

ENCLOSURE 1

NOTICE OF VIOLATION

Carolina Power and Light Company
Brunswick Steam Electric Plant
Unit 1

Docket No.: 50-325
License No.: DPR-71
EA 92-208

During an NRC inspection conducted on October 2 - 30, 1992, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. Technical Specification 6.8.1.a requires that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix "A" of Regulatory Guide 1.33, November 1972 including administrative procedures for authorities and responsibilities for safe operation and shutdown.

Plant Operating Manual Volume I, Book 1, Administrative Procedure, Revision 145, requires Shift Supervisors, Senior Reactor Operators, and Reactor Operators to collectively perform operations to maintain the plant in a safe condition at all times in accordance with procedures contained within the Plant Operating Manual and Technical Specifications.

Operating Instruction OI-1, Conduct of Operations, Revision 47, requires the Plant Monitor Reactor Operator to inform the Unit Senior Reactor Operator/Shift Supervisor of any significant changes in plant parameters and to refrain from becoming involved in evolutions that are not directly related to the frequent monitoring of plant parameters.

Brunswick Site Procedure BSP-50, Site Procedure for Command, Control, and Communication, Revision 1, requires that an evolution affecting or potentially affecting Control Room indication requires Unit Senior Reactor Operator approval prior to initiation.

Contrary to the above, on October 2, 1992, these procedures were not adequately implemented in that the Unit 1 Reactor Operator did not obtain Senior Reactor Operator approval prior to initiation of an evolution affecting Control Room indication, did not inform the Unit Senior Reactor Operator/Shift Supervisor of a significant change in a plant parameter, and did not refrain from becoming involved in an evolution not directly related to the frequent monitoring of plant parameters. This resulted in reactor vessel water level being allowed to decrease to the Low Level 1 Engineered Safety Features actuation set point resulting in an automatic Reactor Protection System and Primary Containment Isolation System actuation to prevent further decrease in reactor vessel water level.

This is a Severity Level IV violation (Supplement I).

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- B. Technical Specification 6.8.1.a requires that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix "A" of Regulatory Guide 1.33, November 1972, including administrative procedures for equipment control (e.g., locking and tagging).

Administrative Instruction AI-58, Equipment Clearance Procedure, Revision 38, provides the requirements for administering equipment clearances.

Contrary to the above, AI-58 was not properly established in that requirements for communicating to Licensed Operators the disablement of equipment and instrumentation caused by clearances were not included. This resulted in the disablement of the Unit 1 Reactor Vessel High/Low Level Alarm, 1-A-7, Window 2-2, by Local Clearance 1-92-2158, Digital Feedwater Control System Modification, on September 15, 1992 without informing control room personnel. At the time, reactor vessel level control was Operator controlled and was dependent upon the low level alarm to lessen the potential for inadvertent draining.

This is a Severity Level IV violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Carolina Power and Light Company is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Atlanta, Georgia
this 25th day of November 1992

ENCLOSURE 2

LIST OF ATTENDEES AT THE NOVEMBER 23, 1992
ENFORCEMENT CONFERENCE

Carolina Power and Light

R. A. Watson, Senior Vice President, Nuclear Operations
R. E. Morgan, Interim Manager, Brunswick Nuclear Project
J. P. Cowan, Manager, Technical and Regulatory Support
D. B. Waters, Manager, Brunswick Licensing
K. J. Ahern, Manager, Operations - Unit 2
S. D. Floyd, Manager, Regulatory Compliance
R. A. Niec, Control Room Operator
B. S. Strickland, Shift Supervisor
M. S. Calvert, Manager, Associate General Counsel - Brunswick

Nuclear Regulatory Commission

S. D. Ebnetter, Regional Administrator, Region II (RII)
J. R. Johnson, Deputy Director, Division of Reactor Projects (DRP), RII
A. F. Gibson, Director, Division of Reactor Safety, (DRS), RII
E. G. Adensam, Director, Project Directorate II-1, Office of Nuclear Reactor
Regulation (NRR)
G. R. Jenkins, Director, Enforcement and Investigation Coordination Staff
(EICS), RII
D. M. Verrelli, Chief, Reactor Projects Branch 1, DRP, RII
H. O. Christensen, Chief, Reactor Projects Section 1A, DRP, RII
D. J. Nelson, Resident Inspector - Brunswick, DRP, RII
R. Lo, Project Manager, NRR
M. E. Ernstes, Chief, Operating Licensing Section 2, DRS, RII
B. Uryc, Senior Enforcement Specialist, EICS, RII
R. E. Carroll, Project Engineer, Section 1A, DRP, RII
C. F. Evans, Regional Counsel, RII

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK NUCLEAR PROJECT

AND

NUCLEAR REGULATORY COMMISSION

ENFORCEMENT CONFERENCE

NOVEMBER 23, 1992

AGENDA

Introduction	R. A. Watson
Overview	R. E. Morgan
Initial Conditions	K. J. Ahern
Sequence Of Events	K. J. Ahern / R. A. Niec
Safety Significance	K. J. Ahern
Direct Cause / Immediate Corrective Actions	K. J. Ahern
Root Cause / Long-Term Corrective Actions	R. E. Morgan
Conclusions	R. E. Morgan
Closing Comments	R. A. Watson

OVERVIEW

EVENT

DIRECT CAUSE

ROOT CAUSE

MANAGEMENT ASSESSMENT

INITIAL CONDITIONS

Unit 1 Status

Cold Shutdown

Decay Heat Removal System
(Primary)

RHR Loop B

Decay Heat Removal System
(Back Up)

RHR Loop A

Level Monitoring Instrumentation

ERFIS

Established Level Band

200" - 240"

INITIAL CONDITIONS (cont.)

