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

Report Nos.: 50-338/90-29 and 50-339/90-29

Licensee: Virginia Electric & Power Company
5000 Dominion Boulevard
Glen Allen, VA 23060

Docket Nos : 50-338 and 50-339 License Nos.: NPF-4 and NPF-7

Facility Name: North Anna 1 and 2

Inspection Conducted: November 18 through December 18, 1990

Inspectors: _____ 12/28/90
M.S. Lesser, Senior Resident Inspector Date Signed

_____ 12/28/90
L.P. King, Resident Inspector Date Signed

_____ 12/28/90
J. Menning, Resident Inspector Date Signed

Approved by: _____ 12/28/90
P. E. Fredrickson, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection by the resident inspectors involved the following areas: operations, surveillances, engineered safety feature walkdown, licensee event report followup, and action on previous inspection findings. Inspections of licensee backshift activities were conducted on the following days: November 23 and December 6, 1990.

Results:

One strength was identified involving training held for station management on the plant simulator (paragraph 3.a.).

One strength was identified involving operator response to a feedwater system failure which avoided a reactor trip (paragraph 2).

One noncited violation was identified for failure to maintain a service water valve in the correct position (paragraph 5).

Three apparent violations are being considered for escalated enforcement, involving operability of the recirculation spray system (paragraph 3.c.): (1) The failure to recognize service water pump inoperability leading to conditions where design flows to the recirculation spray heat exchangers may not have been achieved under a design basis accident, (2) The failure to take adequate corrective action to a previous enforcement action, contributing to the first violation and, (3) Failure to perform a safety review in accordance with 10 CFR 50.59, also contributing to the first violation.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

L. Edmonds, Superintendent, Nuclear Training
*R. Enfinger, Assistant Station Manager
M. Gettler, Superintendent, Site Services
J. Hayes, Superintendent of Operations
D. Heacock, Superintendent, Engineering
G. Kane, Station Manager
P. Kemp, Supervisor, Licensing
W. Matthews, Superintendent, Maintenance
*D. Roberts, Supervisor, Nuclear Safety Engineering
*R. Shears, Superintendent, Outage Management
J. Smith, Manager, Quality Assurance
*A. Stafford, Superintendent, Health Physics
J. Stall, Assistant Station Manager

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

NRC Resident Inspectors

*L. King, Resident Inspector
*J. Menning, Resident Inspector
*M. Lesser, Senior Resident Inspector

*Attended exit interview

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

2. Plant Status

Unit 1 continued to operate at power in a coastdown mode in preparation for a scheduled refueling outage on January 11, 1991. On November 26, 1990, Channel IV feedwater flow failed low causing the feedwater regulating valve to fully open. Operators quickly responded to various annunciators and took effective action to maintain steam generator levels. The action taken to avoid a reactor trip was noted as an example of superior operator performance. The failed channel of feed flow was isolated to a bad card and corrected. Unit 1 ended the reporting period at 50 percent power, day 325 of continuous operation.

Unit 2 operated at 100 percent power throughout the inspection period, completing the period at day 43 of continuous operation.

3. Operational Safety Verification (71707)

The inspectors conducted frequent visits to the control room to verify proper staffing, operator attentiveness and adherence to approved procedures. The inspectors attended plant status meetings and reviewed operator logs on a daily basis to verify operational safety and compliance with TS and to maintain awareness of the overall operation of the facility. Instrumentation and ECCS lineups were periodically reviewed from control room indications to assess operability. Frequent plant tours were conducted to observe equipment status, fire protection programs, radiological work practices, plant security programs and housekeeping. Deviation reports were reviewed to assure that potential safety concerns were properly addressed and reported. Selected reports were followed to ensure that appropriate management attention and corrective action was applied.

a. Simulator Scenarios for Management Training

On November 28, the inspectors observed training for management on the simulator. The training was held for management who could be present in the TSC during an accident. A discussion was held concerning implementation of the emergency operating procedures and their background. The management assumed operator positions during an accident including procedure reading. A tube leak in a steam generator was simulated requiring the personnel to go from 1-AP-24.1 "Large Steam Generator Tube Leak" to emergency procedures EP-0, and EP-3 for steam generator tube rupture. The simulator was frozen at various points in the procedure to discuss the background of the emergency procedures and events which were occurring and why certain actions were taken. The level of instruction was excellent and the inspectors believe this type of training, although not required, was beneficial for managers who would be present in the TSC during an accident. The inspectors also noted that the information given by the health physics instructor on actions which would be occurring in the health physics area regarding releases and sampling was a valuable insight into the interface between operations and health physics. This training exercise was observed to be an example of a licensee strength.

