UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report No.: 50-261/93-18

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket No.: 50-261 License No.: DPR-23

Facility Name: H. B. Robinson Unit 2

Inspection Conducted: July 10 - August 14, 1993

Inspector: _____ 9/8/93
W. T. Orders, Senior Resident Inspector Date Signed

Inspector: _____ 9/8/93
C. R. Ogle, Resident Inspector Date Signed

Approved by: _____
H. O. Christensen, Chief Date Signed
Reactor Projects Section 1A
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection was conducted in the areas of operational safety verification, surveillance observation, and maintenance observation.

Results:

One violation with three examples of operators failing to follow procedures was identified involving; inadequate locked valve control (paragraph 3), failure to adequately monitor equipment alarms (paragraph 3), and failure to follow procedure during EDG testing (paragraph 4).

Another violation was identified concerning the failure to maintain design control of the Reactor Auxiliary Building Ventilation System. (paragraph 3)

A third violation was identified concerning the failure to control work on safety-related equipment. (paragraph 5)

An Inspection Followup Item was identified involving the potential for alarm conditions to be disguised. (paragraph 3)

REPORT DETAILS

1. **Persons Contacted**

C. Baucom, Senior Specialist, Regulatory Compliance
D. Bauer, Regulatory Compliance Coordinator, Regulatory Compliance
S. Billings, Technical Aide, Regulatory Compliance
*B. Clark, Manager, Maintenance
*T. Cleary, Manager, Technical Support
D. Crook, Senior Specialist, Regulatory Compliance
C. Dietz, Vice President, Robinson Nuclear Project
R. Downey, Shift Supervisor, Operations
J. Eaddy, Manager, Environmental and Radiation Support
S. Farmer, Manager - Engineering Programs, Technical Support
R. Femal, Shift Supervisor, Operations
*W. Flanagan Jr., Manager, Operations
W. Gainey, Manager, Plant Support
*J. Harrison, Manager, Regulatory Compliance
P. Jenny, Manager, Emergency Preparedness
D. Knight, Shift Supervisor, Operations
A. McCauley, Manager - Electrical Systems, Technical Support
D. Morrison, Shift Supervisor, Operations
D. Nelson, Shift Outage Manager, Outages and Modifications
A. Padgett, Manager, Environmental and Radiation Control
D. Seagle, Shift Supervisor, Operations
M. Scott, Manager, Performance Engineering
E. Shoemaker, Manager, Mechanical Systems, Technical Support
W. Stover, Shift Supervisor, Operations
*D. Waters, Manager, Regulatory Affairs
D. Winters, Shift Supervisor, Operations

Other licensee employees contacted included technicians, operators, engineers, mechanics, security force members, and office personnel.

*Attended exit interview on August 18, 1993.

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. **Plant Status**

The unit operated from July 10 to July 12, 1993, with power at approximately 70 percent to reduce SW/CW weir discharge temperatures. Following a power ascension on July 12, 1993, the unit operated at 100 percent until July 16, 1993. A power reduction to 70 percent was again conducted on July 16 to 70 percent and the unit operated on July 17 and 18 at 70 percent to reduce weir discharge temperatures. Power was raised to 100 percent on July 19 and the unit operated at this power until a power reduction on July 21.

The July 21 power reduction was performed in response to high steam generator cation conductivity. Following the discovery of elevated conductivity the unit operated at power levels of 25 percent to 80 percent until the generator chemistry was restored. Following an increase in power to 100 percent on July 26 the unit operated at 100 percent until the end of the inspection period.

3. Operational Safety Verification (71707)

The inspectors evaluated licensee activities to confirm that the facility was being operated safely and in conformance with regulatory requirements. These activities were confirmed by direct observation, facility tours, interviews and discussions with licensee personnel and management, verification of safety system status, and review of facility records.

To verify equipment operability and compliance with TS, the inspectors reviewed shift logs, Operation's records, data sheets, instrument traces, and records of equipment malfunctions. Through work observations and discussions with Operations staff members, the inspectors verified the staff was knowledgeable of plant conditions, responded properly to alarms, adhered to procedures and applicable administrative controls, cognizant of in-progress surveillance and maintenance activities, and aware of inoperable equipment status. The inspectors performed channel verifications and reviewed component status and safety-related parameters to verify conformance with TS. Shift changes were routinely observed, verifying that system status continuity was maintained and that proper control room staffing existed. Access to the control room was controlled and operations personnel carried out their assigned duties in an effective manner. Control room demeanor and communications were appropriate.

