

November 20, 2002

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
USNRC INSPECTION REPORT 50-331/02-12(DRS)

Dear Mr. Peifer:

On October 25, 2002, the U.S. Nuclear Regulatory Commission (USNRC) completed an inspection at your Duane Arnold Energy Center. The enclosed report documents the inspection findings which were discussed on October 25, 2002, with you and members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on emergency preparedness, including your staff's determinations of performance indicators for the Emergency Preparedness Cornerstone.

On the basis of the results of this inspection, no findings of significance were identified.

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

Sincerely,

/RA/

Wayne J. Slawinski, Acting Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-331/02-12(DRS)

See Attached Distribution

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M. Peifer

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

M. Peifer

-2-

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The Honorable Charles W. Larson, Jr.
Iowa State Representative
E. Jenkins, FEMA, Region VII

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-331/02-12(DRS)

Licensee: Alliant, IES Utilities, Inc.

Facility: Duane Arnold Energy Center

Location: 3277 DAEC Road
Palo, Iowa 52324-9785

Dates: October 21 through October 25, 2002

Inspectors: T. Ploski, Senior Emergency Preparedness Inspector
R. Jickling, Emergency Preparedness Inspector
R. Schmitt, Radiation Protection Inspector

Approved by: Kenneth R. Riemer, Chief
Plant Support Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000331-02-12(DRS); Alliant, IES Utilities Inc.; on 10/21-10/25/2002, Duane Arnold Energy Center. Emergency Preparedness Specialist Report.

The report covers a one-week baseline inspection by two regional emergency preparedness inspectors and a radiation protection inspector. The inspection focused on the Emergency Preparedness Cornerstone in the Reactor Safety strategic performance area during the biennial emergency preparedness exercise. This inspection also included a review of records related to the three emergency preparedness performance indicators for the nine-month period ending June 30, 2002. No findings of significance were identified.

The USNRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the October 23, 2002 exercise's objectives and scenario to ensure that the exercise would acceptably test major elements of the licensee's emergency plan and to verify that the exercise's simulated problems provided an acceptable framework to support demonstration of the licensee's capability to implement its plan. The inspectors also reviewed records of a drill, which was conducted in September 2002, to determine whether the associated accident scenario was sufficiently different from the scenario used in the October 23, 2002 exercise.

The inspectors evaluated the licensee's exercise performance, focusing on the risk-significant activities of emergency classification, notification, and protective action decision making, as well as implementation of accident mitigation strategies in the following emergency response facilities:

- Control Room Simulator (CRS);
- Technical Support Center (TSC);
- Operations Support Center (OSC); and
- Emergency Operations Facility (EOF).

The inspectors also assessed the licensee's recognition of abnormal plant conditions, transfer of responsibilities between facilities, internal communications, interfaces with offsite officials, readiness of emergency facilities and related equipment, and overall implementation of the licensee's emergency plan.

The inspectors attended the licensee's post-exercise critiques, which involved CRS, TSC, OSC, and EOF participants and controllers, in order to evaluate the licensee's initial self-assessment of its exercise performance. The inspectors later met with the licensee's lead exercise evaluators to obtain the licensee's refined assessments of its exercise participants' performances. These self-assessments were then compared with the inspectors' independent observations and assessments.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's records related to the three emergency preparedness PIs to verify that the licensee's program was implemented consistent with the USNRC-endorsed, industry guidelines in Nuclear Energy Institute (NEI) publication No. 99-02, "Regulatory Assessment Performance Indicator Guideline," Revisions 1 and 2, and related licensee procedures. Specifically, licensee records related to the performance of the Alert and Notification System (ANS), key Emergency Response Organization (ERO) members' drill participation, and Drill and Exercise Performance (DEP) were reviewed to verify the accuracy and completeness of the data submitted to USNRC for the period October 2001 through June 2002.

b. Findings

Introduction

One Unresolved Item was identified regarding the licensee's assessments of numerous initial notification forms (designated NOTE-05 forms), which were associated with DEP indicator opportunities during CRS training sessions conducted from October 2001 through June 2002. The inspector-identified inaccuracies in the completed NOTE-05 forms could potentially impact the licensee's previously submitted DEP indicator data sufficiently to cause this PI to fall from the Licensee Response (Green) Band to the Regulatory Response (White) Band.

Description

The NOTE-05 forms would be used to document initial information communicated to State and county officials during an actual emergency event. However, State and county officials neither participated in nor received any of the NOTE-05 forms completed during the CRS sessions.

