

This information documents actions taken by the Virgil C. Summer Nuclear Station (VCSNS) Resident Inspector Staff to verify commitments made by the South Carolina Electric and Gas Company in addressing the resolution of NRC Generic Letter 96-06. Most of these items were inspected as part of the baseline review in Integrated Inspection Report 2008-003 for VCSNS. Other items were inspected by the Sr. Resident Inspector during August 2008 in an effort to verify all remaining licensee commitments for the resolution of GL 96-06.

1. Action: Four of five penetrations have been drained and are verified drained every 31 days. The fifth penetration was found to be isolated by a valve which was not required to be closed; that valve was opened. (Accession No. 9905110207, 05/06/1999; 9702120275, 01/28/1997)

Verification Method: Submit procedure that provides for periodic draining of these valves to the NRC staff for review. Possible site inspection by NRC staff to witness periodic draining and to verify that valve has been opened.

SRI Verification Actions: The SRI reviewed SCE&G procedure STP-115.001, "Penetration Isolation Verification," Revision 14. Section 6.3 of this procedure still requires three penetrations susceptible to overpressurization if filled (XRP0231, Demineralized Water; XRP0419, Refueling Cavity Drain Line; and XRP0421, Refueling Cavity Fill Line) to be verified drained every 31 days. In addition, the SRI reviewed the latest results of the performance of STP-115.001 (conducted on July 31, 2008) and confirmed that the three penetrations were verified to be appropriately drained. The fourth penetration in question (XRP0404, Fire Service Supply to Containment) was no longer being verified to be drained following implementation of a 2004 plant modification during refueling outage 14 via Engineering Change Request (ECR) 50290. This ECR eliminated the potential for overpressurizing the penetration by adding a blank flange on the upstream containment isolation valve preventing fire service water from leaking past the containment supply isolation valve and filling the penetration. The SRI verified implementation of ECR 50290 by review of the completed ECR package. Following fire service to containment use during the refueling outage, the penetration is drained in accordance with general operating procedure (GOP)-2, "Plant Startup and Heatup (Mode 5 to Mode 3)," Revision 14, via implementation of station operating procedure (SOP)-509, "Fire Suppression System," Revision 18. The SRI verified that the penetration blank flange was installed via a plant walkdown of the outside containment penetration on August 11, 2008.

The SRI verified that the fifth penetration (XRP0107, Spent Fuel Transfer Canal) was being maintained open by reviewing general operating procedure (GOP)-2, "Plant Startup and Heatup (Mode 5 to Mode 3)," Revision 14, and confirming the procedure was implemented prior to startup from the latest refueling outage completed in June 2008. Step 3.5.j of this procedure required that the outside penetration fuel transfer canal tube valve (XVM06737-SF) was partially opened prior to entering Mode 4 following completion of the refueling outage.

2. Action: Modify and reinforce the two pipe supports on Train B SW piping from the RBCUs SWHO145 and SWHO148. (ADAMS Accession No. ML063190303, 11/11/2006)

Verification Method: Submit completed engineering change request package to NRC staff for review. Possible site inspection by NRC staff to verify modification has been completed.

SRI Verification Actions: The SRI verified implementation of plant modification ECR 50576 was in May 2005 refueling outage 15 via review of completed WO 0502235 and ECR 50576 completion package documentation. ECR 50576 increased the size of welds in pipe supports SWH0145 and SWH0148 from 1/4" to 3/8."

3. Action: Interim phase (phase 1) that provides administrative and procedural controls over the use of the SW system for cooling to the RBCUs until modifications (phase 2) are completed. Specifically, SOP-117 Service Water System, was revised to include a special set of initial conditions prior to aligning the system to the RBCUs. (ADAMS Accession No. ML063190303, 11/11/2006)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: The SRI reviewed SOP-117, "Service Water System," Revision 20. This procedure was revised via Change J on July 14, 2008, following implementation of the second phase plant service water modification in the June 2008 refueling outage. The SRI reviewed the previous version of the procedure prior to Change J and verified that the aforementioned administrative controls were included in SOP-117, Section C and D, (as initial conditions) prior to establishing service water to either the "A" or "B" train RBCUs.

