

September 8, 2000

Mr. Charles H. Cruse
Vice President - Calvert Cliffs Nuclear Power Plant, Inc. (CCNPPI)
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

SUBJECT: NRC's CALVERT CLIFFS INSPECTION REPORT 05000317/2000-007 AND
05000318/2000-007

Dear Mr. Cruse:

On August 12, 2000, the NRC completed an inspection at your Calvert Cliffs Nuclear Power Plant Units 1 & 2. The enclosed report presents the results of that inspection. The results were discussed on August 23, 2000 with Mr. Katz and other members of your staff.

NRC inspectors examined numerous activities as they relate to reactor safety, compliance with the Commission's rules and regulations, and the conditions of your operating licenses. The inspection consisted of selective reviews of procedures and representative records, observations of activities, and interviews with personnel. Specifically, the inspection involved six weeks of resident inspections, as well as, region-based inspection in the areas of occupational radiation safety and emergency preparedness.

There was one finding of low safety significance (green) identified during this inspection associated with the adequacy of periodic operational testing of off-site alert and notification system sirens. This finding was determined to be a violation of NRC requirements. However, this finding was not cited due to its low safety significance and because the finding was entered into your corrective action program. If you contest this 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 U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with a copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at the Calvert Cliffs Nuclear Power Plant.

Mr. Charles H. Cruse

2

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the 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/

Michele G. Evans, Chief
Projects Branch 1
Division of Reactor Projects

Docket Nos.: 05000317 and 05000318
License Nos.: DPR-53 and DPR-69

Enclosure: Inspection Report 05000317/2000-007 and 05000318/2000-007

cc w/encl:

B. Montgomery, Director, Nuclear Regulatory Matters (CCNPPI)
R. McLean, Administrator, Nuclear Evaluations
J. Walter, Engineering Division, Public Service Commission of Maryland
K. Burger, Esquire, Maryland People's Counsel
R. Ochs, Maryland Safe Energy Coalition
State of Maryland (2)

Mr. Charles H. Cruse

3

Distribution w/encl: **(VIA E-MAIL)**
 Region I Docket Room (with concurrences)
 H. Miller, RA (to M. Fudge)
 J. Wiggins, DRA (to G. Matakas)
 J. Shea, RI EDO Coordinator
 E. Adensam, NRR (ridsnrrdlpmlpdi)
 A. Dromerick, NRR
 D. Thatcher, NRR
 J. Wilcox, NRR
 M. Evans, DRP
 W. Cook, DRP
 D. Beaulieu - SRI - Calvert Cliffs
 R. Junod, DRP
 M. Oprendeck, DRP

DOCUMENT NAME: G:\BRANCH1\CCSTUFF\CC2000-007.wpd

After declaring this document "An Official Agency Record" it **will/will not** be released to the Public.

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	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

OFFICIAL COPY

**U.S. NUCLEAR REGULATORY COMMISSION
Region I**

Docket Nos.: 05000317
05000318

License Nos.: DPR-53
DPR-69

Report No: 05000317/2000-07
05000318/2000-07

Licensee: Calvert Cliffs Nuclear Power Plant, Inc.

Facility: Calvert Cliffs Nuclear Power Plant
Units 1 and 2

Location: 1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

Dates: July 2, 2000 to August 12, 2000

Inspectors: David Beaulieu, Senior Resident Inspector
Fred Bower, Resident Inspector
Tim Hoeg, Resident Inspector
Ronald Nimitz, Senior Radiation Specialist
Nancy McNamara, Emergency Preparedness Specialist

Approved by: Michele G. Evans, Chief
Projects Branch 1
Division of Reactor Projects

Summary of Findings

IR 05000317/2000-007, 05000318/2000-007; on 07/02-08/12/2000; Calvert Cliffs Nuclear Power Plant, Inc.; Calvert Cliffs Nuclear Plant; Units 1 & 2. Emergency Preparedness.

