PSEG

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Nuclear Business Unit

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U.S. Nuclear Regulatory Commission
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Washington, DC 20555

LER 272/96-005-09
SALEM GENERATING STATION - UNIT 1
FACILITY OPERATING LICENSE NO. DPR-70
DOCKET NO. 50-272

Gentlemen:

This Licensee Event Report entitled "Inadequate Technical Specification Testing Of The Pressure Isolation Valves" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73 (a)(2)(i)(B).

Sincerely,

David F. Garchow
General Manager
Salem Operations

Attachment

TAA

C Distribution
LER File 3.7

IE22

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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TITLE (4)
Inadequate Technical Specification Testing of the Pressure Isolation Valves

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	25	96	96	- 005 -	09	02	14	97	Salem Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	000	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Dennis V. Hassler, LER Coordinator	609-339-1989

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

In December 1995, a Technical Specification Surveillance Improvement Project (TSSIP) was initiated for Salem Units 1 and 2. The scope and content of the TSSIP program was described previously in LER 311/95-008-00. This project is expected to be completed by December 31, 1997. As a result of this effort, Technical Specifications (TS) non-compliances have been identified by the review team. Most of these non-compliances have been found in the area of surveillance requirement implementation deficiencies and will be (are being) reported as supplements to this LER - 272/96-005.

On January 16, 1997, a determination was made that the stroking of the motor-operated closure feature of the 21-24BF22 Steam Generator Feed stop-check valves did not meet the requirements of Technical Specification 4.0.5 and were not being tested prior to Mode 4 as required by Technical Specification 3.6.3. Corrective actions include procedure revisions and testing of the valves.

These events are reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), any condition prohibited by the plant's Technical Specifications.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor

Tavg Instrumentation (RCP) {AB/-}*
Sustained Degraded Voltage Instrumentation (4KV) {EB/-}
Auxiliary Building Ventilation System (AB) {VF/-}
Fuel Handling Building (FHB) Ventilation System {VG/-}
Containment Fan Coolers {BK/CLR}
Containment Sump {NH/-}
Control Area Ventilation {VI/-}
Auxiliary/Emergency Feedwater System (AFW) {BA}
230 and 460 Volt Vital Bus {ED}
Chemical Volume Control System {CB}
Reactor Coolant System {AB/ISV}

* Energy Industry Identification System (EIIS) codes and component function identifier codes appear in the text as (SS/CCC).

CONDITIONS PRIOR TO OCCURRENCE

At the time of identification, Salem Unit 1 was defueled and Salem Unit 2 was in Mode 5.

DESCRIPTION OF OCCURRENCE

As a Corrective Action from LER 311/95-006 a Technical Specification (TS) Surveillance Improvement Project (TSSIP) has been initiated. Additional deficiencies found during the TSSIP will be documented in supplements to this LER.

LER 272/96-005-00 described an event that occurred due to the identification of a Technical Specification (TS) surveillance test inadequacy. This supplement describes additional occurrences of a Technical Specification surveillance implementation deficiencies identified during the Technical Specification Surveillance Improvement Project (TSSIP) review.

On March 25, 1996, during a review of the implementation of Technical Specification Surveillance Requirement 4.3.2.1.1, the TSSIP team identified a Technical Specification violation regarding Channel Checks. Surveillance Requirement 4.3.2.1.1 requires a Channel Check on the instrument channels listed in Table 4.3-2. Items 1.f and 4.d of Table 4.3-2 list Engineered Safety Feature Actuations which occur on Steam Flow in Two Steam Lines--HIGH coincident with Tavg--LOW-LOW or Steam Line Pressure--LOW. The Channel Check requirements apply such that a comparison of the Steam Line Flow {SB/-}indications is to be made once per shift in Modes 1, 2 and 3, as are comparisons of the Tavg instruments, and the Steam Line Pressure instruments. A further review determined that Channel Checks were not being performed on the Tavg instruments since at least November 23, 1979 as required in Modes 1, 2 and 3.

