U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58, DPR-74
Report No:	50-315/97010(DRP); 50-316/97010(DRP)
Licensee:	Indiana Michigan Power Company 500 Circle Drive Buchanan, MI 49107-1395
Facility:	Donald C. Cook Nuclear Generating Plant
Location:	1 Cook Place Bridgman, MI 49106
Dates:	May 10, 1997, through June 20, 1997
Inspectors:	B. L. Bartlett, Senior Resident Inspector B. J. Fuller, Resident Inspector J. D. Maynen, Resident Inspector
Approved by:	Bruce L. Burgess, Chief Reactor Projects Branch 6

Executive Summary

D. C. Cook Units 1 and 2
NRC Inspection Report Nos. 50-315/97010; 50-316/97010

This inspection included aspects of licensee operations, maintenance, engineering, and plant support. The report covers a 6-week period of resident inspection and includes the follow-up to issues identified during previous inspection reports.

Operations

- During a Technical Specification required Unit 2 forced outage, crew communications were excellent, there were minimal extra personnel in the control room, and effective command and control was maintained. (Section 01.2)

- There were few operations personnel errors during the inspection period. Operational performance during an unplanned shutdown was excellent. (Section 01.2)

Maintenance

- The workers reinstalling the 2AB Emergency Diesel Generator manual voltage regulator card after a routine cleaning failed to properly tighten the connections, leading to a failure of the voltage regulator during testing and a resultant unplanned Unit 2 shutdown to comply with Technical Specifications. The failure of the workers to follow their procedural requirements was addressed in inspection report No. 50-315/97009; 50-316/97009. (Section M4.1)

Engineering

- The flaws in flood-up tubes inside containment resulted in equipment being rendered inoperable. Redundant equipment prevented this inoperability from having greater safety significance. The licensee took prompt action to expand the scope of followup inspection to include both units and to correct deficiencies that were identified. The inadequate design control issues that led to flaws in the flood-up tubes are a violation of minor significance. (Section E2.1)

Plant Support

- The NRC Inspectors identified that a high energy line break barrier door was inadvertently left open. The door was capable of performing its required barrier function while it was in the open position. The failure to maintain the door shut as required by the licensee's administrative procedures is a violation of minor significance and was promptly corrected by the licensee. (Section F1.1)

Report Details

Summary of Plant Status

Unit 1 entered the inspection period at 100 percent power and remained at full power for the duration of the inspection period.

Unit 2 was in mode 5 (cold shutdown) at the beginning of the inspection period. The licensee had shutdown the unit to comply with Technical Specification requirements due to inoperable equipment. The unit was returned to full power on May 17, 1997, following repairs to the equipment. Additional information on the unscheduled shutdown is contained in Inspection Report No. 50-315/97009.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. The conduct of operational activities observed was generally good. Specific events and noteworthy observations are detailed in the sections below. There were few operations personnel errors. Operational performance during an unplanned shutdown was excellent.

O1.2 Unplanned Shutdown to Complete Maintenance on the AB Emergency Diesel Generator (Unit 2)

a. Inspection Scope (71707)

During routine maintenance on the 2 AB Emergency Diesel Generator (EDG), the licensee encountered equipment problems and had to shutdown the unit in order to comply with Technical Specifications. The inspectors performed routine observations of the shutdown and subsequent restart of the unit. The maintenance aspects of this event are discussed in Section M4.1 and Inspection Report No. 50-315/97009. Licensee procedures and documents reviewed included:

- 02-OHP [Operations Head Procedure] 4021.001.003, "Power Reduction," Revision 10
- 02-OHP 4021.001.004, "Plant Cooldown from Hot Standby to Cold Shutdown," Revision 19
- 02-OHP 4021.001.001, "Plant Heatup from Cold Shutdown to Hot Standby," Revision 20
- 02-OHP 4021.001.002, "Reactor Startup," Revision 20

- 02-OHP 4021.001.006, "Power Escalation," Revision 15
- Condition Report (CR) 97-1506, Rod Dropped or Rod Bottom annunciator received during startup.

b. Observations and Findings

On May 6, 1997, at 3:03 a.m. the licensee entered a 72-hour limiting condition for operation (LCO) in order to perform maintenance on the 2 AB EDG. The maintenance activities included the cleaning and checking of the voltage regulator circuit boards. Due to circumstances that are further discussed in Section M4.1 of this report and in Inspection Report No. 50-315/97009, the EDG was not restored to an operable status within the required 72-hour time frame. As required, the licensee shutdown the unit. The inspectors were in the control room and monitored the shutdown evolution, noting that crew communications were excellent, there were minimal extra personnel in the control room, and effective command and control was maintained.