b. Relay Failures

On December 5, the EDG slow-start test was successfully performed per 1-PT-82H. After EDG 1H was secured, the diesel generator fire trouble light remained on. The licensee's troubleshooting identified the high speed relay in the control circuit was stuck in the energized position. This stuck relay caused contacts five and six to be open and locked out both start circuits one and two, preventing the EDG from starting by either an automatic or manual start signal. The failure of the high speed relay was counted as a valid start failure even though a valid start demand did not occur. The number of EDG 1H failures in the past is one out of the last 20. This

failure will be counted as the first failure in the new series of 20 and should another failure occur in the next 19 starts, then TS Table 4.8.2 requires the frequency of tests be increased to one every 7 days. A root cause analysis of the relay failure is being performed.

This failure is similar to one which occurred on September 7, 1990, on EDG 2H. The diesel had successfully completed the first run, however, it would not start for the second. The initial inspection indicated the shutdown relay failed. This was the same type ITE, Class J relay that failed on EDG 1H on December 5. A failure analysis of the shutdown relay of September 7, discovered that the plastic housing surrounding the contacts had actually melted as a result of arcing on the contacts. Ohm readings taken on the coil indicated infinite resistance from the top of the coil to the bottom (open coil). This compared to a reading of 3700 ohms for a new coil.

The licensee determined that a contact, which shorts 97 percent of coil resistance to ensure positive pickup, failed to open following relay energization. This caused excessive current through the upper portion of the coil and resulted in the open circuit. The licensee will complete the failure analysis on the December 5 event and evaluate for generic implications and reportability. Pending completion of the licensee evaluation, this is IFI 338/90-29-06: EDG High Speed Relay Failure.

c. Service Water System Operation and Recirculation Spray Operability

(1) Summary of Event

On November 26, 1990, during review of SW system operation, the inspectors identified concerns to the licensee regarding the operability of SW pumps when the associated emergency power supply is inoperable for an extended period of time. The inspectors identified that the licensee considered a SW pump to be operable when, during a refueling outage for example, its respective EDG may be inoperable for an unlimited duration. Since the SW system is shared between two units, periods of time existed when the opposite unit was at power and the licensee took credit for the outage unit's SW pump under postulated DBA conditions, even though it did not have an operable emergency power supply. The inspectors raised a concern that design basis SW flow rates to the RSHXs might not be met during a DBA and a single active failure. The licensee was asked to review their policies and to review past operating logs to determine the extent and significance of potential RSHX inoperability. On December 4, the licensee informed the inspectors of a worst case scenario which could render the RSHXs inoperable due to inadequate SW and/or potential SW runout. The condition was reported in accordance with 10 CFR 50.72. The postulated scenario, based on actual plant conditions that existed during the Unit 2 refueling outage that ended on November 2, is as

follows: Unit 1 operating at power and Unit 2 shutdown, refueling with one EDG inoperable for an indefinite period of time for long term maintenance. The associated train's SW is also inoperable due to not having an emergency power source. If a DBA were to occur on Unit 1, which includes a loss of offsite power to both units, RS would initiate on Unit 1, and with all components being powered from the Unit 1 EDG's. A single failure of one component (example: EDG or SW pump) would lead to two operating SW pumps supplying four RSHXs on Unit 1 and two CCHXs on Unit 2 (unthrottled) and other minor auxiliary loads. This could result in SW pump runout and/or inadequate flow to the RSHXs.

(2) System Descriptions and Design Basis

The SW system is a common system and is designed for the removal of heat resulting from the simultaneous operation of various systems and components of two units. Service water is used as cooling water for heat exchangers that remove heat from the CC system, the RS system and other station applications. Four shared SW pumps supply four RSHXs and 2 CCHXs per unit.

The RS system which includes four RSHXs per unit removes heat via the RSHXs from the water collected on the containment floor and from the containment atmosphere by recirculation spray. This system is one of two engineered safety features that are used after a LOCA or main-steam-line break inside containment to remove heat from the containment in order to return the containment atmosphere to subatmospheric pressure. The RS system is capable of maintaining the subatmospheric pressure in the containment following a LOCA which is necessary to prevent fission product leakage to the environment.

