VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

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U.S. Nuclear Regulatory Commission
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Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
ANNUAL CHANGES, TESTS, AND EXPERIMENTS REPORT
REGULATORY COMMITMENT EVALUATION REPORT

Virginia Electric and Power Company submits the annual report of Changes, Tests, and Experiments pursuant to 10 CFR 50.59(d)(2) and Regulatory Commitment Changes identified in Commitment Evaluation Summaries implemented at Surry Power Station during 2013. Attachment 1 provides a description and summary of the Regulatory Evaluations and Regulatory Commitment Changes in 2013.

Should you have any questions regarding this report, please do not hesitate to contact me at (757) 365-2003.

Very truly yours,

Douglas C. Lawrence,
Director Station Safety & Licensing
Surry Power Station

Attachment

Commitments made in this letter: None.

cc: United States Nuclear Regulatory Commission, Region II
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Atlanta, Georgia 30303-1257

NRC Senior Resident Inspector
Surry Power Station

IE47
NRR

Attachment 1

Surry Units 1 & 2

2013 - 10 CFR 50.59 Changes, Tests and Experiments

13-001 Regulatory Evaluation 02/12/13

Description: Regulatory Evaluation 13-001 reviewed a design change for the installation of a temporary Service Water (SW) flow path jumper to the Component Cooling Heat Exchangers (CCHX) to allow inspection and repair of the existing SW supply to the CCHXs.

Summary: The temporary SW jumper to the CCHXs must be provided to maintain adequate cooling for operation of Unit 2 and cooling residual heat from Unit 1 and the spent fuel pool. This evaluation provided documentation for the design change to install the temporary SW flow path jumper to the CCHXs and included installing a spool piece, SW inlet valve, and the SW jumper piping during the non-outage phase of the project. The final connection and placing the SW jumper in operation will be completed during the outage. The review determined the SW and CC water systems' design functions and basic configurations are not being altered as a result of using the temporary flow path.

However, since the SW jumper is safety related and seismic but not missile protected over the entire length, the design change was contingent on NRC approval prior to placing the jumper in service. A Technical Specification (TS) and TS Basis change was submitted to the NRC to implement the jumper, defeat the automatic closure of the SW isolation valves, and place two channels of the intake canal level instrumentation in trip.

Attachment 1

Surry Units 1 & 2

2013 - 10 CFR 50.59 Changes, Tests and Experiments

12-003, Rev. 2 Regulatory Evaluation 05/09/13

Description: Regulatory Evaluation 12-003, Rev. 2 reviewed the functionality of a HI-HI Consequence Limiting Safeguards (CLS) relay with a non-functional unlatch coil. Revision 2 documented having an electrician on site to locally unlatch the Unit 1 Train B HI-HI CLS relay.

Summary: The Unit 1 Train B HI-HI CLS relay is energized and latched from automatic signals to initiate the HI-HI CLS functions. The unlatching of the relay is normally done manually from a pushbutton in the Main Control Room (MCR). The unlatch coil in the relay is not functional and will not unlatch the relay from the MCR pushbutton. Testing has demonstrated the relay can be consistently and safely unlatched locally at the relay. An operability determination was developed to document the acceptability of the use of local reset. Revision 2 of Regulatory Evaluation 12-003 requires an electrician, briefed on the performance of manually resetting the HI-HI CLS relay, to be available while the non-functional unlatch coil condition exists. Operations procedures have been revised to direct required electrical maintenance personnel to the main control room following a HI-HI CLS and to locally unlatch the HI-HI CLS relay as directed by Operations when HI-HI CLS can be reset based on Containment conditions. Additionally, applicable Operations procedures direct Operators to stop the Containment Spray Pumps if CLS cannot be locally reset.

The safety related function of the relay as described in the UFSAR is to automatically initiate HI-HI CLS. This accident mitigation function is not adversely affected by the change in the CLS manual reset function. The HI-HI CLS function is an accident mitigation function and is not an accident initiator. There are no accidents associated with actual or inadvertent actuation of CLS. The initiation of HI-HI CLS and the subsequent automatic actions are not affected by changing the location of the HI-HI CLS reset function. Therefore, HI-HI-CLS system will function as required to mitigate any credited accidents. This change only affects the ability to reset HI-HI CLS. Therefore, the operability determination could be implemented without prior NRC review and approval.

Attachment 1

Surry Units 1 & 2

2013 - 10 CFR 50.59 Changes, Tests and Experiments

13-002 Regulatory Evaluation 07/11/13

Description: Regulatory Evaluation 13-002 reviewed the implementation of a revised Control Rod Ejection Accident analysis for Surry.

Summary: The Control Rod Ejection Accident analysis for Surry Power Station was revised to rectify the error found in the accounting of bypass flow in the models used for the analysis and updated the pre-ejection FQ value. The results of the revised analysis are closer to the UFSAR specified acceptance criteria than the previous analysis. However, the UFSAR described aceptance criteria continues to be met.

The evaluation determined that the revised analysis resulted in no more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the SAR, no malfunction of a structure, system, or component (SSC) important to safety, no increase in the consequences of a malfunction of a SSC important to safety previously evaluated in the SAR or with a different result than previously analyzed, and does not create an accident of a different type. Therefore, the revised analysis for the Control Rod Ejection Accident could be implemented without prior NRC review and approval.

13-003 Regulatory Evaluation 10/01/13

Description: Regulatory Evaluation 13-003 reviewed several areas affected by revised LOCA and seismic loads reflecting the assumption of an updated reactor vessel lower radial key stiffness value. The issue and its effects are discussed in Westinghouse letter NSAL-11-2, Impact of Change in Lower Radial Key Stiffness Value, dated June 28, 2011.

Summary: Changes to the Reload Transition Safety Report for the 15 x 15 Upgrade Fuel design involve revising the analysis to reflect assumption of an updated reactor vessel lower radial key stiffness value. The revised analysis in the report evaluated increased stresses to the reactor vessel structure, reactor cooling line piping, reactor coolant pump support, control rod drive mechanism, and Unit 1 & 2 reactor vessel closure heads.

The regulatory evaluation determined the areas reviewed do not impact the associated design function, exceed or alter a design basis limits for fission product barriers, or result in a departure in a method of evaluation as described in the UFSAR. Therefore, the revised analysis could be implemented without prior NRC review and approval.

Attachment 1

Surry Units 1 & 2

2013 - 10 CFR 50.59 Changes, Tests and Experiments

Commitment Evaluation Summary 11/22/13

Description: This Commitment Evaluation documented modifications and methodologies of operation for Surry's Containment Spray (CS) and Outside Recirculation Spray (RS) containment isolation check valves.

Summary: LER 88-012 documented an outside RS containment isolation check valve found in the open position when it was required to be closed. Actions to prevent recurrence modified the eight Surry Unit 1 & 2 CS and RS check valves by reducing the counterweight arm angle to zero degrees from the horizontal position with the valve closed. This adjustment was made to prevent the valve from being capable of remaining in the open position.

The LER commitment, however, did not consider the affect of the adjustment under design flow conditions and the potential for reduced margins in system delivered flow. When the LER commitment was made, analytical methods to determine the capability of the check valves to fully open did not exist. The current position for the check valves was calculated using EPRI Report NP 5479, Application Guide for Check Valves in Nuclear Power Plants. The ability of the components to meet design requirements is assured via flow calculations along with validation of the valve's ability to open freely and close without assistance. Therefore, the need for a commitment to ensure the valves remain capable of meeting design requirements is unnecessary.