Section 2.4 of Revisions 1 and 2 of the NEI 99-02 publication specified 10 items that were expected to be correctly completed on a licensee's initial notification message form in order to conclude that the form was accurately completed. These 10 items included: the emergency class; whether a release was taking place; and whether the event was a drill or an actual emergency.

The inspectors compared all NOTE-05 forms, which were completed by CRS, TSC, or EOF staffs during the aforementioned nine month period to the accuracy and timeliness criteria specified in Section 2.4 of the NEI 99-02 publication, and identified the following four types of inaccuracies that were not identified during the licensee's assessments of these forms prior to its DEP indicator data submittals to NRC.

First, the inspectors identified four notification forms related to separate drills, which were completed in the fourth quarter of 2001, that did not accurately indicate the

“release status” associated with the correctly chosen Emergency Action Level (EAL). Specifically, the licensee’s instructions for completing the NOTE-05 form indicated that “potential release” was the release status to be associated with the Site Area Emergency EAL for loss of two fission product barriers and the potential loss of the third barrier. In contrast, the four completed NOTE-05 forms incorrectly indicated “none” as the release status for this EAL.

Second, the inspectors identified a NOTE-05 form, which was completed during another fourth quarter 2001 drill, that contained conflicting emergency class information. Specifically, Item 3 of the form incorrectly indicated that a Site Area Emergency declaration had been made, while Item 4 of this form correctly indicated that an Alert had been declared.

During the inspection, the licensee initiated Action Request (AR) 33178 to acknowledge that the inspectors had identified the aforementioned five inaccurately completed State and county notification forms, and that the licensee should have reported these five instances as unsuccessful opportunities in its quarterly PI data submittal to USNRC.

The third type of error identified during the inspectors’ review of the licensee’s PI records was the inaccurate use of the word “update” on five other NOTE-05 forms completed between October 2001 and March 2002, each related to separate drills in addition to those identified previously. Item 1 of the NOTE-05 form was intended to provide event status information to offsite officials. The following four choices were listed under Item 1 of the form: “actual”, “drill”; “termination”; and “update”. The licensee’s instructions for completing Item 1 of the form indicated that “update” should only be used to communicate the following types of information: a change in release status; a wind direction shift of sufficient magnitude to affect previously chosen offsite evacuation subareas; a revised offsite protective action recommendation; or to correct an error in a previously transmitted NOTE-05 form. In contrast, the inspectors determined that CRS staff had incorrectly marked “update” on the notification form in order to indicate that the decision maker had correctly upgraded the scenario events’ initial emergency classification from an Alert to a Site Area Emergency in response to further degrades in simulated plant conditions. As of the October 25, 2002 exit interview, the licensee had not concluded whether it agreed with the inspectors’ assessment of the incorrect use of the word “update” on the NOTE-05 forms completed during these five CRS drills.

The fourth and most frequent type of inaccuracy identified during the inspectors’ review of the licensees’ PI records involved the inconsistent selection of the word “actual” versus “drill” to describe event status on Item 1 of NOTE-05 forms that were completed during about 24 other CRS drills between October 2001 and June 2002. Specifically, the inspectors identified about 24 instances when CRS personnel inaccurately marked “actual” instead of “drill” on the NOTE-05 forms.

The licensee provided the inspectors AR 31248, dated June 2002, that was generated in response to a USNRC concern about the inconsistent use of “actual” versus “drill” in PI records associated with notification forms completed during CRS drills at another Nuclear Management Company (NMC)-operated site. The AR indicated that NMC’s position on this matter was that “drill” would be the correct input for the six sites’ CRS

sessions' notification forms beginning in June 2002. However, the AR also indicated NMC's position that emergency planning staffs at the six NMC-operated sites would not reassess its use of "drill" versus "actual" on notification forms completed between the July 2001 effective date of Revision 1 of the NEI 99-02 publication and June 2002, contrary to the NEI guidance. The inspectors understood that a factor in this NMC position was that the notification forms were associated with CRS drills that did not include actual communications with State and county officials.

Analysis

The inspector-identified inaccuracies could potentially impact the licensee's previously submitted DEP indicator data sufficiently to cause this PI to fall from the Licensee Response (Green) Band to the Regulatory (White) Band. This issue is an Unresolved Item (URI) pending the licensee's reassessment of the accuracy of its notification forms since the effective date of Revision 1 of the NEI guidance, and its impact on the DEP PI (URI 50-331/02-12-01).