4. Action: Inservice Testing (IST) of ASME Code valves - IST procedures will be revised to satisfy TS 4.0.5 requirement 4.0.5; Frequency - quarterly test requirement - verification of valve 3107A(B) stroke timing; Test Description - valve will be energized to close and stroke time will be obtained. The stroke duration will be compared with predetermined limits. Commitment notation will be added to the procedure in accordance with Admin Procedure 605, Procedure /Commitment Accountability Program (P/CAP). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: The SRI reviewed surveillance test procedure (STP)-223.002A, "Service Water Pump Test," Revision 8, Changes F, G, and H. This procedure is the quarterly IST procedure for stroke testing the 3107A(B) valves and was revised via the indicated changes following the implementation of the service water modification in June 2008. The SRI verified that the new stroke times for opening/closing the new service water AOV valves 3107A(B) were included in the aforementioned procedure changes. This review by the inspector will be documented in the resident 3rd Quarter baseline IIR (05000395/2008004).

5. Action: Surveillance testing - Surveillance test procedures will be revised to satisfy TS 4.8.1.1.2.g.4 requirement -simulate loss of offsite power (LOOP); Frequency - 18 months, normally during an outage; Test Requirement - verification that valve 3107A(B) will close upon initiation of LOOP; Test Description - during an outage as part of safe guards testing, the Reactor Building Cooling Units (RBCUs) are aligned with the SW system and a LOOP is simulated. During this simulation, the valve will be observed to assure that it begins to close upon initiation of the LOOP. Commitment notation will be added to the procedure (P/CAP). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: During refueling outage 17 in June 2008, the SRI and RI witnessed aspects of TS 4.8.1.1.2.g.4 18-month LOOP ESFAS test on both train RBCUs. This testing was conducted in accordance with STP-125.017A, "Diesel Generator A Loss of Offsite Power Test for Post Mod Testing of XVG03107A," and STP-125.018B, "Diesel Generator B Loss of Offsite Power Test for Post Mod Testing of XVG03107B." The inspectors documented this inspection activity in Sections 1R18 and 1R19 (i.e., plant modification and post-maintenance testing) of the resident inspector baseline sample reviews included in NRC Integrated Inspection Report 05000395/2008003.

6. Action: Surveillance testing - Surveillance test procedures will be revised to satisfy TS 4.6.2.3.b.4 requirement - verify automatic operation of Service Water Booster Pump (SWBP) on Safety Injection (SI); Frequency - 18 months, normally during an outage; Test Requirement - verification of interlocks that prevent SWBP from starting if valve 3107A(B) is not closed; Test Description - specific leads will be lifted to simulate valve 3107A(B) to be not in the closed position. Upon receipt of the signal to energize the SWBP, it will be observed that the pump does not start. Commitment notation will be added to the procedure (P/CAP). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: During refueling outage 17 in June 2008, the SRI and RI reviewed the applicable procedures that tested the SWBP on an SI signal via TS 4.6.2.3.b.4, as well as testing to verify that the interlocks that prevent SWBP from starting if valves 3107A(B) is not closed. The procedures that tested the SWBP included STP-125.010, "Integrated Safeguards Test Train A," STP-125.011, "Integrated Safeguards Test Train B." The interlock circuitry was tested via procedures STP-125.017A, "Diesel Generator A Loss of Offsite Power Test For Post Mod Testing of XVB03107A," and STP-125.018B, Diesel Generator B Loss of Offsite Power Test For Post Mod Testing of XVB03107B." The SRI and RI witnessed aspects of these four tests during the June 2008 refueling outage and documented the inspections in IIR 05000395/2008003.

