August 10, 2000

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 - NRC INSPECTION REPORT 50-331/2000004(DRS)

Dear Mr. Wilson:

On July 14, 2000, the NRC completed a baseline inspection at your Duane Arnold Nuclear Plant. The enclosed report presents the results of those inspection activities. The results of this inspection were discussed with you and other members of your staff on July 14, 2000.

The inspection was an examination of activities conducted under your license as they relate to the Safeguards Strategic Performance Area and compliance with the Commission's rules and regulations and with the conditions of your license. Within this area, the inspection consisted of a selected examination of procedures and representative records, observation of activities, and interviews with personnel. Specifically, this inspection focused on performance involving your program for collecting and reporting performance indicator information, physical protection performance indicator verification, implementation of a revision to the security plan, access authorization and behavioral observation, access control, and follow up on open security items.

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Based on the results of the inspection, the NRC has determined that a violation of NRC requirements occurred. The violation pertained to a failure to maintain the minimum number of response force members immediately available to respond. This issue is addressed in Section 40A5.2 of the report details. The issue was determined to be of very low risk significance (Green), corrective actions have been implemented, and the issue has not recurred. Therefore, the NRC is treating the issue as a Non-Cited Violation (NCV), in accordance with Section VI.A. 1 of the NRC's Enforcement Policy. If you contest the violation or severity level of the 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 a copy to the Regional Administrator, Region III, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

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).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

***/RA/***

James R. Creed
Safeguards Program Manager
Division of Reactor Safety

Docket No. 50-331
License No. DPR 49

Enclosure: Inspection Report 50-331/2000004(DRS)

cc w/encl: E. Protsch, Executive Vice President -
Energy Delivery, Alliant;
President, IES Utilities, Inc.
Richard L. 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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REGION III

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|---|---|
| Docket No: | 50-331 |
| License No: | DPR-49 |
| Report No: | 50-331/2000004(DRS) |
| Licensee: | Alliant Energy |
| Facility: | Duane Arnold Energy Center |
| Location: | 200 First Street S.E.<br>P. O. Box 351<br>Cedar Rapids, IA 52406-0351 |
| Dates: | July 10–14, 2000 |
| Inspector: | G. Pirtle<br>Physical Security Inspector |
| Approved by: | James R. Creed<br>Safeguards Program Manager<br>Division of Reactor Safety |

# 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

IR 50-331/200004(DRS); on 07/10–14/2000; Alliant Energy, Duane Arnold Energy Center, Unit 1; Access Controls, and Security Response Force.

The inspection was conducted by a regional security specialist. The inspection identified two green issues, one of which was a Non-Cited violation. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process.

**Cornerstone: Physical Protection**

Green. The inspector identified a Non-Cited violation for failure to maintain a minimum number of armed responders which were immediately available (Section 4OA5.2.a).

Green. Additional security keys had to be provided to the control room to maximize plant personnel response capabilities in case of security computer system failure (Section 3PP2.b.2).

Green. The NRC determined that testing security force personnel for glaucoma was not being conducted. The licensee has included glaucoma testing as part of the annual physical examination for security personnel. This issue was determined to be of very low risk significance and within the licensee's response band (Section 40A5.2.b).

Report Details

## 3. SAFEGUARDS

Cornerstone: Physical Protection

3PP1 Access Authorization (AA) Program (Behavior Observation)

a. Inspection Scope

The inspector interviewed five supervisors and five non-supervisors (both licensee and contractor employees) to determine their knowledge of fitness-for-duty (FFD) and behavior observation responsibilities. Procedures pertaining to the Behavior Observation Program and fitness-for-duty semi-annual test result reports were also reviewed.

The inspector reviewed a sample of licensee's records to verify the implementation of the licensee's identification and resolution of problems program. Specifically, four self-assessments, and three calender quarters of logged security events were reviewed.

Additionally, the inspector interviewed security managers to evaluate their knowledge and use of the licensee's corrective action system.

b. Findings

No findings were identified.

3PP2 Access Control (Identification, Authorization and Search of Personnel, Packages, and Vehicles)

a. Inspection Scope

The inspector reviewed licensee's protected area access control testing and maintenance procedures. The inspector observed licensee testing of all access control equipment to determine if testing and maintenance practices were performance based. On two occasions during peak ingress periods, the inspector observed in-processing search of personnel, packages, and vehicles to determine that search practices were conducted in accordance with regulatory requirements. Interviews were conducted and records were reviewed to verify that staffing levels were consistently implemented. Also the inspector reviewed the licensee's process for limiting access to only authorized personnel to the protected area or vital equipment by a sample review of access control records and interviews with security management personnel. The inspector reviewed the licensee's program to control hard-keys and computer input of security-related personnel data.