Plant tours and perimeter walkdowns were conducted to verify equipment operability, assess the general condition of plant equipment, and to verify that radiological controls, fire protection controls, physical protection controls, and equipment tagging procedures were properly implemented.

Oil Spill In Lake Robinson

At 8:07 a.m. on July 25, 1993, the licensee was advised by the Darlington County Sheriff's Department, that a vehicle had been found in Lake Robinson. This resulted in an oil/gasoline slick on the lake estimated by the licensee to be approximately 60 square feet in size. At 10:05 a.m., the licensee was informed by the State of South Carolina Department of Health and Environmental Control that the slick had dissipated.

As a result of licensee notifications to the South Carolina Department of Health and Environmental Control, National Response Center, and the Darlington County Emergency Planning Organization, the licensee made a

4-hour non-emergency notification to the NRC in accordance with the requirements of 10 CFR 50.72 (b) (2) (VI), Offsite Notification, at 10:52 a.m. on July 25, 1993. The licensee also notified the Senior Resident Inspector immediately prior to the 10 CFR 50.72 notification.

Based on their review of this event, the inspectors concluded that the licensee met the requirements for NRC notification specified in 10 CFR 50.72. The inspectors have no further questions on this event.

Inadequate Locked Valve Control

On the afternoon of July 26, 1993, the resident inspectors were performing a routine safety system inspection of the motor driven auxiliary feedwater pumps. During that effort, it was noted that AFW valves, FCV 1424 and FCV 1425, the discharge flow control valves for the pumps, were not aligned as required by the applicable Operating Procedure OP 402, Auxiliary Feedwater System. The procedure requires that the two hydro-motor actuated valves be closed with the manual actuator handle disengaged and locked. The inspectors noted that valve FCV 1424 was completely unsecured with the lock and chain merely wrapped around the valve actuator body, but not in contact with the handle of the manual actuator. The inspector also noted that the chain for valve FCV 1425 was loosely wrapped around the manual actuator handle but could easily be removed leaving the valve unsecured.

The inspectors brought their observations to the attention of an auxiliary operator and subsequently discussed the issue with operators in the control room. The valves were properly secured shortly thereafter.

Additionally, on July 30, 1993, the inspectors observed that the chain intended to lock post accident vent valve, PAV-35 was loosely wrapped around the manual actuator handle but could easily be removed leaving the valve unsecured. The inspector brought his observations to the attention of an auxiliary operator who properly secured the valve.

Operations Procedure OP 402, Auxiliary Feedwater System, requires in section 6.0, Normal Operations, step 6.1.1 that valves FCV-1424 and FCV-1425 be aligned in the closed position with the manual actuators disengaged and locked when placing the system in standby alignment.

Operations Management Manual OMM-009, Locked Valve List, delineates those valves within the plant which are required to be locked. OMM-009 states that a properly locked valve will have the chain secured between the valve operator and body such that it may not be removed unless the lock is removed. Attachment 6.1 of OMM-009 contains a listing of those valves, which are required to be locked and the position of each. OMM-009 lists valves FCV-1424, FCV-1425 and PAV-35 as valves which are to be locked.

Technical Specification 6.5.1.1 Procedures, Tests and Experiments require in part that written procedures be established, implemented and

maintained, covering the activities recommended in Appendix A of Regulatory Guide 1.33, Rev 2. 1978, including the operation of the auxiliary feedwater system and combatting emergencies/significant events.

Contrary to the above, on July 26 and July 30, 1993, respectively, valves FCV-1424, FCV-1425 and PAV-35 were found improperly secured, in violation of the requirements of procedures OP-402 and OMM-009. This is one of three examples which in the aggregate comprise a Violation: Operations Failure To Follow Procedures, Three Examples. 93-18-01.

