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Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS), UNIT NO. 1
DOCKET NO. 50-395
OPERATING LICENSE NO. NPF-12
ANNUAL COMMITMENT CHANGE SUMMARY REPORT

Please find attached the 2017 Annual Commitment Change Summary Report. The commitment changes were performed in accordance with VCSNS's Regulatory Commitment Management Program, which was developed following guidance from NEI 99-04 "Guidelines for Managing NRC Commitment Changes."

Should you have any questions, please call Mr. Michael S. Moore at (803) 345-4752.

WCM/GAL/hk
Attachment

Very truly yours,

George A. Lippard

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PRSF (RC-18-0064)

The following commitment changes, with a brief justification, were performed during 2017 in accordance with VCSNS's Regulatory Commitment Management Program, which was developed following NEI 99-04, "Guidelines for Managing NRC Commitment Changes." The changes are documented in the station's corrective action program condition reports (CRs):

CR-16-05919

Commitment – SCE&G committed to submit a license amendment request (LAR) identifying doors DRIB/105A&B as doors that were evaluated to have variances from NFPA 80 requirements. Changes were applied to the doors but an LAR was required to address cited violation 05000395/2016007-01 received for the door variances and to update the current license basis. The commitment was to submit the LAR by November 30, 2017.

Change – The commitment date to submit the LAR for doors DRIB/105A&B doors was changed from November 30, 2017 to June 30, 2018.

Justification for Change/Deletion – Changes in the scope of the LAR and additional time needed to review information necessary to support the LAR are in progress.

In the station's original NFPA-805 LAR submittal, SCE&G did not identify doors DRIB105A&B as fire doors that did not meet the self-closing requirements in accordance with NFPA-80. The oversight resulted in SCE&G receiving an NRC violation. In response to the violation, SCE&G initially committed to update the station's licensing design basis through a revision to the NFPA-805 LAR by April 28, 2017. Due to additional time needed to complete the analysis and review information necessary to support the LAR's resubmittal, SCE&G submitted a revised commitment date for the LAR's resubmittal from April 28, 2017 to November 30, 2017. Due to the changes in the scope of the LAR to address (1) update of the Fire Probabilistic Risk Assessment (Table 'W') to correct modeling errors; (2) address de-scoped plant modifications; (3) identify DRIB/105A&B as doors that have been evaluated for variances from NFPA 80 requirements; and (4) revision of documentation impacted by the noted changes, additional time was required to support the LAR resubmittal. The additional effort and subsequent reviews required to support changes in scope of the LAR necessitated a change in the resubmittal date from November 30, 2017 to June 30, 2018.

CR-05-03666

Commitment – In the submittal of LAR 05-03666 for installation of an alternate alternating current (AAC) power system and subsequent Technical Specification Amendment 178, SCE&G stated that, "Reverse power sensing relaying is being installed to preclude the possibility of power flowing from the 1E busses to the AAC (except for short periods of time and small loads during swapping of the AAC source to an EDG)."

Change – SCE&G revised the statement to read, "Reverse power sensing relaying is being installed to preclude the possibility of power flowing from the 1E busses to the AAC (except for short periods of time and small loads during swapping of the AAC source to and from an EDG").

Justification for Change/Deletion - This change modified the wording of the statement to provide clarification for implementing a more acceptable AAC source to EDG alignment. This alignment allows for the swapping of the AAC source "to and from" an EDG whereas the previous description only allowed the swapping of an AAC source "to" an EDG. The revised statement supports alignment of the AAC and an EDG for test configurations during plant outages. The AAC supply is non-nuclear safety and is not required to perform a safety function. This clarification continues to meet the original intent of and compliance with NUMARC 87-00.

CR-11-06265

Commitment – SCE&G committed to submit to the NRC for review and approval a Best Estimate Large Break Loss of Coolant Accident (BE LBLOCA) analysis that applies NRC-approved methods that include the effects of fuel thermal conductivity degradation (TCD) by June 15, 2017.

Change - Submit to the NRC for review and approval a LOCA analysis that applies NRC-approved methods that include the effects of fuel TCD. Changes in the commitment and date would be from June 15, 2017 to June 15, 2020.

Justification for Change/Deletion - SCE&G had planned to address the above issues by providing a BE LBLOCA analysis; however, the approach changed to employ the Full Spectrum LOCA (FSLOCA) method described in WCAP-16996. VCSNS participated as a pilot plant for the FSLOCA's method development. As with the BE LBLOCA, the FSLOCA method predicts the response of a LOCA using a combination of deterministic thermal-hydraulics and a statistical treatment of results, thus demonstrating the qualification of a plant's Emergency Core Cooling System in accordance with 10 CFR 50.46. However, unlike the BE LOCA, the FSLOCA method is not limited to the Large Break LOCA portion of the break spectrum. Rather, it extends the applicability of best estimate methods to the Intermediate Break (IBLOCA) and Small Break LOCA (SBLOCA), which have required different methods to compute system and fuel responses. With one approach for the entire break spectrum, the commitment is changed to reflect the departure from the BE LBLOCA method to a more general one.