The unit remained in Mode 5 (cold shutdown - less than 200 °F) while the 2 AB EDG was repaired. While the unit was shutdown, other maintenance was performed; however, this maintenance was scheduled and controlled so as to not cause undue control room impact.

Following the successful completion of repairs to the 2 AB EDG, the unit was restored to service. The reactor was taken critical on May 14, 1997, with the inspectors in the control room observing the startup. As with the shutdown, crew communications during the startup were excellent, there were minimal extra personnel in the control room, and effective command and control was maintained. Three way communication was stressed and effectively used.

Prior to reactor criticality during the startup, the "Rod Dropped or Rod Bottom" annunciator was received when control bank D was at approximately 34 steps. The startup was terminated and all control rods were inserted. Inserting the control rods was a conservative measure because they could have stayed at this position while analyzing this condition. The licensee subsequently determined that the condition which caused the alarm was not a concern, and the startup procedure was modified to show that this alarm was normal for this condition. Startup activities continued with full power being achieved at 12:12 a.m. on May 17, 1997.

c. Conclusions

During a Technical Specification required Unit 2 forced outage, crew communications were excellent, there were minimal extra personnel in the control room, and effective command and control was maintained.

O8 Miscellaneous Operations Issues

O8.1 (Closed) Violation 50-315/96015-01(DRP); 50-316/96015-01(DRP): Technical specification breaker alignment verification not performed within 1 hour of removing AC electrical source from service. The licensee had interpreted the requirement in Technical Specification 3.8.1.1 pertaining to breaker alignment verification "within one hour" of removing an AC power source from service, to mean that the breaker alignment could be done within one hour before removing an emergency diesel generator (EDG) from service versus after the EDG had been removed from service. Eight examples of a failure to perform a breaker alignment within one hour after removing an EDG from service were identified. No cases were identified where more than 8 hours elapsed between breaker alignments.

The licensee issued Operations Standing Order 125, "STP.031 [Surveillance Test Procedure] Breaker Alignment for Preplanned Work on Electrical Power Sources," which defined "within one hour" to mean within one hour after removing a power source from service. The following procedures were revised to incorporate the guidance of the standing order:

- PMI 2293 [Plant Manager's Instruction] — On Line Maintenance of Important Systems
- **1(2)-OHP 4030.STP.027 series — Diesel Generator Operability Tests
- 1(2)-OHP 4030.STP.021 — Event Initiated Surveillances

These actions appeared adequate to prevent recurrence, and no further failure to perform a breaker alignment within one hour after removing a power source covered by Technical Specification 3.8.1.1 from service has been identified. The inspectors had no further concerns. This violation is closed.

I. Maintenance

M1 Conduct of Maintenance

M1.1 General Comments

a. Inspection Scope (62707 and 61726)

Portions of the following maintenance job orders, action requests, and surveillance activities were observed or reviewed by the inspectors:

- C0038391 — Repair oil leaks on the Unit 2 turbine driven auxiliary feedwater pump (TDAFWP).
- R0062165 — Drain and refill the turbine bearing reservoir and lubricate the governor valve for the Unit 2 TDAFWP.

- A141576 Drain containment spray header and evaluate the boric acid leakage in Unit 2 lower containment identified by NRC inspectors.
- JO C40921 Troubleshoot 2AB EDG voltage regulator
- JO R45379 Unit 2 AB EDG inverter preventive maintenance
- JO R45360 Unit 2 AB EDG voltage-regulator clean circuit boards preventive maintenance

M4 Maintenance Staff Knowledge and Performance

M4.1 Maintenance Performance Errors Result in Unplanned Unit 2 Shutdown

a. Inspection Scope (62707)

During routine maintenance on the 2 AB EDG, the licensee encountered equipment problems. The inspectors reviewed and evaluated the licensee's investigation and associated corrective actions. The full discussion of this event is contained in Inspection Report No. 50-315/97009; 50-316/97009. Documentation reviewed include:

- Licensee Event Report (LER) 97-002, "Unit Shutdown in Accordance with Technical Specifications (TS) for Electrical Power Systems - AC Sources"
- Engineering Technical Direction Memorandum 97-072, Unit 2 Power Reduction Guidance, dated May 8, 1997
- LCO 97-062, Voluntary TS LCO entry form for May 6, 1997, for the Unit 2 AB EDG
- Temporary Modification 2-97-13, Operation of the emergency diesel generator without the manual voltage regulator
- CR [Condition Report] 97-1438, "2AB EDG manual voltage regulator failed to control voltage following maintenance"
- CR 97-1450, "2AB EDG manual voltage regulator failed to control voltage on third attempt to functionally test the regulator"
- CR 97-1484, "Unit 2 shut down due to technical specification 3.8.1.1"

b. Observations and Findings

Licensee Event Report 50-316/97002-00 was issued by the licensee and discusses the Unit 2 shutdown required upon expiration of the TS LCO for an inoperable EDG (refer to Section M8.2).

A preventive maintenance inspection and cleaning of the 2AB EDG voltage regulator was included in the planned LCO work package. This involved removing the automatic regulator card, the manual regulator card, and the fault current card from a chassis; inspecting and cleaning them; and reinstalling the cards in the chassis. On May 6, 1997, a slow start test of the EDG was performed following the maintenance. The test failed when the manual voltage regulator did not control output voltage, over-ranging the meter at 150 volts; operators then stopped the engine.

The licensee's initial investigation determined that the manual voltage regulator card had not been properly tightened when reinstalled, resulting in some arcing when the voltage regulator was energized. Additional components were damaged during this arcing. It took the licensee several days to evaluate the root cause, assess the extent of the damage, and perform necessary repairs. Technical Specification 3.8.1.1.b requires that an inoperable EDG be returned to service within 72 hours or the associated unit be placed in hot standby within the next 6 hours and be in cold shutdown within the following 30 hours. The licensee determined that the 2AB EDG would not be returned to service before the 72-hour LCO expired and decided to shut down Unit 2 in order to comply with TS 3.8.1.1 (Section O1.1).

Based on the results of the investigation of the initial failure of the voltage regulator, the licensee determined that workers had not followed job order requirements to "ensure all mounting hardware and connections were tight" after reinstalling the manual regulator card. In addition, the licensee determined that supervisory oversight of the job was poor. The involved individuals were counseled, and the problems and a restatement of expectations were communicated to all station personnel. The failure to tighten the circuit board as required by the instructions in the job order is addressed in Inspection Report No. 50-315/97009; 50-315/97009.

c. Conclusions

The workers reinstalling the 2AB EDG manual voltage regulator card after a routine cleaning failed to properly tighten the connections, leading to a failure of the voltage regulator during testing and a resultant unplanned Unit shutdown to comply with Technical Specifications.

M8 Miscellaneous Maintenance Issues

M8.1 (Closed) Violation 50-316/95013-01: Preconditioning of Equipment Prior to Testing

a. Inspection Scope (92902)

The inspectors reviewed the corrective actions taken by the licensee in response to Notice of Violation 50-316/95013-01.

b. Observations and Findings

The licensee procedurally defined preconditioning and assigned responsibility to engineering personnel for implementing corrective actions to prevent preconditioning of equipment prior to testing. The licensee established a preconditioning task force to identify and address the general issue of preconditioning for all Technical Specification surveillances.

The licensee committed to review all surveillance procedures for possible preconditioning issues. As of the end of this inspection period, reviews had been completed by all departments with responsibility for testing of equipment.

c. Conclusions

The corrective actions for Notice of Violation 50-316/95013-01 have been fully implemented and appear adequate. The inspectors have not identified any additional instances of equipment preconditioning prior to testing. This violation is closed.

M8.2 (Closed) Licensee Event Report 50-316/97002-00: Unit shutdown in accordance with Technical Specifications for electrical power systems - AC Sources. On May 8, 1997, the licensee shut down Unit 2 in accordance with Technical Specification 3.8.1.1 due to the inability to restore the Unit 2 AB EDG to service within 72-hours. This event is discussed in Section M4.1 and also in Inspection Report No. 50-315/97009; 50-316/97009. No new issues were identified in the LER, and the inspectors have no additional concerns. This LER is closed.