Failure To Note Deviation In Indicated Rod Position And Average Bank Position

At 9:32 a.m. on July 27, 1993, an alarm was recorded on the control room ERFIS printer indicating a rod misalignment in Group 2. It should be noted that this "alarm" does not have an audible feature, rather, it is a "silent" alarm typer message. This alarm occurred as a result of a deviation between the indicated position for rod B-10, a Group 2 rod, and its average bank position. The alarm was recorded again at 9:47 a.m. and at 10:02 a.m.. At 10:04 a.m., a message was printed indicating that the rod misalignment had returned to normal. This occurred despite the fact that the indicated position of the rod still deviated from the average bank position by an amount in excess of the limits specified in TS 3.10.1.5. Commencing with the 10:30 a.m. printout, and every half-hour thereafter, the position of the rod as indicated on the ERFIS printout, was shown to be in deviation from its average bank position. Additionally, a data quality of "BAD" was specified for the rod on these printouts. The operators on shift failed to detect this condition. The oncoming operator discovered the situation at shift turnover at 7:00 p.m. that evening.

Following this discovery, the licensee entered AOP-001, Malfunction of Reactor Control System, at 7:15 p.m. The deviation was attributed to an indication error for the B-10 IRPI. At 9:30 p.m., following an adjustment to the indicated position for rod, AOP-001 was exited.

The inspectors independently reviewed the ERFIS computer printouts for July 27, 1993, and interviewed the reactor operator on watch during dayshift that day. The inspectors concluded that the reactor operator failed to note repeated indications of a potential rod misalignment in excess of TS limits for almost 9.5 hours. When questioned by the inspectors, the reactor operator admitted that he failed to consistently review the ERFIS printout which recorded rod positions. The failure of the operator to note the indication of a potential rod misalignment is a failure to follow procedure OMM-023, which specifies that operators perform thorough general inspection of assigned spaces and that operators be knowledgeable of equipment parameters.

Technical Specification 6.5.1.1.1.a, Procedures, Tests, and Experiments, requires in part that written procedures be established, implemented and maintained concerning the activities delineated in Appendix A of

Regulatory Guide 1.33, Rev. 2, February 1978, including procedures for log entries, record retention, and procedure review. Operations Management Manual Procedure, OMM-023, Operator Logs and Rounds, states that an operator shall perform a thorough, general inspection of his assigned area and that operators should be knowledgeable of equipment parameters that are to be monitored.

Contrary to these requirements, on July 27, 1993, the reactor operator failed to note a deviation between the indicated position for rod B-10 and its average bank position which was in excess of Technical Specification 3.10.1.5 limits, for a period of approximately 9.5 hours. This is one of three examples which in the aggregate comprise Violation: Operations Failure To Follow Procedures, Three Examples. 93-18-01.

The inspectors requested the licensee perform an analysis of other alarm features provided by ERFIS to determine if there are other cases in which alarms would clear as a result of input data being assigned a quality code of "BAD". This analysis will be evaluated by the inspectors to ensure that alarms will not inadvertently be cleared during an accident scenario. Pending this evaluation, this item will be tracked as IFI 93-18-02: Alarm Features Provided By ERFIS Which Can Inadvertently Clear.

Failure To Maintain Design Control of Reactor Auxiliary Building Ventilation System

On July 28, 1993, a member of the licensee's staff noted that a tarp which had been erected as a ventilation boundary where an exterior auxiliary building door had been removed, was deflected outward indicating that the pressure inside the auxiliary building was greater than that outside. It was ultimately concluded that the Reactor Auxiliary Building Ventilation System was not maintaining the building at a negative measure as designed.

System Design

As described in the FSAR, the Reactor Auxiliary Building Ventilation system is designed, in part;

- to maintain potentially contaminated areas of the Reactor Auxiliary Building at a negative pressure

- to route the ventilation exhaust from the potentially contaminated areas to the plant vent stack to ensure continuous monitoring by the radiation monitoring system

- to assure that the air distribution in the building is such that air movement is from areas of lesser contamination to areas of higher contamination potential

Background

Based on information available at the time, a review of relative events preceding this issue revealed the following:

- Prior to 1979, numerous modifications were made to the auxiliary building which may have changed the as-built design of the Reactor Auxiliary Building Ventilation system. These included but were not limited to sealing cable and pipe penetrations, the addition of fire doors, and duct work changes.

- In July 1979, a vendor service company was contracted to correct known pressure problems in the building thought to have been caused by the aforementioned modifications.

- Between 1979 and 1987, the only major engineering work performed relating to the system, was the initiation of TAR/PCN 84-002 which was to correct inadequate ventilation in some areas of the reactor auxiliary building due to the aforementioned modifications.