The CC system is an intermediate cooling system and transfers heat from heat exchangers containing reactor coolant or other radioactive liquids to the SW system. During normal full-power operation, one component cooling pump and one component cooling heat exchanger should accommodate the heat removal loads for each reactor unit.

The accident design basis for the pumping requirements of these systems is the simultaneous LOCA for one unit and loss of station power for both units. During the event, a minimum of two SW pumps are required to supply coolant to both units. The non-accident-unit can be aligned for SW flow to two CCHXs while the unit is placed in hot shutdown. Service water to the accident-unit CCHXs isolate on receipt of a containment depressurization actuation signal and the RS cooler header isolation valves open placing the four RSHXs in-service.

(3) Previous SW System Flow Problems

In October, 1988, the licensee identified that under DBA conditions, 2 SW pumps alone may not be capable of providing design flows to the RSHXs without causing SW pump damage due to extended pump runout. The cause of the condition was due to operating the SW system in excess of UFSAR assumptions in order to provide adequate cooling to the CC system. The UFSAR assumed that only one CCHX per unit would be supplied by SW during normal power operations. The UFSAR also assumed under DBA conditions, that the limiting condition of two SW pumps would supply four RSHXs on the accident unit, one CCHX on the the non-accident unit and some other minor safety related loads. Due to a history of containment temperature problems, the licensee routinely operated with all four CCHXs. This resulted in a DBA scenario of two SW pumps having to supply two CCHXs on the non-accident unit in addition to the four RSHXs on the accident unit. The licensee reported in LER 338/88-24 that approximately 31,700 gpm would be required and this would exceed the capacity of the two SW pumps which is 15,000 gpm each. This issue was also addressed in an NRC escalated enforcement action letter (EA 89-103), dated July 5, 1989. Licensee corrective action, contained in a response, dated July 28, 1989, included administrative controls to throttle SW to the CCHXs when less than four SW pumps were operable. This would ensure that under a single failure, two SW pumps would be able to supply adequate flow to the RSHXs. The throttling requirement is achieved by meeting the acceptance criteria of the SW pump discharge pressure as determined from LOG-4, Control Room Operator Surveillance Sheet, conducted every eight hours. The log has various acceptance criteria depending upon which pump is running and the number of operable SW pumps. As an example, the minimum acceptance criteria for the 1-SW-P1B operating is 38 psig with four SW pumps operable and 53 psig with less than four SW pumps operable. These requirements ensure that under all postulated DBA scenarios, two SW pumps will operate to supply adequate flow and that the SW pumps will not runout. The licensee has not determined whether the inability to operate with one CCHX per unit is the result of heat exchanger fouling or inadequate sizing for containment heat loads. The inspectors were unable to locate a safety evaluation as required by 10 CFR 50.59 to determine whether or not operating with two CCHXs instead of one, as required by the UFSAR, constitutes an unreviewed safety question.

(4) Review of Requirements

During the recent refueling outage on Unit 2, the 2H EDG was inoperable during the period August 28 through September 9, 1990, and the 2J EDG was inoperable during the period September 17 through October 8, 1990. During these periods, the SW pumps powered from the respective EDGs were not declared

inoperable and therefore throttling of SW to the CCHXs was not performed. As a condition of operability for a component, Technical Specifications require an operable emergency electrical power source (definition of operable). TS 3.0.5 allows a component to remain operable in Modes 1 through 4 if the emergency power source is inoperable, provided the redundant component and the corresponding normal power source are operable. This exception is not allowed in Modes 5 and 6. On November 26 and 27, the inspectors discussed their concerns with licensee engineering, operations and SNS regarding operability of the RS system. With the scenario as described in paragraph 3.c.(1), SW pump runout or inadequate flows could render the RSHXs inoperable. TS 3.6.2.2 requires the RS system to be maintained operable. This failure to administratively control operation of the service water system, resulting in an inoperable RS spray system, is identified as an apparent violation (338,339/90-29-01). The licensee indicated to the inspectors that they would conduct a review of past logs to determine the extent and significance of potential RSHX inoperability.

10 CFR 50.59 requires that if a change is made to the facility as described in the UFSAR, a written safety evaluation must be made prior to the change being implemented to determine if an unreviewed safety question would be created by the change. As discussed in paragraph 3.c.(3), the UFSAR in Section 9.2.2.2.1 states that one CCHX is needed to accommodate the heat removal loads for each reactor during normal full-power operation. A change to the facility, operating with two CCHXs during normal operation, was made in the early 1980s without an appropriate safety evaluation being conducted. A more detailed evaluation of this issue by the implementation of 10 CFR 50.59 requirements could have resulted in a more effective and permanent resolution to the CC system problems. This failure to conduct a 10 CFR 50.59 safety evaluation is identified as an apparent violation (338,339/90-29-02).

