report 2000
- \* NMC 2000 Employee Concerns Program Self-Assessment

#### Non-Cited Violations

#### NRC Inspection Reports

- \* IR 50-331/99-005 (DRS)
- \* IR 50-331/99-006 (DRS)
- \* IR 50-331/99-007 (DRP)
- \* IR 50-331/99-008 (DRS)
- \* IR 50-331/99-009 (DRP)
- \* IR 50-331/99-010 (DRS)

- \* IR 50-331/99-011 (DRS)
- \* IR 50-331/99-012 (DRP)
- \* IR 50-331/99-013 (DRS)
- \* IR 50-331/99-014 (DRP)
- \* IR 50-331/99-015 (DRP)
- \* IR 50-331/00-001 (DRP)
- \* IR 50-331/00-002 (DRP)
- \* IR 50-331/00-003 (DRP)
- \* IR 50-331/00-004 (DRS)
- \* IR 50-331/00-005 (DRS)
- \* IR 50-331/00-006 (DRP)
- \* IR 50-331/00-007 (DRS)
- \* IR 50-331/00-009 (DRP)
- \* IR 50-331/00-010 (DRS)
- \* IR 50-331/00-011 (DRS)
- \* IR 50-331/00-012 (DRP)
- \* IR 50-331/00-013 (DRS)
- \* IR 50-331/00-014 (DRP)
- \* IR 50-331/00-015 (DRP)
- \* IR 50-331/00-016 (DRS)