- In 1987 maintenance work request WR 87-APNK1 installed a new shaft in fan HVS-1 when the old shaft failed. Testing indicated that the building was at a positive pressure after installation. It is not known if the building was at a positive pressure prior to the maintenance. The system was adjusted to reduce supply flow to get a negative pressure in the building. The as-left flowrate was not recorded.

- In 1988, MOD 934, which implemented the changes requested by TAR/PCN 84-002 was approved and started. Actual installation was scheduled to be completed in 1989 but is still ongoing. Although not addressed by the MOD, the system flow balance was affected by the ongoing work yet a re-balance was not scheduled to be performed until all work was completed; in this case, a period of five years.

- In January of 1990, another vendor service company was contracted to perform preliminary data collection to prepare or the performance of the flow balance of the auxiliary building associated with MOD-934.

- In January of 1992 WR 91-AMYN1 was written to clean the steam heater coils associated with HVS-1. The system engineer stated that the coils were very dirty which contributed to a high suction dp. The high suction dp reduced the supply air flowrate which (it was subsequently concluded) made the lower level of the building positive. No post maintenance test was performed to verify that the system's flow balance had not been affected. The licensee

stated that the lower level of the building remained positive from this time, until July 1993.

- In February 1993, weatherstripping and door seals were installed on doors for fans HVE-2A/B and HVS-1. These modifications decreased the exhaust flow coming from the upper corridor. No post modification test was performed to verify that the system's flow balance had not been affected. According to the licensee, it was at this time that the upper level of the reactor auxiliary building went positive and remained in that condition until July 1993.

- On July 26, 1993, per MOD 934, the aforementioned exterior auxiliary building doors were removed. A tarp was installed in their place. Observation of the tarp indicated a negative pressure did not exist.

Event Details

On July 27, 1993, the operability of the Reactor Auxiliary Building Ventilation System was questioned due to the work being performed under Modification 934. One part of this modification removed the doors serving the north end of the second floor auxiliary building hallway. A tarp was erected to provide a ventilation boundary. Licensee personnel observed that the direction of movement of the tarp indicated that the air movement through the hallway was toward the outside environment and that a negative pressure was not being maintained.

Based on the system's design basis, this condition indicated that the system was inoperable. The licensee initiated compensatory actions which restored the Reactor Auxiliary Building Ventilation System to a functional status. These actions included:

- On July 28, 1993, operability determination 93-010 was initiated as a result of the positive pressure. NED was contacted to support the determination. On July 30, 1993, operability Determination 93-010 was completed, concluding that facility did not meet the design basis while a positive pressure existed.

- On July 29, 1993, the vendor service company completed an as-found reading of flows. HVS-1 was measured at 52,664 cfm when converted to STP. Exhaust flows were measured at 53,108 cfm. The licensee stated that exhaust flow was 444 cfm greater than supply, which they said indicated that the overall building was at a negative pressure, although the upper level hallway and the lower level of the building were at a positive pressure.

- On July 29, 1993, the licensee established a negative pressure condition in the upper level hallway by partially opening the door to the room which houses fans HVE-2A & B. This increased the exhaust from the hallway which resulted in a negative pressure in the area. Later that evening, the licensee was able to achieve a negative pressure in the lower level of the building using similar techniques.

- At approximately 6:30 p.m. on July 30, 1993, the licensee performed a building walkdown which confirmed that the building was at a negative pressure. At the end of this report period, the unit was operating with the aforementioned compensatory measures in place.

Conclusion

The auxiliary building ventilation system was incapable of performing its intended safety function for a period of approximately 18 months preceding July 1993.

10 CFR 50 Appendix B, Criterion III, Design Control, as implemented by the CP&L Corporate Quality Assurance Program requires in part that measures be established to assure that applicable regulatory requirements and the design basis, as specified in the license application, are correctly translated into specifications, drawings, procedures, and instructions of the type to ensure the design integrity of the structure, system or component; that measures be established to verify the adequacy of the design such as by suitable testing; and that design changes be subject to the design control measures commensurate with those applied to the original design.

Contrary to those requirements,

> The licensee failed to implement adequate measures to maintain the integrity of the Reactor Auxiliary Building Ventilation System design in that modifications and design altering maintenance were implemented which degraded the system yet neither suitable post modification test nor post maintenance testing was performed to verify the system's continued operability. This ultimately resulted in the system being inoperable from January 1992 until July 1993.

This is a Violation: Failure To Maintain Design Control of Reactor Auxiliary Building Ventilation System VIO 93-18-03.