TS 3.7.4.1 requires in part at least two service water loops (shared between units) shall be operable; with only one service water loop operable, restore at least two loops to operable status within 72 hours. This TS theoretically allows operation for an unlimited duration with one pump operable per loop (two pumps operable). Since the units do not have to enter a 72-hour action for this condition, a single failure of one of the two pumps during a DBA would result in one SW pump supplying all the loads, a condition clearly beyond the design basis of the system. From this respect, the TS appears to be inadequate to assure design basis requirements are met. A similar TS exists for the CC system (TS 3.7.3.1) which is also shared between units. This TS also appears to be inadequate for similar reasons. The licensee has recognized this and has implemented a standing order to ensure at least three CC pumps remain operable

or enter the 72 hour action. On December 7, 1990, Standing Order 177 was issued to address the concerns with the SW TS. The apparent inadequate TS requirement on both the SW and CC systems is identified as an inspector followup item (338,339/90-29-05).

The licensee stated in response to a 1989 NRC escalated enforcement action, discussed in paragraph 3.c.(3) that corrective actions associated with a reduced SW system flow rate through the CCHX's included implementing an operations standing order to limit flow through the CCHXs and to insure at least three SW pumps are maintained operable. Review of licensee activities since this response has determined that the corrective action has been inadequate. Prior to this enforcement action, the licensee had recognized in 1988 that operating the SW system in configurations requiring only two SW pumps for both units, might result in less than adequate cooling during a DBA. (TS 3.7.4.1 only requires two SW pumps to be operable and does not consider a single failure.) A series of standing orders, the first of which was issued on October 14, 1988, implemented compensatory measures to address the problem. The latest version, Standing Order 165, issued on May 3, 1989, provided instructions for the operators to (1) maintain at least three SW pumps operable or enter the applicable action statement of TS 3.7.4.1; (2) maintain a high enough SW pump supply pressure by throttling SW to the CCHXs with only three SW pumps operable and (3) contact the Superintendent of Operations or his designee prior to rendering a SW pump inoperable. During this inspection period, the inspectors were informed that Standing Order 165 had been cancelled and an attempt had been made to incorporate the requirements into a procedure. This procedure was LOG-4, Control Room Operator Surveillance Sheet, which required throttling SW to the CCHXs when less than four SW pumps were operable, as discussed in paragraph 3.c.(3). The attempt was inadequate because it failed to incorporate Standing Order 165 instructions to maintain at least three SW pumps operable or enter the SW pump TS 72-hour action. The inadequate procedure could have led to a condition where two SW pumps were inoperable for an indefinite period of time and not limited to the 72-hour time frame where an additional single failure does not have to be assumed. The throttling of SW to the CCHXs (outside the 72 hours) alone would not have assured adequate flow to the RSHXs. The use of LOG-4 alone was also inadequate in that up to eight hours could elapse from the time of declaring a SW pump inoperable to the time where log readings require throttling SW. The failure to incorporate the standing order requirements into procedures resulted from an apparent lack of understanding of the relationship between power source availability and SW pump operability. This contributed to the failure to throttle SW during extended periods of time when an emergency power source was inoperable. The failure to take adequate corrective action, in accordance with 10 CFR 50, Appendix B, Criterion XVI, from

the licensee's July 28, 1989 violation response is identified as an apparent violation (338,339/90-29-03).

(5) Safety Significance

For the condition described in paragraph 3.c.(1), the safety significance hinges on the ability of the SW system to perform its intended safety function of supplying adequate flow to the RSHXs. If the two operating SW pumps were to runout and fail due to excessive flow, safety related engineered safety functions such as containment depressurization, high head safety injection pump cooling and post-LOCA ECCS cooling would fail to function without operator actior to throttle flow to the CCHXs and line up the auxiliary SW pumps. If the SW pumps remained functional but supplied less than design flow to the RSHXs, maintaining the containment below atmospheric pressure would be of concern and hence increased fission product leakage and dose to the site boundary would occur.

(6) Summary of Concerns

- Potential inoperability of RS system due to less than design SW flows and/or SW pump runout.