The inspection was conducted by resident inspectors, a regional radiation specialist inspector, and a regional emergency preparedness inspector. The inspection identified one green issue, 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 described in Inspection Manual Chapter 0609.

Cornerstone: Emergency Preparedness

- Green. The NRC identified that a violation of NRC requirements occurred in the area of offsite siren testing in that the quarterly offsite siren growl tests for identifying mechanical problems were inadequately conducted. This violation is being treated as a non-cited violation and was entered into the licensee's corrective action system (Section 1EP2).

TABLE OF CONTENTS

Summary of Findings	ii
Summary of Plant Status	1
REACTOR SAFETY	1
1R04 Equipment Alignment	1
1R05 Fire Protection	1
.1 Fire Drill Observation	1
.2 Fire Protection Tours	2
1R11 Licensed Operator Requalification	2
1R12 Maintenance Rule Implementation	2
.1 Switchgear Heating Ventilation and Air Conditioning System	2
.2 Condensate System and Auxiliary Feedwater System	3
1R13 Maintenance Risk Assessments and Emergent Work Control	3
1R15 Operability Evaluations	4
1R17 Permanent Plant Modifications	4
1R19 Post Maintenance Testing	5
1R22 Surveillance Testing	5
1EP1 Exercise Evaluation	6
1EP2 Alert and Notification System Testing	6
1EP3 Emergency Response Organization Augmentation	7
1EP4 Emergency Action Level Revision Review	7
1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies	7
RADIATION SAFETY	7
2OS1 Access Control To Radiologically Significant Areas	7
2OS2 ALARA Planning and Controls	8
.1 ALARA Program Implementation Review	8
.2 April 8, 2000 Contamination Event Review	9
2OS3 Radiation Monitoring Instrumentation	10
OTHER ACTIVITIES	10
4OA1 Performance Indicator Verification	10
4OA5 Performance Indicator Data Collecting and Reporting Process Review	11
4OA6 Management Meetings	11
.1 Exit Meeting Summary	11

Table of Contents (cont'd)

PARTIAL LIST OF INDIVIDUALS CONTACTED	12
ITEMS OPENED AND CLOSED	12
LIST OF ACRONYMS USED	12
LIST OF DOCUMENTS REVIEWED	13
ATTACHMENT A	14

Report Details

Summary of Plant Status

Units 1 and 2 operated at or near 100 percent power during this inspection period except for small reductions in power for moderator temperature coefficient testing and main condenser water box maintenance.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted equipment alignment partial walkdowns primarily to evaluate the operability of selected trains or backup systems, with the redundant train or system inoperable or out of service. The walkdowns included reviews of system operating instructions and piping and instrumentation diagrams to determine correct system lineups and verification of critical components to identify any discrepancies which could affect operability of the redundant train or backup system. The inspectors conducted the equipment alignment partial walkdowns on the following systems:

1. Unit 2 Salt Water System
2. 1A Emergency Diesel Generator

b. Issues and Findings

No findings were identified.

1R05 Fire Protection

.1 Fire Drill Observation

a. Inspection Scope

On August 27, 2000, the inspectors observed a fire brigade drill which simulated an electrical fire in the Unit 1 69 foot elevation west electrical penetration room. The inspectors observed the fire brigade's use of protective clothing and fire fighting equipment, verified that fire fighting pre-plan strategies were utilized, and verified that the fire brigade leader's directions were thorough, clear, and effective.

b. Issues and Findings

No findings were identified.

.2 Fire Protection Tours

a. Inspection Scope

The inspector conducted tours of areas important to reactor safety to evaluate, as appropriate, conditions related to: (1) licensee control of transient combustibles and ignition sources; (2) the material condition, operational status, and operational lineup of fire protection systems, equipment and features; and, (3) the fire barriers used to prevent fire damage or fire propagation. The inspector used administrative procedure SA-1-100, Fire Prevention, during the conduct of this inspection.