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DESCRIPTION OF OCCURRENCE (cont'd)

On April 3, 1996, during a review of the implementation of Technical Specification Surveillance Requirement 4.3.2.1.1, the team identified a Technical Specification violation regarding Channel Checks. Surveillance Requirement 4.3.2.1.1 requires a Channel Check on the instrument channels listed in Table 4.3-2. Item 7.b of Table 4.3-2 lists Engineered Safety Feature Actuations which occur upon a Vital Bus Sustained Degraded Voltage. The three (3) Vital Bus Sustained Degraded Voltage instruments on each 4KV bus require Channel Checks once per shift in Modes 1, 2 and 3. The TSSIP determined that the Vital Bus Sustained Degraded Voltage instruments were not adequately Channel Checked in Modes 1, 2 and 3 as required by Technical Specification 4.3.2.1.1.

The Sustained Degraded Voltage instrumentation was added to Salem Unit 1 and 2 vital 4KV buses in April of 1982 and June of 1983, respectively. The Technical Specifications for both units were revised to reflect the Sustained Degraded Voltage instrumentation effective July 23, 1982 by Amendments 45 (Unit 1) and 10 (Unit 2). A review of historical documentation concluded that the Channel Check requirements specified in the revised Technical Specifications were not implemented.

The review also identified that the Channel Check requirements for 4KV Vital Bus Undervoltage instruments were apparently not satisfied from initial plant operation of either unit until 1989. These checks were required in Modes 1, 2 and 3 by Item 7 of Table 4.3-2 in the original issue of Unit 1 and 2 Technical Specifications, which became Item 7.a when the Sustained Degraded Voltage instruments were installed. This conclusion is based on the oldest record found which was a Unit 1 log taken for Modes 1 through 4, dated November 23, 1979, and review of subsequent revisions to the same log.

In January of 1988, the Unit 1 Sustained Degraded Voltage instrumentation was changed from a 2 out of 3 bus logic to a 2 out of 3 per bus logic in response to the Salem Unit 2 event of August 26, 1986, which resulted in the Unit 2 vital buses transferring back and forth between Station Power Transformers 21 and 22 until they finally separated from offsite power. Salem Unit 2 was similarly modified in March of 1990. The Technical Specifications for both units were revised by Amendments 102 (Unit 1) and 79 (Unit 2), effective September 25, 1989, to address the modifications.

The review of available documentation concluded that the Channel Check requirements specified in the revised Technical Specifications were not implemented. As described above, a Channel Check of the 4KV Vital Buses was added to the Operating Logs for Modes 1-4 in 1989.

On May 6, 1996, the TSSIP Team identified an inadequacy in the bypass testing of the Auxiliary Building (AB) {NF} and Fuel Handling Building (FHB) {ND} ventilation systems. Salem Units 1 and 2 Technical Specification surveillances for the AB exhaust air leakage filtration systems, TS 4.7.7.1.b.1 (TS 4.7.7.b.1) for units 1 and 2 respectively, and FHB area ventilation system (TS 4.9.12.b.1) were not adequately met. Specifically, the surveillance did not demonstrate that the total bypass flow of ventilation system to the facility plant vent, including leakage through the ventilation system diverting valves, is less than or equal to 1% when the system is tested by admitting cold Dioctyl Phthalate (DOP) at the system intake.

During the FHB ventilation testing, the test gas is injected at a common point upstream of the normal and emergency filter units. The downstream sample, however, is only taken inside the emergency filter unit. While this test setup satisfied the requirement for the HEPA filter in-place efficiency test required by TS 4.7.7.1.B.3 (TS 4.7.7.1.B.2), it does not adequately measure the bypass flow leakage through the normal filtration unit as required by TS, which isolates during an accident or a high radiation signal. Similar test setup conditions existed during the AB ventilation system testing.

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DESCRIPTION OF OCCURRENCE (cont'd)

On May 8, 1996, the TSSIP Team also identified a testing inadequacy with respect to maintaining a negative pressure in the spent fuel pool area. TS surveillance 4.9.12.d.4 (4.9.12.d.3) requires that a negative pressure be maintained between the spent fuel pool area and the outside atmosphere during system operations. Procedure SC.RP-TI.ZZ-1140, Fuel Handling Building Ventilation System Negative Pressure Test, which is used to perform this test, does not adequately demonstrate compliance with the TS requirement. The procedure verifies that a negative pressure is maintained using the normal operation (HEPA filter bank only) system lineup. The intent of the surveillance is to demonstrate that a negative pressure can be maintained with the system in its accident mode lineup (HEPA plus Charcoal).