- Operation of CC system in a different manner than that described in the UFSAR with no supporting safety evaluation to determine if an unreviewed safety question exists. The licensee has not determinied whether the root cause is fouled CCHXs or an inadequately sized CC system. The licensee appears to have attempted to compensate for the cooling problem rather than address the root cause

- Failure to maintain administrative guidance to ensure SW operability as committed to in previous NRC enforcement corrective action. An attempt to incorporate standing orders into procedures was unsuccessful.

- Adequacy of Technical Specifications to ensure SW design basis is maintained (CC has a similar problem).

- Lack of clear licensee understanding regarding operability, its relationship to power sources and hence a lack of clear policy for operators.

Three apparent violations were identified.

4. Surveillance Observation (61726)

The inspectors observed/reviewed TS required testing and verified

that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that LCOs were met and that any deficiencies identified were properly reviewed and resolved.

a. The following surveillances were either reviewed or observed:

1-PT-23	Quadrant Power Tilt Ratio
1-PT-24	Hand Calorimetric

b. Process Vent Leak Testing

On November 21, the inspectors observed the performance of periodic test 1-PT-57.9, "Leak Rate Test of the Gas Stripper, Vent Chillers, Knockout Drum, Compressors, Surge Tank and Associated Piping." The portion of the test witnessed by the inspectors did not pass and small leaks were identified at pressure transmitter PT-BR-122. The amount of leakage, indicated on the flow transmitter, exceeded the top scale of 2CFM. The system was leak checked and while some of the leakage was attributed to the flow transmitter, the rest was attributed to leakage past various test boundary valves. The boundary valves are not required to be leak tight as long as the integrity of the system as a whole is maintained. The licensee initiated a work request to repair leaks on the flow transmitter.

No violations or deviations were identified.

5. ESF System Walkdown (71710)

The inspectors conducted walkdowns of portions of the Diesel Generator Air Systems and the Service Water System. Operating procedures 1-OP-6.7A, Diesel Air Valve Checkoff, 1-OP-6.7, Diesel Air System, and O-OP-49.1A, Service Water Valve Checkoff were used during the walkdowns.

Some minor problems were noted with O-OP-49.1A which is an upgraded procedure. Valve 2-SW-MOV-217 was listed incorrectly in the valve checkoff as 2-SW-MOV-117 and several valves were required to be checked in a "locked closed" position from the control room. In actuality, the valves can only be verified "locked" by local inspection. The inspectors considered that these type of discrepancies should have been identified during the verification and validation process.

On November 27, the inspectors identified 2-SW-MOV-219, Screenwash Pump Makeup Valve to Number 2 Header, to be closed when O-OP-49.1A requires it to be open. The valve is used to make up water level in the Service Water reservoir from Lake Anna. 1-OP-49.1, Service Water System Operation, states in Step 4.11, that "2-SW-MOV-219 must be open to provide a flow path for corrosion inhibitor treatment of the nonflowing sections of line." The valve does not have a safety function. The licensee opened the valve and identified that 2-PT-75.5, Auxiliary Service Water Pump Test, which was performed on November 2, did not provide adequate

instructions to insure that 2-SW-MOV-219 was opened after completion of the test. The step to open the valve was prefaced with "if required", and the operator should have referred to 0-OP-49.1A to make that determination. This NRC identified violation is not being cited because criteria specified in Section V.A. of the NRC Enforcement Policy was satisfied. NCV 339/90-29-04: Mispositioned Valve 2-SW-MOV-219, Screenwash Pump Makeup Valve.

One noncited violation was identified.

6. LER Followup (92700)

The following LERs were reviewed and closed. The inspector verified that reporting requirements had been met, that causes had been identified, that corrective actions appeared appropriate and that generic applicability had been considered. Additionally, the inspectors confirmed that no unreviewed safety questions were involved and that violations of regulations or TS conditions had been identified.

(Closed) LER 338/90-07: Service Water Pump House Tornado Missile Shield Blocks Not in Place Due to Inadequate Administrative Control. This event was identified as a noncited violation in Inspection Report 338,339/90-15. Further problems regarding control of cubicle blocks were identified in Inspection Report 338,339/90-18 and a violation was cited. The licensee conducted a Human Performance Enhancement System review of the first event and labelled the missile shield blocks. Followup of further corrective actions will be conducted under violation 90-18-01.

(Closed) LER 339/89-04: Unexpected Reactor Trip Signal Generated During Testing. While in Mode 5, a reactor trip signal was generated during testing. The signal was unexpected. The licensee's corrective action included review of coincidence requirements which produce ESF actuations and revision of the appropriate procedures. Licensee correspondence dated September 29, 1989, in response to violation 338,339/89-14 expanded the scope of procedure revision from 25 procedures to over 500 procedures. The inspectors will review the licensee expanded actions as followup to the violation.