The areas inspected included:

3. Unit 1 Auxiliary Feed Pump Room
4. Unit 2 Auxiliary Feed Pump Room
5. Unit 1 Service Water Heat Exchanger Room
6. Unit 2 Service Water Heat Exchanger Room

b. Issues and Findings

No findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspector observed licensed operator simulator training for the control room operating shift crew number five. The observed training involved control room operators simulating an anticipated transient without a scram followed by a loss of all feedwater. The inspector observed operator use of emergency operating procedures in placing the reactor plant in a safe condition. The inspector also compared portions of the simulator board configuration with actual control room board configuration for consistency.

b. Issues and Findings

No findings were identified.

1R12 Maintenance Rule Implementation

.1 Switchgear Heating Ventilation and Air Conditioning System

a. Inspection Scope

During rounds, plant operators found that the heating ventilation and air conditioning (HVAC) system for the Unit 1 4160V/480V switchgear rooms would not maintain room temperature and exceeded the HVAC controller high temperature alarm setpoint with an outside air temperature of 80°F. This condition was documented in Issue Report No. 3-040-577. The inspectors reviewed the completed maintenance order (MO1200002967) that included replacement of the compressor and associated capacity

control system. The inspectors discussed this issue with the system manager, and evaluated the licensee's determination that the issue was not considered a functional failure because the HVAC system was degraded but operable.

The inspectors reviewed the system engineer's quarterly report for the system, the list of functional failures for the last two years, and system level indicators applicable to the switchgear HVAC system to assess the licensee's implementation of procedure MN-1-112, Managing System Performance, and compliance with the NRC maintenance rule. The inspectors observed that the system has been in maintenance rule (a)(1) status since September 1996 due to exceeding the unavailability and functional failure performance criteria. The inspectors noted that the (a)(1) evaluation, corrective action and goal setting plans were being updated to return the systems to maintenance rule (a)(2) status by the end of 2003.

b. Issues and Findings

No findings were identified.

.2 Condensate System and Auxiliary Feedwater System

a. Inspection Scope

The inspectors reviewed performance-based problems involving selected in-scope structures, systems, or components (SSCs) to assess the effectiveness of the maintenance program. Reviews focused on: (1) proper maintenance rule scoping, in accordance with 10 CFR 50.65; (2) characterization of failed SSCs; (3) safety significance classifications; (4) 10 CFR 50.65 (a)(1) and (a)(2) classifications; and, (5) the appropriateness of performance criteria for SSCs classified as (a)(2), or goals and corrective actions for SSCs classified as (a)(1). The inspectors reviewed the most recent system health reports and the list of functional failures for the last two years. The following SSCs were reviewed:

- Unit 1 Condensate System
- Unit 1 Auxiliary Feedwater System

b. Issues and Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

For the selected maintenance orders listed below, the inspectors evaluated: (1) the effectiveness of the risk assessments performed before the maintenance activities were conducted; (2) risk management control activities; (3) the necessary steps taken to plan and control resultant emergent work tasks; and (4) the overall adequacy of identification and resolution of emergent work and the associated maintenance risk assessments.

- MO 2200002046 22 Switchgear Heating Ventilation and Air Conditioning Air Handler Drain Line Cleaning
- MO 1200003160 12 Condensate Pump Lube Oil Pump Motor Replacement
- MO 1200000307 Engineered Safety Feature Actuation System Test Light Resistor Replacement for the 1B Emergency Diesel Generator

b. Issues and Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed selected operability evaluations to assess: (1) the technical adequacy of the evaluations; and, (2) whether continued system operability was properly justified. The inspectors verified that long term corrective action proposals required to resolve the listed operability evaluations were under review by the NRC Office of Nuclear Reactor Regulation.

