

December 2, 2003

Mr. Mark Peifer  
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 07200032/2003-004(DNMS)

Dear Mr. Peifer:

On November 3, 2003, the NRC completed an inspection at the Duane Arnold Energy Center. The purpose of the inspection was to determine whether dry fuel storage cask loading activities were conducted safely and in accordance with NRC requirements. Specifically, the inspectors observed various portions of the loading of the second through tenth dry fuel storage casks. At the conclusion of the inspection on November 3, 2003, the NRC inspectors discussed the findings with members of your staff.

This inspection consisted of an examination of dry fuel storage cask loading activities at the Duane Arnold Energy Center as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations. Overall, the loadings of the second through tenth dry fuel storage casks were performed adequately.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

M. Peifer

-2-

We will gladly discuss any questions you may have regarding this inspection.

Sincerely,

**/RA/**

Christopher G. Miller, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

Docket No. 07200032

Enclosure: Inspection Report 07200032/2003-004

cc w/encl: E. Protsch, Executive Vice President -  
Energy Delivery, Alliant;  
President, IES Utilities, Inc.  
J. Cowan, Chief Nuclear Officer  
J. Forbes, Senior Vice President  
J. Bjorseth, Plant Manager  
S. Catron, Manager, Regulatory Affairs  
J. Rogoff, Esquire General Counsel  
B. Lacy, Nuclear Asset Manager  
D. McGhee, Iowa Department of Commerce  
Chairman, Linn County Board of Supervisors  
State Liaison Officer  
Chairperson, Iowa Utilities Board  
The Honorable Charles W. Larson, Jr.  
Iowa State Representative

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| OFFICE | RIII        |  | RIII     |  |  |  |  |
| NAME   | Landsman:mb |  | Miller   |  |  |  |  |
| DATE   | 12/02/03    |  | 12/02/03 |  |  |  |  |

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 07200032

Report No. 07200032/2003-004(DNMS)

Licensee: Alliant, IES Utilities, Inc.

Facility: Duane Arnold Energy Center

Location: 3277 DAEC Road  
Palo, IA 53234-9785

Dates: September 29 - November 3, 2003

Inspector: Ross B. Landsman, Project Engineer  
Magdalena R. Dziejczak, Nuclear Safety Intern

Approved by: Christopher G. Miller, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## **EXECUTIVE SUMMARY**

### **Duane Arnold Energy Center NRC Inspection Report 07200032/2003-004(DNMS)**

This inspection included direct observation by the inspectors of various portions of the loading of the second through tenth dry fuel storage casks.

#### Loading of the Second through Tenth Casks

- The loadings of the second through tenth dry fuel storage casks were performed adequately. (Section 1.0)

## Report Details<sup>1</sup>

### **1.0 Loading of the Second through Tenth Casks**

#### a. Inspection Scope (60855)

The inspectors observed various portions of the loading of the second through tenth casks to verify compliance with 10 CFR Part 72 and the Certificate of Compliance conditions. This included direct observation of the following activities: moving the cask into the reactor building; lifting the cask to the refueling floor; lowering the cask into the cask pit area of the spent fuel pool; loading the fuel bundles into the cask; placing the shield plug and inner cover plate; raising the cask out of the spent fuel pool; draining the cask; welding the inner cover plate; vacuum drying and helium back fill; welding the outer cover plate; lowering the cask from the refueling floor; transporting the cask to the storage pad; and inserting the cask into the horizontal storage module on the storage pad. The inspectors reviewed various procedures related to dry cask storage activities to ensure the licensee met procedural requirements and license commitments. These procedures are listed at the end of this report.

#### b. Observations and Findings

Licensee personnel completed loading activities correctly and in accordance with prescribed procedures during the loading evolutions which the inspectors observed. The cask loading team reinforced the importance of safety regarding heavy lifts. The licensee maintained adequate radiation protection activities and controls. Cask workers and health physics personnel maintained good communication, and workers exhibited proper radiation worker practices. Loading the first ten casks gave the plant full core offload capability until the Spring of 2009.

#### c. Conclusions

The loadings of the second through tenth dry fuel storage casks were performed adequately.

### **2.0 Exit Meeting**

The inspectors presented inspection results to members of licensee management at the conclusion of the on-site portion of the inspection on October 2, 2003, and during subsequent telephone calls ending on November 3, 2003. The licensee acknowledged the findings presented. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary.

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<sup>1</sup>NOTE: A list of acronyms used in the report is included at the end of the Report Details.

## **PARTIAL LIST OF PERSONS CONTACTED**

### Licensee

B. Wohlers, Dry Fuel Project Support  
D. Barta, Senior Licensing Analyst  
J. Bjorseth, Plant Manager  
M. Peifer, Site Vice President  
S. Catron, Regulatory Affairs Manager  
B. Voss, Dry Fuel Storage Manager  
K. Smith, NMC Dry Fuel Project Manager  
K. Morgan, Nuclear Oversight Manager

## **INSPECTION PROCEDURES USED**

IP 60855      Operation of an ISFSI

## **ITEMS OPENED, CLOSED, AND DISCUSSED**

### Opened

None

### Closed

None

### Discussed

None

## **LIST OF ACRONYMS USED**

None

## LICENSEE DOCUMENTS REVIEWED

| PROC.<br>NO. | PROCEDURE TITLE   | REV. | DATE    |
|--------------|---|------|---------|
| DFS 101      | Transfer Trailer Receipt Inspections and Pre-Operational Training                         | 1    | 7/21/03 |
| DFS 102      | Transfer Cask Annual Inspections and Pre-Job Testing                                      | 1    | 6/27/03 |
| DFS 103      | Dry Shielded Canister Receipt Inspections and Pre-Operational Testing                     | 1    | 6/17/03 |
| DFS 104      | Ancillary Equipment Receipt Inspections and Pre-Op Testing                                | 0    | 5/28/03 |
| DFS 201      | Dry Shielded Canister/Transfer Cask Preparation for Fuel Loading Operations               | 1    | 7/21/03 |
| DFS 202      | Dry Shielded Canister Welding Operations  | 0    | 7/03/03 |
| DFS 203      | Dry Shielded Canister Sealing Operations  | 2    | 7/21/03 |
| DFS 301      | Loaded Dry Shielded Canister/Transfer Cask from Refueling Floor to ISFSI Operations       | 3    | 7/22/03 |
| DFS 302      | Dry Shielded Canister from Transfer Cask to Horizontal Storage Module Transfer Operations | 2    | 7/21/03 |
| DFS 303      | Dry Shielded Canister from Horizontal Storage Module to Transfer Trailer Operations       | 2    | 7/21/03 |
| DFS 304      | Loaded Dry Shielded Canister/Transfer Cask from ISFSI to Refueling Floor Operations       | 1    | 7/21/03 |
| DFS 401      | Dry Shielded Canister Lid Removal Operations  | 2    | 7/22/03 |
| DFS 402      | Transfer Cask/Dry Shielded Canister Fuel Unloading Operations                             | 0    | 6/02/03 |
| DFS 801      | Fuel Selection  | 1    | 6/17/03 |
| DFS 802      | Horizontal Storage Module Assembly and Erection Procedure                                 | 3    | 5/30/03 |
| DFS 803      | Personnel Medical Requirements  | 0    | 6/02/03 |