7. Action on Previous Inspection Items (92701, 92702)

(Closed) Inspector Followup Item 338,339/88-01-02: Disc Separated from Stem on RTD Loop Isolation valves. The licensee intends to remove the RTD bypass loops in future outages. Because of the planned modifications, permanent repair of the loop isolation valves will not be performed. The valves are susceptible to having the discs separate from the stems. The combined flow from the hot and cold leg RTD manifolds passes through an orifice. Low flow, as would be the case if a disc separated, is indicated by an alarm in the control room. This would require operator action to declare RCS temperature instruments inoperable.

(Closed) 339/P2188-03: Gamma Metrics Cable Assemblies Installed as Part of the Neutron Monitoring System May Leak. The licensee replaced the cabling for the Gamma Metrics System on Unit 2 during the recent refueling outage. The work was conducted under EWR 90-129.

(Closed) Violation 338/90-04-01: Failure to Take Prompt Corrective Action concerning Seal Leakage on 1-SI-P-1B, Low Head Safety Injection Pump. The O-Ring to repair 1-SI-P-1B seal was obtained and maintenance on the pump seal was completed. A failure analysis did not determine the cause of the leakage. An adequate supply of seal packages for future repair of the low head safety injection pumps are being maintained in storage.

(Closed) Violation 339/90-04-04: Failure to Follow the Requirements of Maintenance Procedure MMP-C-FL-5 Which Resulted In Contaminating Seven Personnel. A radiological incident report on the personnel contaminations was completed and approved. The impact of changing out reduced micron filters has been included in pre-job briefings. Health Physics technicians have been instructed to field analyze all air samples during filter changeouts. The maintenance procedure MMP-C-FL-5 and other filter replacement procedures have been revised to provide better control for filter changeouts.

8. Exit (30703)

The inspection scope and findings were summarized on December 18, 1990, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results listed below. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

Item Number	Description and Reference
VIO 338,339/90-29-01	Failure to Adequately Control Operation of Service Water System Resulting in Potential Inoperability of RS Due to Less than Design Cooling Water Flow (Paragraph 3.c).
VIO 338,339/90-29-02	Failure to perform a safety evaluation in accordance with 10 CFR 50.59 on a UFSAR CC system change (Paragraph 3.c.).
VIO 338,339/90-29-03	Failure to take adequate corrective action to a previous NRC enforcement action (Paragraph 3.c).
NCV 339/90-29-04	Mispositioned Valve 1-SW-MOV-219 Screenwash Pump Makeup Valve (Paragraph 5).
IFI 338,339/90-29-05	Apparent RS and CC system TS Inadequacy (Paragraph 3.c).
IFI 338/90-29-06	EDG High Speed Relay Failure (Paragraph 3.b).

9. Acronyms and Initialisms

CFR	-	CODE OF FEDERAL REGULATIONS
CC	-	COMPONENT COOLING WATER
CCHX	-	COMPONENT COOLING HEAT EXCHANGER
DBA	-	DESIGN BASIS ACCIDENT
ECCS	-	EMERGENCY CORE COOLING SYSTEM
EDG	-	EMERGENCY DIESEL GENERATOR
ESF	-	ENGINEERED SAFETY FEATURE
EWR	-	ENGINEERING WORK REQUEST
GPM	-	GALLONS PER MINUTE
IFI	-	INSPECTOR FOLLOWUP ITEM
LER	-	LICENSEE EVENT REPORT
LCO	-	LIMITING CONDITION OF OPERATION
LOCA	-	LOSS OF COOLANT ACCIDENT
NCV	-	NONCITED VIOLATION
NRC	-	NUCLEAR REGULATORY COMMISSION
PSIG	-	POUNDS PER SQUARE INCH GAUGE
RSHX	-	RECIRCULATION SPRAY HEAT EXCHANGER
RS	-	RECIRCULATION SPRAY
RTD	-	RESISTANCE TEMPERATURE DETECTOR
SNS	-	STATION NUCLEAR SAFETY
SW	-	SERVICE WATER
TS	-	TECHNICAL SPECIFICATIONS
TSC	-	TECHNICAL SUPPORT CENTER
UFSAR	-	UPDATED FINAL SAFETY ANALYSIS REPORT