- Operability Determination 1997-001, Revision 1, Potential Water Hammer Effects on Containment Air Coolers
- Operability Determination 1999-011, Unit 1 and Unit 2 Containments - Vertical Tendons

b. Issues and Findings

No findings were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Engineering Service Package No. 200000715 associated with a permanent modification to the control room recirculation signal control circuitry. The modification was implemented in order to ensure control room emergency ventilation fans would start following a loss of off-site power. The inspector reviewed the following attributes associated with the modification: (1) based upon review of the design and licensing bases, the performance capability of the system had not been degraded; (2) the modification did not place the plant in an unsafe condition; and, (3) adequate post installation testing was performed to verify the modification functioned as expected.

b. Issues and Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance test procedures and associated testing activities for selected risk significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness, consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy for the application; (5) tests were performed, as written, with applicable prerequisites satisfied; and (6) that equipment was returned to the status required to perform its safety function.

- MO 1200000307 Engineered Safety Feature Actuation System Test Light Resistor Replacement for the 1B Emergency Diesel Generator
- MO 1200003160 12 Condensate Pump Lube Oil Pump Motor Replacement
- MO 0200001260 Control Room Recirculation System Circuit Modification

b. Issues and Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed performance of surveillance test procedures (STPs) and reviewed test data of selected risk-significant SSCs to assess whether the SSCs satisfied Technical Specifications, Updated Final Safety Analysis Report, Technical Requirements Manual, and licensee procedure requirements; and to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following tests were witnessed:

- STP O-08B-1 1B Emergency Diesel Generator Operability Test
- STP M-213-2 Unit 2 Nuclear Instrumentation Calibration
- STP M-537-1 Pressurizer Heater Capacity Test
- STP O-05A-1 11 & 12 Auxiliary Feedwater Pump Operability Test

b. Issues and Findings

No findings were identified.

1EP1 Exercise Evaluation

a. Inspection Scope

The inspector reviewed drill/exercise reports to determine if the licensee accurately captured issues for corrective action and resolution in its problem identification and resolution program.

b. Issues and Findings

No significant findings were identified.

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspector reviewed surveillance test records and evaluated the design of the offsite siren system to determine compliance with 10 CFR 50.47(b)(5) and 10 CFR 50, Appendix E.D.3. The problem identification and resolution program was reviewed to determine the adequacy of the actions to correct siren system deficiencies.

b. Issues and Findings

The inspector observed that the licensee specifies three types of siren system tests: 1) weekly silent testing (signal verification using local panel siren counters); 2) quarterly growl testing (short duration siren sounding); and 3) annual full-cycle siren testing. The inspector found that the quarterly growl tests were inadequate because the test did not actually sound the sirens to ensure there were no mechanical problems. The inspector determined that the licensee was crediting the weekly silent tests for satisfying the quarterly growl test requirement. The potential consequence was that, even though a siren may be verified to have received an actuation signal during the weekly silent test, a siren's mechanical inoperability may go undetected via the licensee's testing program until the annual test. The inspector noted that Dorchester County does sound their sirens on a monthly basis, but the licensee does not credit this testing. A review of licensee and Dorchester County test data did identify discrepancies between silent and monthly test results. The failure to conduct quarterly siren system growl testing is a violation of 10 CFR 50.47(b)(5) and 10 CFR 50, Appendix E.D.3. This issue is being treated as a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65 FR 25368). **(NCV-05000317 and 05000318/2000-007-01)** This issue was entered into the licensee's corrective action system via Issue Report No. 3-056-202.

1EP3 Emergency Response Organization Augmentation

a. Inspection Scope

The inspector reviewed drill/exercise reports, Emergency Response Organization (ERO) qualifications, automated pager notification test records and procedures for system activation to determine the licensee's ability to achieve facility activation goals and identify any problems related to the effectiveness of ERO augmentation.

b. Issues and Findings

No significant findings were identified.