The inspector reviewed a sample of licensee self-assessments, audits, and security logged events (see attached list of documents reviewed). In addition, the inspector interviewed security managers to evaluate their knowledge and use of the licensee's corrective action system.

b. Findings

.1 An unresolved item pertaining to access to vital areas was identified. 10 CFR 73.55(d)(7) and section 5.5.2 of the licensee's security plan requires access to vital areas to be limited to personnel authorized and who need access to the areas to perform non-emergency duties. A six month card history was run for eight randomly selected persons and a comparison was made to the vital areas authorized and entry into those areas for the six month period. This review showed that in all cases personnel had been granted access to one or more vital areas that they had not entered within the past six months. Additionally, all three persons in one department (licensing) had not entered any vital areas they had been granted access to for the six month period. The licensee chose to enter this issue into the corrective action program (Action Request Form No. 20241) for tracking purposes pending final resolution. The unresolved item is if frequency of access to a vital area needs to be considered when determining work-related need for vital area access, particularly since a program existed for granting temporary access as needed (50-331/2000004-01). Resolution of this issue will be addressed by separate correspondence.

2. (Green) During review of security key control procedures, a concern was identified by the inspector in reference to only one security key being in the control room to issue to plant response personnel to open security doors in case of a security computer system failure. The only assured method of entry through a security computer controlled door if system failure occurs, is by using a hard key to open the door. After additional discussions with security and operations supervisors, two additional keys were made readily available and this issue is resolved. This now provides a sufficient number of keys to be available in the unlikely event the system would fail. The issue is of very low risk significance because of certain capabilities of the system multiplexers to function even with the loss of the primary security computer (details considered as Safeguards Information and exempt from public disclosure).

3PP4. Security Plan Changes (IP71130.4)

a. Inspection Scope

The inspector reviewed Revision 41of the Duane Arnold Energy Center Physical Security Plan which was submitted by licensee letter, dated May 17, 2000, to verify that the change did not decrease the effectiveness of the security plan. The security plan revision was submitted in accordance with 10 CFR 50.54(p).

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

### 4OA1 Performance Indicator Verification (IP71151)

a. Inspection Scope

The inspector verified the data for the Physical Protection Performance Indicators (PI) pertaining to Fitness-For-Duty Personnel Reliability, Personnel Screening Program, and Protected Area Security Equipment. Specifically, a sample of plant reports related to security events, fitness-for-duty reports, and other applicable security records were reviewed for the period between June 1999 and June 2000.

b. Findings

No findings were identified.

### 4OA5 Other

.1 Temporary Instruction 2515/144, "Performance Indicator Data Collecting and Reporting Process"

a. Inspection Scope

The inspector reviewed the performance indicator data collecting and reporting process for the "Fitness-For-Duty/Personnel Reliability," "Personnel Screening Program," and "Protected Area Security Equipment" performance indicators. The review included data collecting and reporting process, definition of terms, calculation method, and consistency with industry guidance document NEI-99-02, Revision 0. Administrative Control Procedure (ACP) 1402.4, Revision 0, dated April 12, 2000, addressed performance indicator data collection and reporting.

b. Findings

During review of the plant procedure for performance indicator (PI) collecting and reporting (ACP 1402.4), three errors were identified as described below, which could have resulted in incorrect PI data if the errors within the procedure were followed. The personal knowledge of reporting requirements of the security staff member preparing the PI data inputs compensated for the errors.

Appendix 1 to the procedure incorrectly defined the plant protection PI for personnel screening program performance. The definition within the procedure states that the number of failures to implement 10 CFR Part 73 that result in a reportable event constitute the PI. However, the number of failures to implement only 10 CFR 73.56 and 57 requirements are the basis for the PI.

The plant procedure for the Fitness-For-Duty (FFD) and Personnel Performance PI incorrectly identified security event reports and 10 CFR 73.71 reports as the source documents for the PI data. The correct source documents are 10 CFR 26.73 reports.

Section 5.0 of the procedure referenced an incorrect procedure for record retention purposes.

The errors were entered into the licensee's corrective action program (Action Request Form No. 20240). Except for the errors noted above, the inspector concluded that the licensee's procedure contained sufficient information for security personnel compiling plant protection data to adequately report the plant protection performance indicators. The errors did not cause FFD or Personnel Screening PI index values to be outside of the green response band because no reportable events had occurred during the period of review.

.2 Miscellaneous Security and Safeguards Issues

a. (Closed) Unresolved Item (Report No. 50-331/98018-01): This unresolved issue pertained to using armed response security force members for compensatory posts outside of the protected area, which made them not immediately available to respond to a security contingency event. The second part of the unresolved item was what the reporting requirements were for occasions when the minimum number of armed responders were not immediately available.

(Green) NRC HQ resolution of this issue concluded that armed responders used outside of the protected area for compensatory posts that did not require the security officer to be armed constituted a violation of Chapter 9 of the licensee's security plan since their use on the comp post outside of the protected area make them not immediately available to counter a security contingency. Additionally, NRC HQ further concluded that the four occasions in 1998 when the minimum number of armed responders were not immediately available, should have been reported to the NRC within one hour after occurrence and a Licensee Event Report submitted within 30 days, rather than just logged as security events.