As with other LOCA analysis methods, FSLOCA relies upon a fuel thermal performance code for providing fuel-related initial conditions for transient and accident analyses. The PAD 5.0 code is the state-of-the-art fuel performance code for Westinghouse fuel. It is intended to replace PAD 3.4 and 4.0, which were the codes originally used in the BE LBLOCA analysis and the estimation of TCD effects, respectively. PAD 5.0 is described in topical report WCAP-17642-P/NP explicitly addresses TCD effects.

A due date of June 15, 2017, was set to fulfill the commitment. Two factors warranted the commitment due date change:

- The FSLOCA topical report remains under review.
- PAD 5.0 is planned for review by the Advisory Committee for Reactor Safeguards (ACRS) in May 2017.

The change in commitment date does not degrade or otherwise alter the ability of the plant to operate safely. The current analyses of record for VCSNS's LOCA analyses show that peak clad temperature for the LOCA events remain acceptable. Further, a change in date would provide the opportunity for VCSNS to demonstrate compliance with the anticipated 10 CFR 50.46c rule. Once the rule is issued, this then could become a one-time effort that efficiently utilizes licensee and regulator resources.

CR-17-01001

Condition Report (CR) 17-01001 documents the completion of three commitments made in meeting Inservice Testing (IST) requirements for the Turbine Driven Emergency Feedwater Pump (TDEFWP). SCE&G submitted Relief Request (RR-4-12), Turbine Driven Emergency Feedwater Pump Inservice Testing Requirements outlining a list of commitments for meeting pump IST test requirements.

Commitment 1 - The first commitment states: "'Perform ISTB-5122, Group B Test Procedure as specified and test parameter values identified in Table ISTB-3000-1. All deviations from the reference values shall be compared with the ranges of Table ISTB-5121-1 and corrective action taken as specified in ISTB-6200.' The completion time is as follows: Group B Test Procedure initiated in Mode 3 with the secondary steam supply pressure greater than 865 psig. All deviations from the reference values addressed under the station corrective action program."

Change - Commitment Closure.

Justification for Change/Deletion – The IST requirements were completed under Maintenance Test Procedure (MTP) -T-50695G-TD2, Turbine Driven Emergency Feedwater Pump Recirculation Test. MTP-T-50695G-TD2 was performed as the post modification test for engineering change request (ECR)-50695G, EFW Flow Margin Improvement. Testing was completed and documented in work order (WO)# 1704642-001. MTP-T-50695G-TD2 used a hydraulic test criterion for reference differential pressure (ΔPr) that was more conservative than that of ISTB-5121-1. A hydraulic criterion (Group B test ΔPr range) of 0.95 to 1.05 (± 5%) ΔPr was used versus the ISTB-5121-1 ΔPr of 0.90 to 1.10 (± 10%). Test results were satisfactory for the more conservative criterion.

Commitment 2 – The second commitment states: "Perform vibration tests as specified in ISTB-3540. The vibration measurements shall be compared to both the relative and the absolute criteria shown in the alert and the required action ranges of Table ISTB-5121-1." The completion time is as follows. The vibration test initiated in Mode 3 with the secondary steam supply pressure being greater that 865 psig. All deviations from the reference values addressed under the station corrective action program.

Change – Commitment Closure.

Justification for Change/Deletion – Performance of MTP-T-50695G-TD2 and WO# 1704642-001 along with pre-outage test data collected from performance of MTP-T-50695G-TD1. Pre-outage test data utilized in MTP-T- 50695G-TD1 and WO# 1600044-040 was based on

acceptance criteria established in Engineering Information Request (EIR)-82385. EIR-82385 established reference vibration acceptance criteria for the Acceptable, Alert and Required Action Range for the TDEFWP vibration measurements. The Reference Values were then incorporated into MTP-T-50695G-TD2. The TDEFWP vibration test data results were in the Acceptable Range. The EIR new Reference Values and associated acceptance criteria were calculated in accordance with GTP-301, Inservice Testing of Pumps Fourth Ten Year Interval, Table 1, for testing XPP0008, Turbine Driven Emergence Feedwater Pump at post ECR50695E recirculation conditions.

Commitment 3 – The third commitment states: "The Comprehensive test will be performed as specified in ISTB-5123, 'Comprehensive Test Procedure.' All deviations from the vibration reference values shall be compared with the ranges of Table ISTB-5121-1 and corrective action taken as specified in ISTB-6200. The vibration measurements shall be compared to both the relative and absolute criteria in the Alert and Required Action Ranges of Table ISTB-5121-1." The completion time is as follows. Comprehensive test initiated at approximately 30% power or within 10 days of entering Mode 3. All deviations from the reference values addressed under the station corrective action program."