III. Engineering

E1 Conduct of Engineering

During resident inspection activities, routine observations were conducted in the areas of engineering using Inspection Procedure 37551. Engineering personnel were observed to promptly respond to plant issues and to pursue resolution.

E2 Engineering Support of Facilities and Equipment

E2.1 (Closed) Unresolved Item 50-315/97004-07; 50-316/97004-07;: Damaged Flood-up Tubes Required For Environmental Qualification of Electrical Wires

a. Inspection Scope (92903)

The inspectors reviewed the event analysis submitted in Licensee Event Report 50-315/97-006-01, Damaged Flood-Up Tubes.

b. Observations and Findings

Electrical penetrations at the D. C. Cook Nuclear Plant are located below the predicted flooding level inside containment following a loss of coolant accident. As a result, safety related cables are routed through stainless steel tubes, referred to as flood-up tubes, which prevent water in the containment from contacting the cables. This configuration is necessary because the electrical cables were not environmentally qualified for submergence in water.

Licensee Event Report 316/96-006-00 was written to document the identification of moisture intrusion into flood-up tubes during the Unit 2 1996 refueling outage. As a result of the moisture intrusion, one third of Unit 1's flood-up tubes were inspected for moisture intrusion during the 1997 refueling outage. Three flood-up tubes with through-wall defects were identified. Based on these results, the licensee expanded the inspection scope to include the remaining Unit 1 flood-up tubes and all of the Unit 2 flood-up tubes. Six additional through-wall defects were identified in the Unit 1 tubes and two cracked tubes were found in Unit 2. Of the 11 total damaged flood-up tubes, 7 Unit 1 tubes and 1 Unit 2 tube contained circuits which are required for either accident mitigation or post-accident monitoring.

The root cause of the flood-up tube damage was poor work practices, specifically:

- The original installation techniques for flood-up tubes did not address minimum arc radius, resulting in material stress cracks.
- There was a lack of protection of flood-up tubes from random arc strikes during work in the vicinity of the flood-up tubes.

Both of these work practices created cracks and holes in the flood-up tubes, most probably early in plant life.

Corrective actions taken by the licensee include:

- Critical areas for all flood-up tubes in each unit were inspected for cracks.
- The damaged Unit 1 and Unit 2 flood-up tubes were replaced.
- Inspections will be conducted at the beginning of each outage to check for any new cracks. Inspections will also be conducted at the end of the outage to ensure that outage activities do not result in any damaged tubes.
- The Environmental Qualification system engineer was interviewed and stated that a review of the American Electric Power Welding Manual was performed to ensure adequate precautions exist for welding in the vicinity of electrical equipment to prevent random arc strikes.

- The licensee added instructions for standard work practices on equipment in the vicinity of the flood-up tubes to the nuclear plant maintenance (NPM) work documents. These instructions are intended to ensure that personnel are aware of the need to avoid adding undue localized stress to the flood-up tubes when working on the tubes and to verify that no cracks have developed. This enhancement was implemented in preparation for the upcoming Unit 2 refueling outage. Long term corrective action will be to update Environmental Qualification Preservation Documents (EQPD) involving flood-up tubes to include work instructions for maintaining the integrity of these tubes. As of the end of this inspection period, the licensee had not started the long term corrective action to update the EQPD and had not committed to a completion date for this effort.

Safety Significance:

The cracked flood-up tubes did not result in the loss of any Technical Specification required systems. However, several examples existed where individual system trains were impacted. Redundant train equipment was operable to perform the required safety functions. Consequently, the safety significance of the cracked flood-up tubes was minimal.

- Each unit has two hydrogen recombiners of which only one is required for accident mitigation. The hydrogen recombiner is used to maintain the long-term hydrogen concentration inside containment below 4 volume percent following a loss-of-coolant accident. Only one of the two recombiners (1-HR-1) was adversely impacted by a cracked flood-up tube.

- Unit 1 has two containment air recirculation/hydrogen skimmer (CEQ fans), only one of which is required for accident mitigation. Only one of the recirculation fans (1-HV-CEQ-2) was impacted by the cracked flood-up tube containing the cable associated with valve 1-VMO-102, the pump suction isolation.