7. Action: Emergency Operating Procedure (EOP) - Change Requirement - in the event of a failure of valve 3107A(B) to close on demand, to prevent a water hammer condition at the time 3107A(B) eventually closes. Change Description - if immediately after a LOOP were to occur with the RBCUs aligned with the SW system and a SWBP failed to start with 3107A(B) not closed, steps will be added

for control room staff to place the SWBP in pull-to-lock. Commitment notation will be added to procedure (P/CAP). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: The SRI reviewed Emergency Operating Procedure (EOP)-1.0, "Reactor Trip/Safety Injection Actuation. In Revision 23 of this procedure, dated June 3, 2008, EOP-1.0 was revised by adding steps in Attachment 2, "SI Equipment Verification," to place the SWBP in pull-to-lock if its associated 3107A(B) valve is not closed and then to refill the RBCUs per SOP-117, "Service Water System."

8. Action: Service Water System Operating Procedure (SOP) - Change Requirement - to provide a means of recovery and train restoration after the failure of 3107A(B) to close on demand; Change Description - steps for the recovery from the condition noted above in EOP to fill the RBCU downstream piping will be added to the procedure. Commitment notation will be added to the procedure (P/CAP). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised procedure to NRC staff for review.

SRI Verification Actions: The SRI reviewed SOP-117, "Service Water System," Revision 20, Change G, dated May 11, 2008, which added steps via Sections I and J for refilling Train A or Train B RBCU with service water following a trip of the associated train SWBP.

9. Action: Installation of additional controls for valve 3107A(B) and the service water booster pump (SWBP) that will prevent the possibility of a pipe waterhammer if valve 3107A(B) fails to perform its active function. (ADAMS Accession No. ML073030031, 10/25/2007)

Verification Method: Submit completed engineering change request package to NRC staff for review. Possible site inspection by NRC staff to verify modification has been completed.

SRI Verification Actions: The SRI and RI reviewed aspects of licensee plant modification ECR 50567 that replaced the RBCU service water return motor operated valves 3107 with fast acting air operated valves 3107A(B) and added service water vacuum relief valves in the discharge line. This inspection review was documented in Section 1R18, "Plant Modifications," of IIR 05000395/2008003.

10. Action: Gate valves 3107A and 3107B will be replaced with fast closing butterfly valves that close in seven seconds upon de-energizing of Service Water Booster Pump (SWBP) A/B. The opening logic of valves 3107A and 3107B will be modified to have a 5 seconds delayed opening after the respective SWBP A/B starts. Vacuum relief valves will be installed downstream of valve 3107A and B. (ADAMS Accession No. ML063190303, 11/11/2006)

Verification Method: Submit completed engineering change request package to NRC staff for review. Possible site inspection by NRC staff to verify modification has been completed.

SRI Verification Actions: The SRI and RI reviewed aspects of licensee plant modification ECR 50567 that replaced the RBCU service water return motor operated valves 3107 with fast acting air operated valves 3107A(B) and added service water vacuum relief valves in the discharge line. The valves were designed to close in seven seconds upon de-energizing of SWBP A/B and the opening logic was modified to have a five second delay opening after the respective SWBP A/B starts. This inspection review was documented in Section 1R18, "Plant Modifications," of IIR 05000395/2008003.

11. Action: Appropriate Final Safety Analysis Report (FSAR) sections will be revised (required as part of the design change process). (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised FSAR to NRC staff for review.

SRI Verification Actions: Per SCE&G letter dated 12/21/07 (ADAMS Accession No. ML073601003), the licensee committed to submit changes to the FSAR and TS Bases within 90 days of the completion of refueling outage 17 (June 14, 2008). The SRI discussed with licensing personnel whether this date was still planned and it was indicated that this was still their intention.

12. Action: Technical Specification (TS) Bases- Section 3/4.6.2.3 will be changed to reflect mitigation of water hammer in response to GL 96-06. (ADAMS Accession No. ML073601003, 12/21/2007)

Verification Method: Submit revised TS Bases to NRC staff for review.

SRI Verification Actions: Per SCE&G letter dated 12/21/07 (ADAMS Accession No. ML073601003), the licensee committed to submit changes to the FSAR and TS Bases within 90 days of the completion of refueling outage 17 (June 14, 2008). The SRI discussed with licensing personnel whether this date was still planned and it was indicated that this was still their intention.