4OA6 Meetings

Exit Meeting

The inspectors presented the inspection results to Mr. M. Peifer and other members of licensee management and staff at the conclusion of the inspection on October 25, 2002. The licensee acknowledged the information presented. No proprietary information was identified.

Other Meeting

On October 25, 2002, an inspector made a presentation on USNRC's preliminary assessments of the licensee's exercise performance at a public and media briefing in Cedar Rapids, Iowa, that was hosted by the staff of the Federal Emergency Management Agency's Region VII Office.

KEY POINTS OF CONTACT

Licensee

R. Anderson, Business Support Manager
C. Bleau, Licensing Manager
D. Curtland, Training Manager
K. Dunlap, Emergency Planner
D. Johnson, Emergency Planner
R. Johnson, Emergency Planner
J. Lohman, Communications Manager
M. Peifer, Site Vice President
P. Sullivan, Emergency Planning Manager
R. Titus, Emergency Planner
G. VanMiddlesworth, Vice President-NMC Fleet Operations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-331/02-12-01	URI	Reassess DEP indicator records in accordance with Revision 1 of NEI 99-02 guidance and resubmit indicator data as needed (Section 4OA1)
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Closed

None

Discussed

None

LIST OF ACRONYMS USED

ANS	Alert and Notification System
AR	Action Request
CFR	Code of Federal Regulations
CRS	Control Room Simulator
DEP	Drill and Exercise Performance
DRS	Division of Reactor Safety
EAL	Emergency Action Level
EOF	Emergency Operations Facility
EPDM	Emergency Planning Department Manual
EPIP	Emergency Plan Implementing Procedure
ERO	Emergency Response Organization
IR	Inspection Report
NEI	Nuclear Energy Institute
NMC	Nuclear Management Company
USNRC	U.S. Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Guide
OSC	Operations Support Center
PI	Performance Indicator
TSC	Technical Support Center
URI	Unresolved Item

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Biennial Exercise Scenario Manual; October 23, 2002

Practice Drill Scenario Narrative Summary; September 2002

EPIP 1.1; Determination of Emergency Action Levels; Revision 19

EPIP 1.2; Notification; Revision 27

EPIP 1.3; Plant Assembly and Site Evacuation; Revision 9

EPIP 1.4; Release of Emergency-Related Information; Revision 4

EPIP 1.5; Activation and Operation of the EOF; Revision 3

EPIP 2.1; Activation and Operation of the OSC; Revision 13

EPIP 2.2; Activation and Operation of the TSC; Revision 23

EPIP 2.5; Control Room Emergency Response Operations; Revision 14

EPIP 3.1; In-Plant Radiological Monitoring; Revision 12

EPIP 3.3; Dose Assessment and Protective Action; Revision 18

EPIP 4.5; Administration of Potassium Iodide; Revision 6

AR 33164; Evaluated Exercise Issues in TSC, OSC, Offsite Re-assembly Area, and the Offsite Laboratory Facility/Offsite Decontamination Facility; October 24, 2002

AR 33165; An Operating Instruction Determined to be Missing From Stand-by Diesel Generator Room During the Exercise; October 24, 2002

AR 33166; Evaluated Exercise Issues in the EOF; October 24, 2002

AR 33167; Potential Unsuccessful DEP Indicator Opportunities in the Evaluated Exercise for a Protective Action Recommendation Revision; October 24, 2002

Memorandum; Evaluated Exercise Issues - Dose Projection and Wind Shift Protective Action Recommendations; October 29, 2002

4OA1 Performance Indicator Verification

EPDM 1010; Emergency Planning Department Performance Indicators; Revision 1

Records of ANS Operability Tests as PI Opportunities; October 2001 Through June 2002

Records of Key ERO Members' Drill and Exercise Participation; October 2001 Through June 2002

Records of DEP Opportunities from CRS Sessions and Several Drills Involving Simulator, TSC, and EOF Staffs; October 2001 Through June 2002

AR 31248; Investigate if Changes are Needed to DEP Indicator Data Already Submitted to USNRC Due to USNRC Concern of Inconsistent Use of "Drill" and "Actual" In Drills' State/County Notification Forms at Another Site; June 8, 2002

AR 32331; Error in One State/County Notification Form Identified Before DEP Indicator Data Were Submitted to NRC; August 28, 2002

AR 33178; Inaccuracies Identified on Five CRS Drills' State/County Notification Forms Reported to NRC as Successful DEP Indicator Opportunities in Fourth Quarter of 2002; October 24, 2002