The security staff made the necessary procedure changes, changed guidance on use of armed response personnel for compensatory measures, and there have been no repeat occurrences since the issue was identified. This violation is being treated as a Non-Cited violation (NCV), consistent with Section VI A.1 of the May 2000 NRC Enforcement Policy (NCV 50-313/2000004-02).

b. (Closed) Unresolved Item (Report No. 50-331/99006-01): (Green) The NRC determined that testing security force personnel for glaucoma was not being conducted. The licensee has included glaucoma testing as part of the annual physical examination for security personnel. This issue was determined to be of very low risk significance and within the licensee's response band.

c. (Closed) Licensee Event Report No. 1999-S08-00: This Licensee Event Report was dated January 28, 2000, and pertained to the minimum number of security shift staffing not being available for 22 minutes because of an emergency (family death) involving an on duty security officer. The situation was responded to in accordance with security plan and security procedure requirements.

4OA6 Management Meetings

Exit Meeting Summary

The inspector presented the inspection results to Mr. D. Wilson and other members of the licensee staff at the conclusion of the inspection on July 14, 2000. The personnel present acknowledged the findings presented. The inspector asked the licensee representatives whether any materials examined or inspection findings discussed during the exit meeting should be considered as proprietary or safeguards information. No proprietary or safeguards information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Wilson, Vice President, Nuclear
R. Cleveland, Access Manager, NMC
M. Findlay, Security Director, NMC
M. Duss, Security Specialist
D. Englehart, Security Manager
J. Karrick, Nuclear Licensing Specialist
B. Murrel, Supervisor, Regulatory Communications
K. Peveler, Regulatory Performance Manager

NRC

P. Prescott, NRC Region III Senior Resident Inspector
M. Kurth, NRC Region III Resident Inspector

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

| | | |
|---|---|---|
| 50-331/2000004-01 | URI | Unescorted Access Criteria For Vital Areas |
| 50-331/2000004-02 | NCV | Implementation and Reporting of Occasions When Required Armed Responders Were Not Immediately Available |

Closed

| | | |
|---|---|---|
| 50-331/98018-01 | URI | Implementation and Reporting of Occasions When Required Armed Responders Were Not Immediately Available |
| 50-331/99006-01 | URI | Need to Test Security Force Members for Glaucoma |
| 50-331/2000004-02 | NCV | Implementation and Reporting of Occasions When Required Armed Responders Were Not Immediately Available |
| LER1999-S-08-00 | LER | Minimum Number of Armed Responders Not Available Due to Emergency (Death in Family) |

Discussed

None

## LIST OF ACRONYMS USED

| | |
|---|---|
| DRS | Division of Reactor Safety |
| NCV | Non-Cited Violation |
| PA | Protected Area |
| PI | Performance Indicator |
| URI | Unresolved Item |

## PARTIAL LIST OF DOCUMENTS REVIEWED

Semi Annual FFD Reports for Period Covering January 1998 to December 1999
Administrative Control Procedure ACP 1402.4, “NRC Performance Indicator Collection and Reporting,” Revision 0, April 11, 2000
Administrative Control Procedure ACP 1401.2, “Initial Site Indoctrination and Final Work Termination,” Revision 5, September 27, 1995
Administrative Control Procedure ACP 1413.4, “Area Access Authorization and Site Visitor Requirements,” Revision 15, March 29, 2000
Administrative Control Procedure ACP 101.7, “Continued Behavioral Observation Program,” Revision 1, August 18, 1999
Administrative Control Procedure ACP 101.8, “ Access Authorization Program,” Revision 0, January 10, 1997
Administrative Control Procedure ACP 101.6, “”Fitness-For-Duty,” Revision 5, February 3, 1999
Vital and Protected Area Key and Core Inventory, dated June 25, 1999 and June 28, 2000
DAEC Security and Drill Authorization Forms, January 31 through June 3, 2000
Monthly Security Status Reports, January through May, 2000
Testing and Maintenance Requirements for Security Equipment for April through June 2000
DAEC Security Daily Shift Log and Surveillance Log for April through June 2000
Card History Printouts for Eight Randomly Selected Personnel for the Period Between December 20, 1999 through May 20, 2000
Licensee Event Report No. 1999-S08-00, dated January 28, 2000
Performance Indicator Calculation, Review, and Approval, First and Second Quarter 2000
DAEC Security Directive SD-4, “Explosive Detectors,” Revision 13, April 14, 1999
DAEC Security Directive SD-5, “Metal Detector,” Revision 10, July 11, 1995
DAEC Security Directive SD-7, “X-Ray Inspection System,” Revision 10, September 13, 1999
DAEC Security Directive SD-9, “Keycard/Security Access Badge Issuance,” Revision 13, June 22, 1998
DAEC Security Procedure SP-4, “Control of Personnel and Visitors,” Revision 37, March 21, 2000
DAEC Security Procedure SP-5, “Vehicle Access and Control,” Revision 21, November 30, 1998
DAEC Security Procedure SP-9, “Locks, Keys, and Cards,” Revision 15, February 1, 2000
DAEC Security Procedure SP-11, “Reporting of Physical Security Events,” Revision 21, December 31, 1999
Security Event Reports from June 1999 to June 2000
Quality Assurance Quarterly Assessment Report, First Quarter 1999, through First Quarter 2000