

December 2, 2005

Mr. David A. Christian  
Senior Vice President and  
Chief Nuclear Officer  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: KEWAUNEE NUCLEAR POWER PLANT  
NRC EMERGENCY PREPAREDNESS INSPECTION REPORT  
NO. 05000305/2005016(DRS)

Dear Mr. Christian:

On November 4, 2005, the NRC completed an inspection at your Kewaunee Power Plant. The enclosed report documents the inspection findings, which were discussed on November 4, 2005, with Mr. William Matthews and other 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 2.390 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/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Kenneth Riemer, Chief  
Plant Support Branch  
Division of Reactor Safety

Docket No. 50-305  
License No. DPR-43

Enclosure: Inspection Report 05000305/2005016(DRS)

See Attached Distribution

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D. Christian

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cc w/encl: M. Gaffney, Site Vice President  
C. Funderburk, Director, Nuclear Licensing  
and Operations Support  
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L. Cuoco, Esq., Senior Counsel  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 50-305  
License No. DPR-43

Report No: 05000305/2005016(DRS)

Licensee: Dominion Energy Kewaunee, Inc.

Facility: Kewaunee Power Station

Location: N490 Highway 42  
Kewaunee, WI 54216

Dates: October 31 through November 4, 2005

Inspectors: T. Ploski, Senior Emergency Preparedness Inspector  
R. Jickling, Emergency Preparedness Inspector  
P. Higgins, Resident Inspector

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000305/2005016(DRS); 10/31/2005 - 11/04/2005; Kewaunee Power Station; Emergency Preparedness Specialist Report.

The report covers a 1 week baseline inspection by two regional emergency preparedness inspectors and one resident 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 period April 1, 2004, through June 30, 2005.

The NRC'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.

**A. Inspector-Identified and Self-Revealed Findings**

None.

**B. Licensee-Identified Violations**

None.

## REPORT DETAILS

### 1. REACTOR SAFETY

#### Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation (71114.01)

##### a. Inspection Scope

The inspectors reviewed the November 1, 2005, biennial emergency preparedness 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 three emergency preparedness drills, which were conducted between August 2004 and October 2005, to determine whether those drills' scenarios were sufficiently different from the scenario used in the November 1, 2005, 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;
- Technical Support Center (TSC);
- Operations Support Facility (OSF);
- Radiological Access Facility; 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 post-exercise critiques in the TSC, OSF, and EOF 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 to assess the licensee's ability to adequately critique station performance during the exercise.

These activities completed one inspection sample.

##### b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator (PI) Verification (71151)

###### **Cornerstone: Emergency Preparedness**

##### .1 Reactor Safety Strategic Area

###### a. Inspection Scope

The inspectors reviewed the licensee's records associated with each of the three emergency preparedness PIs to verify that the licensee's program was implemented consistent with the industry guidelines in Nuclear Energy Institute Publication No. 99-02, "Regulatory Assessment Performance Indicator Guideline," Revisions 2 and 3, 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 PI data submitted to NRC for the period from April 1, 2004 through June 30, 2005. The following three PIs were reviewed:

###### Common

- ANS;
- ERO Drill Participation; and
- Drill and Exercise Performance.

These activities completed three PI samples.

###### b. Findings

No findings of significance were identified.

##### 4OA2 Identification and Resolution of Problems

The following performance concerns, which could have adversely impacted response activities had scenario events been real, were independently identified by the licensee and by the inspectors during the November 2005 exercise:

- Some key responders did not correctly interpret indications that a simulated, relatively minor radioactive release had begun due to complications that occurred when the reactor shutdown.
- There were inadequate understandings of how to satisfy NRC's information needs through the use of two pre-designated emergency communications lines.
- Prior to exercise termination, a plan was not ready for implementation to try to stop the simulated radioactive release to the environment once it was apparent that all attempts to close any valve in the release pathway were unsuccessful.



## 4OA6 Meetings

### .1 Exit Meeting

An exit meeting was conducted for:

- Emergency Preparedness with Mr. William Matthews and other members of licensee management and staff at the conclusion of the inspection on November 4, 2005. The licensee acknowledged the information presented. No proprietary information was identified.

### .2 Public and Media Briefing

- On November 4, 2005, an inspector summarized the NRC's preliminary exercise inspection findings at a public and media briefing hosted by Federal Emergency Management Agency Region V staff in Algoma, Wisconsin.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