- Unit 2 has two containment air recirculation/hydrogen skimmer (CEQ fans), only one of which is required for accident mitigation. Only one of the recirculation fans (2-HV-CEQ-2) was adversely impacted by a cracked flood-up tube.

The CEQ fans are required to provide a continuous mixing of the containment atmosphere for the long term post-blowdown accident environment. They are also required to prevent the formation of hydrogen pockets within the various compartments and subcompartments of the ice condenser containment.

Regulatory Significance:

The cracked flood-up tubes were identified by a licensee initiated inspection. The inspection effort resulted from the identification of the intrusion of water into a

flood-up tube. No requirement or program existed for routine inspection of the flood-up tubes, consequently, the cracks were not identified earlier.

The inspectors analyzed equipment configurations involving inoperability of both trains of equipment which would have resulted in conditions not covered by Technical Specifications. Instances within the last year were identified where a train of Hydrogen Recombiner or CEQ fan was inoperable due to planned maintenance at the same time that the opposite train was potentially inoperable due to a cracked flood-up tube. Each instance was of short duration, with the longest duration being 23 hours 15 minutes. No violations of TS LCO's were identified.

The lack of design control for the minimum arc radius for the flood-up tubes and for protection from random arc strikes is in violation of 10 CFR 50, Appendix B, Criterion III, Design Control, requirements. This non-repetitive, licensee identified and corrected violation is being treated as a Non-Cited Violation (50-315/97010-01; 50-315/97010-01), consistent with Section VII.B.1 of the NRC Enforcement Policy.

c. Conclusions

The flaws in flood-up tubes inside containment resulted in equipment being rendered inoperable. Redundant equipment prevented this inoperability from having greater safety significance. The licensee took prompt action to expand the scope of a followup inspection to include both units and to correct deficiencies that were identified. The inadequate design control issues that led to flaws in the flood-up tubes are a violation of minor significance.

E8 Miscellaneous Engineering Issues

E8.1 (Closed) Licensee Event Report 50-315/97006-00, -01 Equipment in Containment Rendered Inoperable Due to Cracked Flood-up Tubes:

This event is discussed in detail in Section E2.1. No new issues were identified in the LER, and the inspectors have no further concerns. This LER is closed.

IV. Plant Support

F1 Control of Fire Protection Activities (71750)

During resident inspection activities, routine observations were conducted in the area of fire protection using Inspection Procedure 71750. No discrepancies were noted.

F1.1 Fire Door Left Open and Unattended (Unit 1)

a. Inspection Scope (71707)

On June 12, 1997, the inspectors identified that the roll-up door behind the missile barrier door to the Unit 1 West Motor Driven Auxiliary Feed Water Pump

(MDAFWP) room was open and that no personnel were in the vicinity. The inspectors reviewed the following documents:

• 12 PMP 4030.001.002 [Plant Manager's Procedure]	Administrative Requirements for Ventilation Boundary and High Energy Line Break Barriers
• CR 97-1775	Found Roll-up Door Open

b. Observations and Findings

The licensee reviewed security records and determined that the door was open for two hours and 45 minutes, being last opened by an operator performing normal tours. The operator neglected to shut the roll-up door, but did shut the missile barrier door. A condition report was initiated (CR 97-1775). A Lessons Learned memorandum was generated by the operator to remind personnel to ensure that roll-up doors are shut when left unattended.

Plant Manager's Procedure (PMP) 12 PMP 4030.001.002, Administrative Requirements for Ventilation Boundary and High Energy Line Break Barriers, Revision 0, Attachment 1, identified the roll-up door to the Unit 1 West MDAFWP room as a ventilation and high energy line break (HELB) barrier. High energy line break barriers serve to separate the mild environment of the pump room from the harsh environment of the turbine building.

The roll-up door was fitted with fusible links, rated at 175 °F - 225 °F, that would have allowed the door to go shut in case of a HELB. The door remained functional as a HELB barrier while it was in the open position.

