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SUBJECT: RO on 931215,discovered fault in control rod drive sys, rendering control rod assemblies in shutdown bank A immovable w/group 2 at 222 steps & group 1 rods of control banks A & c immovable by faulted conditions.

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VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

December 15, 1993

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 93-784
NL&P/ETS R2
Docket No. 50-281
License No. DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT 2
INOPERABLE BUT TRIPPABLE CONTROL RODS
REQUEST FOR ENFORCEMENT DISCRETION

On December 15, 1993 during scheduled control rod exercising on Unit 2, a fault in the Control Rod Drive System rendered the control rod assemblies in Shutdown Bank A immovable with Group 2 at 222 steps. In addition, Group 1 rods of Control Banks A and C were also rendered immovable by the faulted condition. In this faulted condition the control rod assemblies are immovable on demand by the Rod Control Drive System, but remain trippable. The faulted condition does not affect the ability of the control rod assemblies to perform their intended safety function when a safety system setting is reached. However, with immovable control rod assemblies the Unit is required to enter Technical Specification 3.12.C.3. The action statement permits two hours for troubleshooting and repair prior to requiring that the unit be brought to hot shutdown in the next six hours. The action statement of TS 3.12.C.3 was entered at 0837 hours on December 15, 1993.

The immovable control rod assemblies have been attributed to the Group 1AC power cabinet of the Control Rod Drive System. However, to effect thorough troubleshooting and repairs, an enforcement discretion to extend the Action Statement of Technical Specification 3.12.C.3 is being requested consistent with our March 19, 1993 proposed Technical Specification changes. The requested enforcement discretion would permit continued operation for up to twenty-four additional hours to troubleshoot and repair the Control Rod Drive System with more than one control rod assembly immovable due to an external electrical problem, provided the affected control rod assemblies remain trippable.

SAFETY IMPACT AND POTENTIAL CONSEQUENCES

The operation of the unit with more than one control rod assembly being immovable does not create any immediate threat to safety when these control rod assemblies are trippable. The control rod assemblies continue to be capable of performing their intended safety function to promptly shutdown the reactor when a safety system setting is reached (i.e., reactor trip). As discussed in our March 19, 1993 submittal, we have

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established that the power and peaking distributions used in the safety analysis are unaffected. Power level will be maintained stable during the troubleshooting and repair activities. Additionally, shutting down a unit with immovable control rods is very complicated and could cause power distribution anomalies.

Our March 19, 1993 proposed Technical Specification changes provided the basis for limited plant operation with immovable but trippable controls rods below their insertion limit and indefinite continued operation with immovable but trippable control rods.

SIGNIFICANT HAZARDS CONSIDERATION

The proposed enforcement discretion to extend the two hour Action Statement of the Technical Specification requirement in 3.12.C.3 for immovable but trippable control rod assemblies does not result in a significant hazards consideration as defined in 10 CFR 50.92. Specifically, the proposed enforcement discretion does not:

- Involve a significant increase in the probability or consequences of an accident previously evaluated. Providing an additional twenty-four hours for the diagnosis and repair associated with electronic or electrical malfunctions of the Control Rod Drive System is acceptable, since the primary safety function of the control rod assemblies (reactor trip) remains unaffected. During the extended troubleshooting and maintenance period, with the Shutdown Bank Group 2 control rod assemblies 3 steps below their insertion limits, the power and peaking distributions used in the safety analysis remain unaffected. The proposed enforcement discretion does not affect the ability of the control rod assemblies to perform their intended safety function when a safety system setting is reached. Therefore, the consequences of accidents related to or dependent on control rod assembly operation will remain unaffected.

- Create the possibility of a new or different kind of accident from any previously evaluated. There are no new failure modes or mechanisms associated with plant operation during the extended period requested to perform maintenance on the Control Rod Drive System. Extended operation with inoperable but trippable control rod assemblies does not involve any modification in the operational limits or physical design of the involved systems. There are no new accident precursors generated due to the extended maintenance period.

- Involve a significant reduction in the margin of safety. Plant operation with a group of control rod assemblies immovable but trippable position less than 18 steps below the insertion limit does not affect the Technical Specification margin of safety. During the extended maintenance period the control rod assemblies maintain the ability to perform their primary safety function. Other Technical Specification limits for reactivity control, such as alignment and shutdown margin will remain in effect to assure that the safety margins are maintained. The power and peaking distributions used in the safety analysis are unaffected by continued operation with a group of control rod assemblies immovable but trippable position less than 18 steps below the insertion limit. Therefore, the margin of safety is not affected by this enforcement discretion.

ENVIRONMENTAL CONSEQUENCES

This enforcement discretion will not change the types of any effluents that may be released offsite, nor create a significant increase in individual or cumulative occupational radiation exposure. The proposed changes do not affect the ability of the control rod assemblies to perform their intended safety function when a safety system setting is reached. Therefore, the consequences of accidents related to or dependent on control rod assembly operation will remain unaffected.

The enforcement discretion was reviewed by the Station Nuclear Safety and Operating Committee. It has been determined that no unreviewed safety question or significant hazards consideration exists.

In a December 15, 1993 telephone call between our staffs, we requested enforcement discretion to extend the two hour Action Statement of TS 3.12.C.3 consistent with our March 19, 1993 proposed Technical Specification change. In a subsequent telephone conversation between Mr. D. A. Sommers of my staff and Mr. G. A. Belisle of the NRC, Region II, we received verbal approval for discretionary enforcement to extend the two hour Action Statement of Technical Specification 3.12.C.3 twenty-four hours to complete the troubleshooting and repair of the Control Rod Drive System. This twenty-four hour enforcement discretion will expire at 1037 on December 16, 1993.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

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