Change – Commitment Closure.

Justification for Change/Deletion – Satisfactory surveillance test performed under surveillance task sheet, STTS #1604419-001 and Surveillance Test Procedure (STP)-220.008A, TDEFP Full Flow Test, meeting the intent for a Comprehensive Test in accordance with Relief Request RR-4-12 (Item 6). Pre-outage testing under MTP-T-50695G-TD1 and WO# 1600044-040 provided test data for hydraulic and vibration for EIR #82394 to use in establishing test criteria for STP-220.008A. Test results from MTP-T-50695G-TD1 revealed hydraulic pump performance was virtually unchanged since replacement of the pump's rotating assembly in refueling outage RF-12. The subsequent Comprehensive Pump test performed under STP-220.008A provided satisfactory results for acceptable pump operation.

CR-12-01097

Commitment – SCE&G committed to: "(Action #4, XVT03169-SW) Modify the seismic interaction to provide sufficient shake space, or modify piping system supports such that the HCLPF > GMRS."

Change – Commitment Deletion.

Justification for Change/Deletion - All required commitment actions have been completed. SCE&G committed to notifying the NRC regarding completion of "SCE&G's Expedited Seismic Evaluation Process (ESEP) Report Modifications." The notification was submitted in support of SCE&G's Response to "NRC Request for Information Pursuant to 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated December 17, 2014 [ML14357A168].

The modification for Action 4 was not required. Digital Rod Position Indication (DRPI) Cooling Unit Outlet Header Isolation Valve, XVT03169-SW is a fail close solenoid operated valve on the downstream side of the DRPI Cooling Unit, which is designated Non-Nuclear Safety (NNS). DRPI Cooling Unit Outlet Header Check Valve, XVC03168-SW, is a check valve between XVT03169-SW and the DRPI Cooling Unit, which acts as the Code Break Boundary and prevents back flow into the NNS DRPI cooling unit during postulated failure of the cooling unit. XVC03168-SW is an ANS 2b, ASME Code Class 3 check valve and is modeled as part of the seismic analysis previously completed to qualify XVT03169-SW (note the valves are 12 inches apart). The failure mode of XVT03169-SW, noted in Technical Report TR00080-005, "Expedited Seismic Evaluation Process Report for V.C. Summer Nuclear Station," is loss of functionality of the air operator. No loss of integrity of the piping system is expected at the review level ground motion levels. Even if XVT03169-SW fails to close, XVC03168-SW will prevent flooding into the Reactor Building during a postulated FLEX event. Also, XVT03169-SW is on the downstream side of the Reactor Building Cooling Unit (RBCU) and all necessary cooling required by the water through the RBCU coils would have already been accomplished.

In addition, EPRI Technical Report 3002000704, "Seismic Evaluation Guidance - Augmented Approach for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic," Section 3.2 specifically excludes piping, piping supports, and check valves from the ESEP; therefore, no change is required to add the XVC03168-SW to the Expedited Seismic Equipment List. Thus, the modification to XVT03169-SW to prevent seismic interaction was determined to not be required.

CR-13-04375

Commitment – SCE&G committed to full implementation of the Open Phase Isolation System (OPIS) as committed to in letter from Thomas D. Gatlin, "Response to Request for Additional Information Regarding Response to Bulletin 2012-01, Design Vulnerability in Electric Power System [ML14035A455]. Full implementation of the OPIS was based on the below schedule:

1. Installation of the OPIS system on engineered safeguards feature (ESF) transformer XTF-4 by RF-23 (July 2017).
2. Enabling of trip function on ESF transform XTF-31 by December 31, 2018.
3. Enabling of the trip function on ESF transformers XTF-4 and XTF-5 by December 31, 2018.
4. Full implementation of the OPIS by December 31, 2018.

Change – Revised OPIS Full Implementation Schedule.

The revised OPIS schedule is as follows:

1. Installation of the OPIS system on XTF-4 will be in the Fall 2018, during refueling outage 24 (RF-24).

2. Enabling of trip function on ESF transform XTF-31 by December 31, 2018.
3. Enabling of the trip function on ESF transformers XTF-4 and XTF-5 by June 30, 2020.
4. Full implementation of the OPIS by June 30, 2020.

Justification for Change/Deletion – OPIS installation was not completed as intended during the previous refueling outage (RF-23) as emergent work during the outage did not allow for implementation to proceed as scheduled. The unforeseen need to replace new feeder cables for ESF transformer XTF-31 during RF-23 contributed to the need for re-scheduling of the OPIS installation. SCE&G submitted a schedule deviation to the NRC via correspondence RC-17-0169 [ML14035A455] in accordance with guidance provided in NEI 2013-02. The NEI guidance states that scheduling deviations may be required to accommodate outage schedules, software or hardware availability, manufacturing delivery capabilities, licensing delays or unforeseen complications.