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

4. **Surveillance Observation (61726)**

The inspectors observed certain safety-related surveillance activities on systems and components to ascertain that these activities were conducted in accordance with license requirements. For the surveillance test procedures listed below, the inspectors determined that precautions and LCOs were adhered to, the required administrative approvals and tagouts were obtained prior to test initiation, testing was accomplished by qualified personnel in accordance with an approved test procedure, test instrumentation was properly calibrated, the tests were completed at the required frequency, and that the tests conformed to TS requirements. Upon test completion, the inspectors verified the recorded test data was complete, accurate, and met TS requirements, test discrepancies were properly documented and rectified, and that the systems were properly returned to service. Specifically, the inspectors witnessed/reviewed portions of the following test activities:

OST-401	Emergency Diesels (Slow Speed Start)
OP-604	Diesel Generators "A" and "B" (A EDG Only)

EDG A Inoperability Due To Erroneous RPM Indications

At 1:25 p.m. on August 2, 1993, the licensee declared the A EDG inoperable and entered TS 3.7.2.. This occurred after it was observed during OST-401, Emergency Diesel Generator Slow Speed Start, that the A EDG indicated engine speed could not be raised to the synchronous speed of 900 RPM. TS 3.7.2 required that the EDG be returned to service within seven days. During troubleshooting, the licensee determined that a power supply in the RPM indicating circuitry was malfunctioning, thereby, resulting in erroneous engine speed indication.

A temporary change to OST-401 was made to permit the use of a strobotach to measure engine speed. The OST was successfully completed and the licensee exited TS 3.7.2 at 4:10 a.m. of August 3, 1993.

After interviewing the system engineer and independently reviewing the EDG electrical schematic, the inspectors determined that the RPM indicating circuitry is not used for automatic control of the EDG. It is used during manual starts of both EDGs. The inspectors concluded that the unavailability of the RPM device did not render the EDG inoperable.

The inspectors noted that an operator assigned to operate the A EDG during the troubleshooting flashed the field with an indicated engine speed less than 900 RPM. This was done in an effort to determine the actual engine speed by using the installed frequency meter as a check for the RPM instrument. This is contrary to the requirements of Operating Procedure, OPP-604, Diesel Generators "A" and "B", which

requires that the engine speed be raised to synchronous speed (900 RPM) prior to flashing the field.

Technical Specification 6.5.1.1.a, Procedures, Tests, and Experiments requires in part that written procedures be established, implemented, and maintained concerning the activities outlined in Appendix A of Regulatory Guide 1.33, Rev 2, February 1978. Appendix A, Item 4.1.2 (a) requires procedure for operation of the EDGs. Operating Procedure, OP-604, Diesel Generators "A" and "B", requires that the engine speed be raised to 900 RPM prior to flashing the field. Additionally, OP-604 contains a prohibition against operating an EDG at less than 900 RPM with field excitation in service.

Contrary to these requirements, on August 2, 1993, the EDG A field was flashed with an indicated engine speed of approximately 750 RPM. This is one of three examples which in the aggregate comprise a Violation: Operations Failure To Follow Procedures, Three Examples, 93-18-01.

Based on the troubleshooting witnessed by the inspectors, it is likely that the EDG was operating at speeds in excess of 900 RPM while the speed sensing circuit was inoperable. Hence, the safety significance of flashing the EDG field was minimal.

5. **Maintenance Observation (62703)**

The inspectors observed safety-related maintenance activities on systems and components to ascertain that these activities were conducted in accordance with TS, approved procedures, and appropriate industry codes and standards. The inspectors determined that these activities did not violate LCOs and that required redundant components were operable. The inspectors verified that required administrative, material, testing, radiological, and fire prevention controls were adhered to. In particular, the inspectors observed/reviewed the following maintenance activities:

W/R JO 93-ADFY1	Receipt And Storage Of New Fuel
W/R JO 93-AHJB1	Adjust Door Latches To Provide Adequate Seals For HVE-1 Fitter Housing
WR/JO 93-AHAW1	Repair of EDG A Fuel Oil Pump Indicator Pegged High
WR/JO 93-AHWA1	Repair Governor On A EDG
WR/JO 93-AEE004	Check Brush Tension OnSpeed Change Motor For EDG

