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VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

Mr. James P. O'Reilly, Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Serial No: 274A/041479
PO/DLB:baw
Docket Nos: 50-280
50-281
License Nos: DPR-32
DPR-37

Dear Mr. O'Reilly:

Subject: IE Bulletion 79-06A Revision 1
Surry Power Station Unit Nos. 1 and 2

Our letter of April 26, 1979 (Serial No. 274/041479) provided responses to items 1 through 13 of IE Bulletin 79-06A, "Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident". This letter provides additional information on bulletin items 2, 3, 4, 7, 8, 9, 10 and 11, as requested by your staff.

Item 2 The primary operator action required to prevent the formation of voids continues to be to insure the proper initiation and continuing performance of the engineered safety features. Emergency Procedure EP-9 "Loss of Reactor Coolant Pressure" was prepared to provide specific operator actions to establish the necessary plant conditions to limit the formation of voids. The new EP also provides parameters necessary for recognition of void formation and directs the use of a new AP, AP-39, "Natural Circulation of Reactor Coolant" in the event of a loss of forced circulation.

AP-39 warns of loss of natural circulation and subsequent void formation and lists indications of the impending loss; including SG pressure, RC temperature, incore thermocouple temperature, and source/intermediate range nuclear instrumentation. EP-9 also contains cautions regarding void formation and requires that pressure be maintained greater than saturation pressure for the hot leg temperature or incore thermocouple temperature. AP-39 and EP-9 both include the pressure-temperature saturation curve and direct the operator to maintain or restore the system to at least 50°F subcooled.

In addition, an Operations Training Bulletin (OTB #9) has been distributed to all operators which provides guidance for natural circulation and discusses the instruments and parameters which best aid in determining plant conditions. In all cases, the procedures and OTB's stress the importance of not making operational decisions based solely on a single plant parameter when one or more redundant indications are available.

Item 3 Changes made to the Unit Startup procedures (OP-1.1) require that the pressurizer low level safety injection bistables be placed in a trip condition prior to exceeding 200°F. Completion of this step must be verified by both the Reactor Operator and the Senior Operator.

ROISMAN 79-98

Item 4 Phase I Containment Isolation occurs automatically upon automatic initiation of safety injection. Containment isolation occurs in three phases with the initiating action and values described below:

Phase I Isolation - Initiated by any SI singal.

SYSTEM ISOLATED-PHASE I	VALVE NUMBER
"A" Steam Generator Blowdown	TV-BD-100A, B
"B" Steam Generator Blowdown	TV-BD-100C, D
"C" Steam Generator Blowdown	TV-BD-100E, F
A,B,C, Hot Leg Sample Lines	TV-SS-106A, B
A,B,C, Cold Leg Sample Lines	TV-SS-102A, B
Pressurizer Relief Tank Gas Sample	TV-SS-104A, B
Residual Heat Removal Sample Line	TV-SS-103
Pressurizer Vapor Space Sample	TV-SS-101A, B
Pressurizer Liquid Space Sample	TV-SS-100A, B
Primary Drain Tank Gas Vent	TV-VG-109A, B
Primary Drain Transfer Pump Disch.	TV-DG-108A, B
Comp. Cool Return from RHR HX	TV-CC-109A, B
Accumulator Gas Vents	TV-SI-101A, B
Primary Grade Water to Containment	TV-1519A
N2 Supply to Accumulators	TV-SI-100
Low Pressure Letdown	TV-1204
Low Pressure Letdown	HCV-1200A,B,C
RCP Seal Water Return	MOV-1381
Charging Line	MOV-1289A,B

Phase II Isolation - Initiated by 3/4 Containment Pressure 3.0 psig

SYSTEM ISOLATED	VALVE NUMBER
Containment Vacuum Pumps	TV-CC-150A,B,C,D
Containment Gas & Part. Monitor	TV-RM-100A,B,C
Cont. Leakage Monitor System	TV-LM-100A,B,C,D,E F,G,H
Containment Manometer Taps	TV-LM-101A,B
Containment Sump Pump Discharge	TV-DA-100A,B
Air Ejector Discharge to Cont.	TV-SV-102