Procedure 12 PMP 4030.001.002 required that ventilation and HELB barrier roll-up doors be kept closed. The failure to keep the subject roll-up door shut constitutes a violation of minor significance and is being treated as a Non-Cited Violation (50-315/97010-02), consistent with Section IV of the NRC Enforcement Policy.

c. Conclusions

Based on a walkdown of the auxiliary feedwater system, the inspectors identified that a HELB barrier door was inadvertently left open. The door was capable of performing its required barrier function while it was in the open position. The failure to maintain the door shut as required by the licensee's administrative procedures is a violation of minor significance and the condition was promptly corrected by the licensee.

X1 Exit Meeting

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on July 3, 1997. The licensee had additional comments on one of the findings presented.

- Concerning the unplanned shutdown for the Unit 2 AB EDG, the licensee stated that when the decision was made to shutdown the unit 12 hours before the expiration of the LCO, it was possible that if the licensee had concentrated on repairing the EDG, that the unplanned shutdown might have been avoided. The licensee contended that rather than possibly rushing into a last minute shutdown, the licensee had conservatively shutdown the unit early.

  The inspectors commented that at the time of the licensee's decision to shutdown Unit 2 the licensee had not determined the root cause thus the licensee's confidence in the operability of the 2B EDG was weak.

  The licensee agreed, but stated that all field work on the EDG was suspended during the shutdown and if that time had been spent testing, the licensee might have been able to declare the EDG operable sooner.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

#M. Ackerman, Licensing Manager
#T. Beilman, Scheduling Supervisor
#J. Benes, Mechanical Systems Support Section Manager
#A. Blind, Site Vice President
#J. Boesch, Maintenance Manager
#M. Depuydt, Licensing Coordinator
#S. Farlow, Supervisor I&C Engineering
#R. Gillespie, Operations Superintendent
#M. Greendonner, Fire Protection Coordinator-Operations
#J. Hodge, Manager Work Control
#A. Lofti, Performance Engineer
#D. Londot, Environmental
#M. Mierau, Operations
#D. Morey, Chemistry Superintendent
#D. Noble, Radiation Protection Superintendent
#T. Postlewait, Site Engineering Support Manager
#T. Quaka, Project Management & Inst. Services
#J. Sampson, Plant Manager
#G. Tollas, Assistant Operations Superintendent

#Denotes those present at the July 3, 1997 exit meeting.

INSPECTION PROCEDURES USED

IP 37551	On-site Engineering
IP 60710	Refueling Outage
IP 61726	Surveillance Observations
IP 62703	Maintenance Observation
IP 71707	Plant Operations
IP 71750	Plant Support Activities
IP 86700	Spent Fuel Pool Activities

ITEMS OPENED and CLOSED

Opened

50-315/97010-01 50-316/97010-01	NCV	Flood-up tubes
50-315/97010-02	NCV	Open HELB door

Closed

50-315/97004-07 50-316/97004-07	URI	Cracked Flood-up tubes
50-315/97010-01 50-316/97010-01	NCV	Flood-up tubes
50-315/97010-02	NCV	Open HELB door
50-315/96015-01 50-316/96015-01	VIO	Technical specification breaker alignment verification not performed within 1 hour of removing AC electrical source from service
50-316/95013-01	VIO	Preconditioning of Equipment Prior to Testing
50-316/97002-00	LER	Unit shutdown in accordance with technical specifications for electrical power systems - AC Sources
50-315/97006-00	LER	Interim-LER, Cracked Flood-up Tubes
50-315/97006-01	LER	Cracked Flood-up Tubes

List of Acronyms

AEO	Auxiliary Equipment Operator
AEP	American Electric Power
AFW	Auxiliary Feedwater
AR	Action Request
CEQ	Containment air recirculation/hydrogen skimmer fans
CFR	Code of Federal Regulations
CR	Condition Report
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
ENTDM	Engineering Technical Direction Memorandum
EQPD	Environmental Qualification Preservation Document
HELB	High Energy Line Break
IP	Inspection Procedure
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MDAFWP	Motor Driven Auxiliary Feedwater Pump
N/A	Not Applicable
NCV	Non-Cited Violation
NPM	Nuclear Plant Maintenance
NRC	Nuclear Regulatory Commission
OHP	Operations Head Procedure
PDR	Public Document Room
PMI	Plant Manager's Instruction
PMP	Plant Manager's Procedure
RO	Reactor Operator
RP	Radiation Protection
STP	Surveillance Test Procedure
TDAFWP	Turbine Driven Auxiliary Feedwater Pump
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VIO	Violation