SYSTEMS OUT OF SERVICE

Condensate And Feedwater

Reactor Water Cleanup

**Feedwater Level Control
(For Installation Of Digital Feedwater)**

**High Pressure Coolant Injection
(Steam Supply Valve Disassembled For
Maintenance)**

**Main Steam Line Drains
(Drain Valve Disassembled For Maintenance)**

SEQUENCE OF EVENTS

8/15/92

RHR Loop B Placed In Shutdown Cooling

8/15/92

Clearances Needed To Install Digital Feedwater Control Hung

RPV Level HI/LO Annunciator Removed From Service Without Compensation

8/19/92

RWCU Removed From Service For Local Leak Rate Testing Of Isolation Valves

Level Control Using Batch Transfer Of Water To Radwaste Begins

Processing Of Vessel Level Necessary \approx Every 3.5 Hrs.

SEQUENCE OF EVENTS (cont.)

10/1/92

Operator Commences Level Reduction

Operator Becomes Distracted By Telephone

Level Decrease Terminated At 204"

Event Discussed With Other RO And SRO

10/2/92

≈ 1200 Shift Meeting Held To Discuss Upcoming Plant Visit

Crew Told Plant Visit Report Required

≈ 1300 Example Plant Visit Report Distributed

1312 Operator Commences Level Reduction

Initial RPV Temperature = 92° F.

SEQUENCE OF EVENTS (cont.)

10/2/92

1312- Operator Begins To Read Example Plant Visit
1317 Report

1317 RPV Water Level Decreases Below 200".

1321 RPS Trip Occurs On Low Level ($\approx 166"$
Above Top Of Active Fuel)

Isolation Of Shutdown Cooling Occurs

1327 Group Isolation Signal Reset - RPV Water
Level $> 166"$

1345 RPS Trip Reset - RPV Water Level $> 200"$.

SEQUENCE OF EVENTS (cont.)

10/2/92

≈ 1430 Loop B RHR Outboard Injection Valve Fails
To Reopen Fully During Recovery From
Isolation Of Shutdown Cooling

1455 Shutdown Cooling Reestablished Using RHR
Loop A

Peak RPV Temperature = 97.2° F.

Maximum Temperature Increase Over
Duration Of Event = 5.2° F.

1525 Operator Interviewed By Site Incident
Investigation Team

SAFETY SIGNIFICANCE

Initial RPV Temperature Low (92° F.)

Decay Heat Load Minimal

ECCS Available

All Protective Features Operated As Designed

**Loss Of Shutdown Cooling Not Significant For
≈ 12 Hours**

**RHR Loop B Outboard Injection Valve Available
For Manual Operation**

DIRECT CAUSE

Operator Did Not Properly Perform License Duties

Oversight Of Operator Not Properly Performed

Proper Communication Not Utilized

IMMEDIATE CORRECTIVE ACTIONS

Site Incident Investigation Team Promptly Convened

Temporary Audible Level Alarm Installed

Procedure Revised To Require A Second Operator

Training Performed

IMMEDIATE CORRECTIVE ACTIONS (cont.)

Emphasized Expectations For Operators:

- **Standing Instruction For Essential Operator Activities Issued**
- **Reading Material Policy Clarified**
- **RO Responsibilities Reemphasized**
- **Shift Supervisor To Relieve Senior Control Operator Of Selected Work Control Responsibilities**
- **Upgrade Of Control Room Appearance And Conduct Initiated**
- **Shift Turnover Discipline Development Project Initiated**
- **Continuing Assessment By Operations Management Established**

ROOT CAUSE

ADEQUACY OF MANAGEMENT CONTROL OF LICENSE ACTIVITIES

- **Removed Audible RPV Level Alarm With No
Compensating Instrumentation**
- **Removed RWCU From Service Requiring Batch
Processing Of Level**
- **Shift Briefing On Non-Operational Matters
Conducted In The Control Room**
- **Command And Control Not Fully Utilized In The
Control Room**

LONG TERM CORRECTIVE ACTIONS

**Site Incident Investigation Team Performed Thorough
Root Cause Analysis And Provided Corrective Actions**

**Obtained INPO Assistance For Root Cause
Determination**

Revamp Modification Process

Integrated Schedule Developed

Perform Risk Assessments

Perform Control Room Work Study

Enhance Training

CONCLUSIONS

Prompt, Thorough Investigation

Prompt Corrective Action

Broad, Long Term Approach

Management Standards And Expectations