1EP4 Emergency Action Level Revision Review

a. Inspection Scope

A regional in-office review of revisions to the Calvert Cliffs Emergency Plan, Implementing Procedures, and Emergency Action Levels was performed to determine that the changes did not decrease the effectiveness of the Emergency Plan. See the "List of Documents Reviewed" section of this report for the specific revisions reviewed.

b. Issues and Findings

No significant findings were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed the licensee's corrective action program, self-assessment reports, and drill/exercise critique reports to determine the licensee's ability to effectively identify program weaknesses and correct deficiencies.

b. Issues and Findings

No significant findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

The inspector reviewed the following documents and conducted the following activities to determine the effectiveness of access controls to radiologically significant areas:

- Locked High Radiation and Very High Radiation Area keys to ensure keys were maintained in accordance with Procedure NO-1-110, Rev. 4, Calvert Cliffs Key and Lock Control.
- Nine locked High Radiation Area access points were physically inspected to determine if access controls were sufficient to preclude unauthorized entry and that the access points were locked or guarded, as appropriate.
- Access controls to licensee defined exclusion areas and Very High Radiation Areas was reviewed.
- The inspector made independent radiation measurements of radiation levels within accessible radiologically controlled areas at the station to: (1) verify areas (e.g., volume control tanks), expected to exhibit radiation levels in excess of 100 mR/hr, were posted and controlled as High Radiation Areas or locked as appropriate; and (2) confirm posted survey data.
- Transuranic scaling factors based on March 2000 smears were reviewed.

On July 20, 2000, the inspector attended a briefing for personnel entering into the Unit 2 reactor containment at power for purposes of sample collection. The inspector verified conformance with applicable High Radiation Area access controls including radiation work permit requirements and procedures RP-1-102, Control of Radiation Protection Significant Risk Work, Rev. 7., and RP-1-100, Radiation Protection, Rev. 3. Work coordination activities, survey data, and individual exposure results were reviewed. The inspector also reviewed measurement and calculation of neutron equivalent dose rates and accrued equivalent dose.

b. Issues and Findings

No significant findings were identified.

2OS2 ALARA Planning and Controls

.1 ALARA Program Implementation Review

a. Inspection Scope

The inspector selectively reviewed the adequacy and the effectiveness of the licensee's program to reduce occupational radiation exposure to as low as is reasonably achievable (ALARA). The following items were reviewed:

- Unit 1 Radiation Safety Outage Plan
- IR3-033-856, Dose Estimate Exceeded for Activity A of Specific Radiation Work Permit No. 1011
- Nuclear Support Services 2000 ALARA Plans (draft)
- Year 2000 Dose Reduction Initiatives
- First Quarter 2000 ALARA Self-Assessment

- Procedure RSP-1-200, Rev.15, ALARA Planning and Special Work Permit (SWP) Preparation
- Procedure RP-1-101, Rev.2, ALARA
- Procedure NO-1-117, Rev.4, Integrated Risk Management
- MN-1-123, Rev. 1/EC-1, Integrated Work Planning
- Three Year Average Dose Per Unit.

b. Issues and Findings

No significant findings were identified.

.2 April 8, 2000 Contamination Event Review

a. Inspection Scope

The inspector reviewed the licensee's implementation of its problem identification and resolution processes following identification, on April 8, 2000, that portions of its 69' elevation Spent Fuel Building and its Unit 1 Airlock area had become contaminated. The inspector reviewed the Issue Report (IR) for the event and associated issue resolution documentation.

b. Issues and Findings

No significant personnel exposures occurred as a result of this event. The licensee appropriately issued an IR (No. 3-052-561), in accordance with their administrative procedures and properly classified and prioritized the IR. An issue resolution assignment was subsequently assigned to responsible individuals on or about April 19, 2000. The issue resolution document was subsequently developed, in accordance with program expectations, and outlined: actual consequences; determination of cause/corrective measures; extent of problem/generic implications; potential consequences; corrective steps; and recommendations. IR No. 3-052-561 was closed out in the licensee's action item tracking system on May 17, 2000.