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Phase III Isolation - Initiated by 3/4 Containment Pressure 8.3 psig

SYSTEM ISOLATED	VALVE NUMBER
RCP Motor Shroud Cooler CC Outlet	TV-CC-105A,B,C
TCP Thermal Barrier Cooler CC Out.	TV-CC-107
Cont. Recirc Fans CC Outlet	TC-CC-110A,B,C
Main Steam Drains to Condenser	TV-MS-109
Main Steam Drains to Blowdown Tk	TV-MS-110
Main Steam Line Isolation	TV-MS-101A,B,C

Containment Isolation from other sources than SI, CLS, CLS Hi-Hi

SYSTEM ISOLATED	VALVE NUMBER	SIGNAL, CAUSING ISOLATION
Main Stam Line Isolation	TV-MS-101A,B,C	1/2 Hi steam line flow on 2/3 steam lines with either 2/3 Lo Tave or 2/3 Lo Steam Line Pressures. Setpoints same to initiate Safety Injection
Containment Ventilation	MOV-VS-100ABCD	Hi activity on Containment Gas & Particulate Monitor & Manipulator Crane Monitor. Any detector will close valves.
Steam Generator BD	TV-BD-100ACE	Hi Flow on any blowdown line trips its inside blowdown trip valve.
Steam Generator BD	TV-BD-100ABCDEF	Any signal which auto starts Aux. Feed pps.

No manual actions are necessary in order to maintain the reactor coolant pumps operating except upon Phase III isolation. At that ime, if there is still sufficient reactor coolant pressure for pump operation, it is necessary to reset the CLS signal and then manually reset the individual isolation valves by depressing the close valve position indicator for the required cooling water.

The design change to isolate the containment sump pump during Phase I isolation will be completed by August 30, 1979.

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Item 7 EP-9 "Loss of Reactor Coolant Pressure" lists the following parameters for use in evaluating conditions resulting from primary system depressurization.

Decreasing Pressurizer Pressure/Increasing Pressurizer Level
High Temperature Downstream of Pressurizer Relief or Safety Valves
High Temperature on Spray Line
Increasing Level, Pressure, and Temperature in the Pressure Relief Tank
Containment Pressure and Temperature
Containment Gaseous and Particulate Activity

Operations Training Bulletins 8 & 9 instruct plant personnel in the importance of verifying conditions through the use of related plant parameters. By comparing the designated independent parameters, the type of transient can be systematically isolated. Some plant emergency procedures provide a fault tree type of logic analysis to present the many plant parameters to be evaluated in an accident.

Item 8 A review of all safety-related valves has been completed. Alignment requirements are set forth in Technical Specifications as follows:

SYS.	OPERATING CONDITION
High Head Safety Injection	Critical
Low Head Safety Injection	Critical
Containment Spray	350°F, 450 PSIG
Containment Recirculation Spray	350°F, 450 PSIG
Emergency Feed Water System	350°F, 450 PSIG

Completing the unit startup operating procedures check lists insures compliance with these specifications.

Verification that remotely operated safety-related valves are in the proper position is accomplished once each 8 hour shift and documented in the control room operators log. The minimum equipment check list is also completed at the beginning of each shift and signed by the SRO. Manipulation of safety-related valves is accomplished through the use of maintenance, operating, and periodic test procedures, or tag-out records as required for maintenance. A review of locked safety-related valves is accomplished through a monthly review of the Administrative Lock Log. This review requires that each valve be verified in its proper position. An "Engineered Safeguards Valve Alignment Checklist" has been originated for manual valves which could interfere with proper system functioning if not properly aligned. The checklist will be scheduled monthly while the unit is operating.

Item 9 The review of all systems identified the following systems which could potentially transport radioactive gases or liquids out of primary containment.