W. Matthews, Senior Vice President, Nuclear Operations, Dominion Energy  
M. Gaffney, Site Vice President  
E. Grecheck, Vice President - Nuclear Support Services, Dominion Energy  
L. Hartz, Vice President - Nuclear Engineering, Dominion Energy  
R. Adams, Radiation Protection Manager  
L. Armstrong, Engineering Director  
J. Bennett, Emergency Planning Specialist  
G. Blotky, Senior Nuclear Oversight Assessor  
T. Breene, Nuclear Licensing Manager  
A. Christensen, Emergency Planning Coordinator  
D. Fitzwater, Nuclear Operations Training Supervisor  
E. Gilson, Protection Services Manager  
K. Hoops, Site Director  
W. Hunt, Maintenance Manager  
S. Mazzola, Acting Emergency Preparedness Manager  
B. McBride, Emergency Preparedness Manager, Dominion Energy  
R. Nicolai, Organizational Effectiveness Manager  
J. Peterson, Procedures Supervisor  
W. Renz, Protection Services and Emergency Preparedness Director, Dominion Energy  
R. Repshas, Licensing Engineer  
G. Riste, Licensing Supervisor  
J. Stafford, Nuclear Shift Operations Supervisor  
T. Webb, Safety and Licensing Director  
S. Wood, Senior Emergency Preparedness Specialist, Dominion Energy

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

#### Opened and Closed

None.

#### Discussed

None.

### **LIST OF DOCUMENTS REVIEWED**

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1EP1 Exercise Evaluation

Kewaunee Power Station Exercise Scenario Manual; dated November 1, 2005

Kewaunee Power Station Pre-Exercise Drill Scenario; dated September 21, 2005

Kewaunee Power Station Emergency Plan Training Scenario; dated October 10, 2005

Kewaunee Power Station 2004 Off-Year Exercise Scenario; dated August 2, 2004

Presentation Handout; Kewaunee Power Station November 1, 2005, Emergency Exercise Critique Results

EPIP-AD-01; Personnel Response to Plant Emergency; Revision N

EPIP-AD-02; Emergency Class Determination; Revision AM

EPIP-AD-07; Emergency Notifications; Revision AY

EPIP-AD-19; Determining Protective Action Recommendations; Revision V

EPIP-CR-01; Control Room Emergency Response; Revision A

EPIP-ENV-03C; Dose Projection Using RASCAL Software; Revision Y

EPIP-EOF-04; EOF Organization and Responsibilities; Revision AO

EPIP-OSF-02; OSF Operations; Revision X

EPIP-RET-02; In-Plant Radiation Emergency Team; Revision AA

EPIP-RET-02D; Emergency Radiation Entry Controls and Implementation; Revision N

EPIP-SEC-03; Personnel Assembly and Accountability; Revision AG

EPIP-SEC-05; Personnel Evacuation; Revision I

EPIP-TSC-01; TSC Organization and Responsibilities; Revision V

CAP029878; Some Incorrect Radiation Monitor Data on Plant Process Computer System During November 2005 Exercise

CAP029880; Concern on Site Protection Director's Procedural Guidance Identified During November 2005 Exercise

CAP029890; Lack of Ownership for Maintaining ERO Respiratory Protection Qualification Status Identified During November 2005 Exercise

CAP029895; State Emergency Operations Center Staff Had Difficulty Hearing Some Communications from EOF Staff During November 2005 Exercise

CAP029897; Operations Support Facility Improvement Items Identified During November 2005 Exercise

CAP029898; Difficulties in Performing Off-Site Dose Projections Identified During November 2005 Exercise

CAP029900; ERO Members Did Not Correctly Interpret Indications of a Simulated Minor Radiological Release During November 2005 Exercise

CAP029901; Shift Manager Did Not Declare an Emergency for a Simulated Flammable Gas Release During November 2005 Exercise

CAP029903; Some TSC Staff Were Not Issued Dosimetry During November 2005 Exercise

CAP029904; Dosimetry Issuance Slowed Entry into Radiologically Controlled Area During November 2005 Exercise

CAP029907; Need to Revise Processes to Ensure Timely NRC Communications Identified During November 2005 Exercise

CAP029908; Several Scenario Flaws and Controller Actions Caused Confusion During November 2005 Exercise

CAP029913; Work Control Center Was Not Incorporated as Part of the Operations Support Facility in November 2005 Exercise

CAP029914; Apparently Inconsistent Understanding of Default Protective Action Recommendation Between EOF and State Emergency Operations Center Staffs Identified During November 2005 Exercise

#### 4OA1 Performance Indicator Verification

EPMP 02.08; NRC Performance Indicator Collection and Documentation

EPMP 04.03; Alert and Notification System Testing and Maintenance

Records of Periodic Test Results for Kewaunee County Sirens; April 2004 through June 2005

Sample of Key ERO Members' Drill and Exercise Participation Records; April 2004 through June 2005

Sample of Records of DEP PI Opportunities; April 2004 through June 2005

CAP021789; One Siren Failed During July 2004 Test

CAP026265; One Siren Failed During March 2005 Test

CAP027640; Premature General Emergency Declaration During May 2005 Drill

CAP029871; There is Only One Qualified Severe Accident Management Guidelines Leader in the ERO

### **LIST OF ACRONYMS USED**

ANS	Alert and Notification System
CAP	Corrective Action Program (record)
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
EPIP	Emergency Plan Implementing Procedure
EPMP	Emergency Plan Maintenance Procedure
ERO	Emergency Response Organization
NRC	United States Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Guide
OSF	Operations Support Facility
PI	Performance Indicator
TSC	Technical Support Center