Unauthorized Maintenance On Control Room Door

On August 2, 1993, during a routine tour, the inspectors observed ongoing maintenance on the striker plate for door 49, the south control room door. The door could not have been secured due to a partially removed striker plate screw. At 2:23 p.m., as a result of the inspector's questions to the shift supervisor on this observation, the door, as well as the control room ventilation system, were declared inoperable. Accordingly, the licensee entered TS 3.15.1.b. which required that the inoperable door be returned to service in 48-hours or the plant be placed in hot shutdown in 8-hours and cold shutdown in the following 30-hours. Coincidentally , the A EDG was also inoperable due to having failed OST-401 (see paragraph 4). With an inoperable control room ventilation system, the licensee was unable to satisfy the requirements of TS 3.7.2.d for continued operation with one operable EDG. As a result, the licensee entered TS 3.0. which required that the unit be shutdown within 8 hours and placed in cold shutdown within the next 30-hours. The door was repaired and following successful completion of OST-750, Emergency Ventilation System Bi-Weekly Test, and OST-625, Fire Door Inspection, the licensee exited TS 3.0 and TS 3.15.1.b at 5:39 p.m. that afternoon.

The inspectors interviewed the fire technician and shift supervisor involved and reviewed the OSTs completed prior to declaring door 49 operable. The inspectors concluded that maintenance had been conducted on the door beyond that approved by the shift supervisor. The fire protection technician recognized that the supplemental maintenance rendered the door inoperable, but did not communicate this information to the control room.

Technical Specification 6.5.1.1.1a., Procedures, Tests, and Experiments requires in part that written procedures be established, implemented, and maintained concerning the activities delineated in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978. Appendix A, Item 9.e. requires general procedures for the control of maintenance work. Plant Program, PAP-013, Maintenance Program, requires that shift supervisor permission be obtained before maintenance is performed on plant safety system. On August 2, 1993, maintenance personnel initiated repairs on the south control room door without having obtained the shift supervisor's permission. This resulted in the door, as well as the control room ventilation system, being declared inoperable.

This is considered to be a violation, Failure To Follow Procedure Resulting In Unauthorized Maintenance (93-18-04).

Following the restoration of the door to service, the licensee reviewed the requirements of TS 3.15. As a result of this review, the licensee concluded that the entry into TS 3.0 was unwarranted and that the 48-hour LCO associated with TS 3.15 was the limiting requirement. The licensee indicated that appropriate annotations would be made in the plant records to reflect this subsequent decision. The inspectors have no further questions of this event.

6. Exit Interview (71701)

The inspection scope and findings were summarized on August 18, 1993, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection findings listed below and in the summary. Dissenting comments were not received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

Item Number	Description/Reference Paragraph
93-18-01	VIO: Operations Failure To Follow Procedure, Three Examples (Paragraphs 3, and 4).
93-18-02	IFI: Alarm Features Provided By ERFIS Which Can Inadvertently Clear (Paragraph 3)
93-18-03	VIO: Failure To Maintain Design Control of Reactor Auxiliary Building Ventilation System (Paragraph 3)
93-18-04	VIO: Failure To Follow Procedure Resulting In Unauthorized Maintenance (Paragraph 5).

7. List of Acronyms and Initialisms

AFW	Auxiliary Feedwater
AOP	Abnormal Operating Procedure
cfm	Cubic Feet Per Minute
CFR	Code of Federal Regulations
DBD	Design Basis Documentation
EDG	Emergency Diesel Generator
ERFIS	Emergency Response Facility Information System
FCV	Flow Control Valve
FSAR	Final Safety Analysis Report
HEPA	High Efficiency Particulate Airborne
HVE	Heating Ventilation Exhaust
HVS	Heating Ventilation Supply
IFI	Inspector Followup Item
IRPI	Individual Rod Position Indication
LCO	Limiting Condition for Operation
MOD	Modification and Design Control
NED	Nuclear Engineering Department
NRC	Nuclear Regulatory Commission
OMM	Operations Management Manual
OP	Operations Procedure
OST	Operations Surveillance Test
PAP	Personnel Access Portal
PAV	Post Accident Venting
PMT	Post Maintenance Test

RPM	Revolutions Per Minute
STP	Standard Temperature Pressure
SW/CW	Service Water/Circulation Water
SWBP	Service Water Booster Pump
TAR/PCN	Task Assistance Request/Plant Change Notice
TS	Technical Specification
W/R	Work Request
WR/JO	Work Request/Job Order