System	Methods of Isolation
Steam Generator Blowdown	SI
Primary Drain Transfer Tank Liquid & Vent	SI
"A" & "B" Component Cooling Headers	SI
Vent from Accumulators and Pressurizer Relief Tank	SI
Sample Lines from the following points	
RCS T_h	SI
RCS T_c	SI
Pressurizer Vapor Space	SI
Pressurizer Liquid	SI
Pressurizer Relief Tank Vapor Space	SI
Pressurizer Relief Tank Liquid	SI
Residual Heat Removal System	SI
Reactor Coolant Letdown	SI
Reactor Coolant Pump Seal Water Return	SI
Radiation Monitoring of Containment Atmos.	Hi CLS
Containment Leakage Monitoring	Hi CLS
Containment Sump Pumps	Hi CLS (Being changed to SI)
Containment Vacuum Pumps	Hi CLS (or Hi Radiation)
Reactor Coolant Pump Component Cooling	Hi Hi CLS
Containment Cooling Air Handling CC	Hi Hi CLS
Steam Line Drains Upstream of MSTV's	Hi Hi CLS
Main Steam	Hi Hi CLS & Steam Break
Low Head Safety Injection	Manual
Outside Recir Spray	Manual
Service Water to/from Recirc Spray Heat Exchangers	Manual
Containment purge	Hi Radiation

Ventilation from the area of the low head safety injection and outside recirculation spray pumps is automatically diverted to charcoal filters on containment high pressure.

Continued operability of valves operated under Phase I is accomplished during each refueling period by a functional test of the safety injection system utilizing a periodic test procedure (PT-18.2).

Continued operability of valves operated under Phases II & III is accomplished during each refueling period by a functional test of the Hi and Hi Hi CLS systems, utilizing a periodic test procedure (PT-8.5A) (PT-8.4).

Operability checking of outside recirculation subsystem isolation valves (manually operated) is accomplished monthly under performance of PT-17.3.

Operability checking of recirculation spray heat exchanger valves is accomplished under PT-8.5A.

Operability checking of valves which isolate when a high radiation condition exists is performed on a monthly basis utilizing PT-26.2.

Item 10 A review of maintenance and test procedures has been completed. Generic or specific Maintenance Operating Procedures (MOP) cover the removal and return to service of all safety related equipment. A step to be initiated in each MOP requires a review of the appicable Technical Specifications. The Technical Specifications requires that redundant systems either be tested or placed in operation prior to removal of the safety related equipment. Test procedures for accomplishing and documenting the required periodic surveillance have been reviewed to insure that they maintain the system in service or provide cautions and requirements for the operators to minimize the time systems are isolated for the required testing and to remain in the vicinity of manual valves.

The MOP's require that the components be properly aligned and fully tested using periodic surveillance tests or special requirements in the MOP's before being returned to service.

A standing order was issued which requires that when safety related equipment is to be removed from service, the SRO on call and/or the Operating Supervisor must be notified. When the equipment is tested and ready to be returned to service, the SRO on call and/or the Operating Supervisor is again notified as required in the standing order. When a piece of safety-related equipment is removed from service, an entry is to be made in both the Control Room Operator and Shift Supervisor logs. At shift change, the on-coming CRO and SRO is required to read and initial the previous shift's log entries. The SRO(s) (Shift Supervisor) on shift must authorize any equipment being removed or returned to service. As part of normal shift relief, the SRO and RO's are required to review and update as necessary the "Minimum Equipment List" for status of safety related equipment.

Item 11 In our initial response we stated "A proposed Technical Specification change will be submitted". However, it has been determined that a T.S. change is not necessary and that local instructions meet the prompt reporting requirement established by both the Technical Specifications and I & E Bulletin.

Phones have been placed in the Control Room and supervisor's office to provide the open continuous communication channel as required in the IFB-79-6A (Rev. 1)

Very truly yours,

C. M. Stallings

C. M. Stallings
Vice President-Power Supply
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cc: NRC Office of Inspection and Enforcement
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