Inspector follow-up determined that no radiation protection supervisor or manager responsible for IR No. 3-052-561 directly reviewed or concurred in the closure of this IR. The closure of an Issue Report by a non-supervisory staff member is contrary to Calvert Cliffs administrative procedures. This failure constitutes a violation of minor significance and is not subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy. A separate IR (No. 3-006-293) was initiated to evaluate the improper processing of IR No. 3-052-561.

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

The inspector selectively reviewed elements of the radiation monitoring instrumentation program. The inspector reviewed the calibration and use of the gamma and neutron radiation dose rate instruments used by radiological controls personnel during job coverage surveys for personnel entering reactor containment at power on July 20, 2000. The following associated documentation was reviewed:

- Procedure ITEC-646, Rev.1, Calibration of Ludlum Count Ratemeter Model 12 With Eberline Neutron Detector Model NRD
- Calibration data for Model 12 Ratemeter and NRD Detector, dated May 31, 2000
- Source Check data sheets for July 20, 2000
- Procedure RSP 1-102, Rev. 15, Pre-Operational Checks of the Portable Survey Instruments
- Radiation Safety Instrument Report Card (January 2000-June 2000)
- Procedure ITEC-611, Revision 0, Calibration of PIC-6A/B Survey Meter
- Radiation Safety Instrument Critical Parameter and Set Point File
- National Institute of Standards Technology traceability data sheets
- ANSI N323A, 1997, American National Standard Radiation Protection Instrumentation Test and Calibration, Portable Survey Instruments

b. Issues and Findings

No significant findings were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification

r. Inspection Scope

The inspectors reviewed Calvert Cliff's performance indicator (PI) data for the below listed cornerstones to verify individual PI accuracy and completeness. This inspection examined data and plant records from 1999 through the second quarter of 2000, including review of emergency preparedness drill and exercise performance data, corrective action program documentation, and periodic personnel exposure reports.

- 1) Emergency preparedness: drill and exercise performance, emergency response organization drill participation, alert and notification system reliability
- 2) Occupational radiation safety: occupational exposure control effectiveness

b. Issues and Findings

There were no findings identified. The inspector noted that the alert and notification system performance indicator was in the white response band for the first three quarters of 1999 (prior to PI program implementation). In reviewing this PI, the inspector

observed some difficulty in correlating field test data with the published PI data. Based on this observation and the siren system testing problems documented in Section 1EP1, the licensee initiated an Issue Report (No. IR3-00-0817) to review their overall siren system monitoring program.

4OA5 Performance Indicator Data Collecting and Reporting Process Review

a. Inspection Scope

Using Temporary Instruction 2515/144, the inspectors reviewed Calvert Cliff's performance indicator (PI) process to determine if they were appropriately implementing NRC/industry guidance specified in Nuclear Energy Institute (NEI) 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline." This inspection reviewed the data collection and reporting process for the following PIs:

- a. Emergency response organization drill participation
- b. Occupational exposure control effectiveness

The review examined the licensee's exercise/drill reports, tracking and trending reports, self-assessment reports and emergency preparedness event reports with respect to making emergency classifications, notifications, and protective action recommendations. Corrective action program records for occurrences involving high radiation areas, very high radiation areas, and unplanned personnel exposures for the past four quarters were examined. The inspector assessed all instances where personnel exited the radiological controls area with a dose in excess of 100 mrem (based on secondary dosimetry) which were not unplanned. The inspectors also reviewed Procedure QL-2-100, Rev. 12, Issue Reporting and Assessment.

b. Issues and Findings

There were no findings identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. Katz and other members of licensee management at the conclusion of the inspection on August 23, 2000. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF INDIVIDUALS CONTACTED