On May 8, 1996, the TSSIP Team also identified a deficiency in the implementation of TS 3.3.2.1, Engineered Safety Feature Actuation Signal (ESFAS) Table 3.3-5, item 2H. Specifically, TS 3.3.2.1 Table 3.3-5, item 2H, Containment Fan Coolers {BK}, for both Salem units, requires a total instrument channel response time of less than or equal to 40 seconds in Modes 1 - 3, when the initiation signal is generated by the containment high pressure sensors. Procedure S1(2).IC-TR.ZZ-0002, Unit 1(2) Master Time Response, calculates the total instrumentation channel response time by adding the inputs from a series of implementing response time procedures. The result for each instrumentation channel is then compared to the TS Table 3.3-5 acceptance criteria. When reviewing the calculation results for Item 2H, it was noted that the response time for containment high - high was utilized instead of containment high. A review and recalculation of past completed surveillances for item 2H indicates that the TS required time response was not exceeded.

On May 22, 1996, the Salem Technical Specification Surveillance Improvement Project (TSSIP) identified that the control and implementation of procedure SC.RP-TI.ZZ-1102, Containment Entries At Power, was not adequate to meet the visual inspection or mode applicability requirements of the Technical Specification Surveillance 4.5.2.c.2. Surveillance 4.5.2.c.2 requires a daily visual inspection of the areas affected within the containment by containment entry when Containment Integrity is established. The daily visual inspection is only required if Containment entry has occurred since the last visual inspection. Technical Specification 4.5.2 is applicable in Modes 1 through 4, and Containment Integrity is a prerequisite to entry into Mode 4.

Investigation determined that responsibility for Technical Specification Surveillance 4.5.2.c.2 was transferred from the Operations Department to the Radiation Protection Department in late 1983. The transfer of responsibility was not sufficiently controlled to assure compliance with the mode applicability and visual inspection requirements of Technical Specification Surveillance 4.5.2.c.2. Since 1983, the Radiation Protection procedure implementing Technical Specification 4.5.2.c.2 was revised numerous times. This provided opportunities to identify that the mode applicability and visual inspection requirements were not being properly implemented.

On July 11, 1996 a review determined the testing of the Auxiliary Building Ventilation, Control Area Ventilation and the Fuel Handling Ventilation systems charcoal canisters did not meet the Salem Unit 2 Technical Specifications surveillance requirements. The Salem Unit 2 Technical Specifications 4.7.6.1.b.2, 4.7.6.1.c, 4.7.7.b.3, 4.7.7.c, 4.9.12.b.3 and 4.9.12.c require analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, 1978. The Regulatory Guide references ANSI N509-1976 which defines the method of filling the test canisters and requirements for leak and resistance testing of the test canisters.

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DESCRIPTION OF OCCURRENCE (cont'd)

The charcoal trays were sent offsite to a vendor and filled, packed and tested in accordance with Technical Specification requirements. However the test canisters were refilled onsite by the Maintenance Department personnel. The work orders and procedures for replacing the canisters and refilling did not contain the ANSI N509 requirements for filling, and leak and resistance testing the canisters. Because these requirements were not performed for the test canisters, this constitutes a missed surveillance.

On September 25, 1996, a review determined that Technical Specification (TS) Surveillance Requirement 4.7.1.2.c.2 for Units 1 and Units 2 was not being performed prior to entry into Mode 3 for the 13(23) turbine-driven AFW pumps. Surveillance 4.7.1.2.c.2 requires that at least once per 18 months during shutdown that each auxiliary feedwater pump starts as designed automatically upon receipt of each auxiliary feedwater actuation test signal. This technical specification is applicable in Modes 1, 2 and 3. Since January 1994, Salem Units 1 and 2 have each made two operational mode changes from Mode 4 to Mode 3 without testing the start of the turbine-driven AFW pumps prior to entry into Mode 3 constituting a violation of TS 4.0.4.

TSs normally require completion of the specified surveillance test within the stated periodicity to prove operability of a safety system or component before entry into a Mode or operational condition that requires the system or component to be operable and capable of performing its required function. However, some components can not be adequately tested in a lower Mode or operating condition. Because of this, special provisions that allow entry into the applicable Mode (provided surveillances are promptly performed to verify operability) are included in TS. This is accomplished by a specific exemption to TS 4.0.4 in the applicable TS.