Calvert Cliffs

C. Cruse, Vice President
 P. Katz, Plant General Manager
 T. Pritchett, Manager, Nuclear Engineering
 D. Holm, Superintendent, Nuclear Operations
 K. Mills, General Supervisor, Plant Operations
 L. Wechbaugh, Superintendent, Technical Support
 M. Navin, Superintendent, Technical Support
 T. Sydnor, General Supervisor, Plant Engineering
 B. Montgomery, Director, Nuclear Regulatory Matters
 W. Paulhardt, Radiation Protection Supervisor
 S. Sanders, General Supervisor-Radiation Safety
 L. Smialek, Radiation Protection Manager
 R. Wyvill, ALARA Supervisor

ITEMS OPENED AND CLOSED

Opened and Closed During This Inspection

05000317&318/2000-007-01	NCV	Inadequate method for performing a siren test.
--------------------------	-----	--

LIST OF ACRONYMS USED

AIT	Action Item Tracking
ALARA	As Low As is Reasonably Achievable
CFR	Code of Federal Regulations
CCNPPI	Calvert Cliffs Nuclear Power Plant Incorporated
ERO	Emergency Response Organization
HVAC	Heating Ventilation and Air Conditioning
IR	Issue Report
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI&R	Problem Identification and Resolution
SSC	Structures, Systems, or Components
STP	Surveillance Test Procedure

LIST OF DOCUMENTS REVIEWED

See Section 1EP4 of this report.

PROCEDURE	PROCEDURE TITLE	REVISION	
ERPIP-CONTENT	Table of Contents	5300	
ERPIP-3.0	Immediate Actions	2500	(06/01/00)
ERPIP-105	Control Room Communicator	0601	(08/01/99)
ERPIP-209	Technical Support Center Communicator	0501	(08/01/99)
ERPIP-301	Operational Support Center Director	0700	(06/01/00)
ERPIP-314	Operational Support Center Communicator	0108	(5/00)
ERPIP-317	Operations Team Members	0100	(06/01/00)
ERPIP-318	Onsite Monitoring Team Members	0300	(06/01/00)
ERPIP-319	Dosimetry Team Members	0200	(06/01/00)
ERPIP-320	Maintenance Team Members	0200	(06/01/00)
ERPIP-322	First Aid Team Members	0200	(06/01/00)
ERPIP-509	Emergency Operations Facility Communicator	0501	(08/01/99)
ERPIP-700	South Service Building Cafeteria Assembly Area Leader	0300	(06/01/00)
ERPIP-701	Warehouse 3 Assembly Area	0200	(06/01/00)
ERPIP-750	Security	0700	(06/01/00)
ERPIP-802	Core Damage Assessment Using Core Exit Thermocouples	0300	(05/03/00)
ERPIP-803	Core Damage Assessment Using Hydrogen	0300	(05/03/00)
ERPIP-804	Core Damage Assessment Using Radiological Analysis of Samples	0300	(06/16/00)
ERPIP-900	Preparation and Control of the Emergency Response Plan and Emergency Response Plan and Implementing Procedures	0700	(06/01/00)
ERPIP-904	Emergency Response Training	0800	(06/01/00)
ERP-LOEP	Emergency Response Plan Cover Sheet, List of Effective Pages & Table of Contents	2900	(01/05/00)

ATTACHMENT A**NRC's REVISED REACTOR OVERSIGHT PROCESS**

The federal Nuclear Regulatory Commission (NRC) 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 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

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

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 little effect on safety. WHITE findings indicate issues with some increased importance to safety, which may require additional NRC inspections. YELLOW findings are more serious issues with an even higher potential to affect safety and would require the NRC to take additional actions. RED findings represent an unacceptable loss of safety margin and would result in the NRC taking significant actions that could include ordering the plant shut down.

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 incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. The color for an indicator corresponds to levels of performance that may result in increased NRC oversight (WHITE), performance that results in definitive, required action by the NRC (YELLOW), and performance that is unacceptable but still provides adequate protection to public health and safety (RED). GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.

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. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, as described in the matrix. 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.