TDAFW pump operability testing at Salem is a specific example of the need for a provision to exempt compliance with TS 4.0.4. The steam pressure needed to properly test the pumps is not available in Mode 4, but the pumps are required to be operable in Modes 1, 2 and 3. Past practice at Salem has been to perform the test when in Mode 3 when adequate steam pressure is available.

The review of TS 4.7.1.2.c.2 also identified that the procedures used to test that each actuation signal starts the TDAFW pump do not ensure that each actuation signal opens the steam supply valve to the TDAFW pump. This condition has existed since the initial startup of Salem Units 1 and 2 and constitutes a violation of TS 4.7.1.2.c.2.

On October 11, 1996, a review determined that TS surveillance requirement 4.3.2.1.1, Table 4.3-2, Item 1.b, was not being performed prior to entry into Mode 4 for the Main Turbine and Feedwater Isolation automatic actuation circuitry. This is contrary to the requirements of TS 4.0.4 which requires that surveillance testing be performed prior to entering the applicable operational mode of the Limiting Condition for Operation. The automatic actuation circuitry is required to be operational in Modes 1, 2, 3 and 4. Specifically, testing of Solid State Protection System (SSPS) relay K-621 (for the main turbine trip and feedwater isolation) was not being performed until after entry into Mode 3. The instructions provided in Integrated Operating Procedure IOP-2 allowed the deferral of testing relay K621 until entry into Mode 3 although the TS surveillance requirement 4.3.2.1.1 does not contain an exemption to TS 4.04. A review of surveillance testing conducted in the past four years revealed that Salem Unit 1 transitioned from Mode 5 to Mode 4 on July 30, 1992 and January 6, 1994, and Salem Unit 2 transitioned from Mode 5 to Mode 4 on April 1, 1992, December 23, 1994, and March 4, 1995, before completing the surveillance testing of the K-621 relay.

TS Table 4.3-2 Item 1.b Note 2 requires the automatic actuation logic to be tested at least every 62 days on a staggered test basis. Since there are two trains of automatic actuation logic, staggered testing requires that one train of actuation logic needs to be tested every 31 days. After the first train is tested, the second train needs to be tested 31 days later. The review of surveillance testing conducted in the past four years for Salem Unit 2 revealed that the automatic actuation logic circuitry was not always tested on a staggered basis following a plant outage.

DESCRIPTION OF OCCURRENCE (cont'd)

The automatic actuation logic testing for both trains has been typically performed concurrently prior to returning the Units to service following an outage. Following completion of the surveillance testing, a new work order activity is generated in the Managed Maintenance Information System (MMIS) database to perform the next surveillance test. The MMIS database automatically generates the due date of the next surveillance test based on the technical specification surveillance interval. For the case of the automatic actuation logic, MMIS sets the due date of the next surveillance 62 days from the last date the surveillance test was completed. To start the staggered testing, the scheduled date for performance of one train is shortened to 31 days. For the periods of time identified above, although the scheduled date was changed in MMIS to start the staggered testing, the TS due date field in MMIS was not revised. The TS due date field in MMIS should identify the last date the surveillance can be performed to meet the normal surveillance test interval. By not revising the TS due date, this allowed personnel to change the schedule of the surveillance testing without identifying that the staggered testing criteria was not being met. Although testing of each train was performed within the surveillance test interval, not performing the testing of the automatic actuation logic on a staggered frequency is contrary to TS 4.3.2.1.1 Table 4.3-2 Item 1.b.

On November 6, 1996, the TSSIP team identified that there were no procedural controls to perform Salem Unit 1 and 2 TS surveillances 4.8.2.1 and 4.8.2.2 for the 230 volt and 460 volt vital (class 1E) busses {ED/-}. TS surveillance requirements 4.8.2.1 and 4.8.2.2 require that:

"The specified AC busses shall be determined OPERABLE and energized from AC sources other than the diesel generators at least once per 7 days by verifying correct breaker alignment and indicated power availability."

The specified AC busses are the 4 Kv, 460 volt, 230 volt, and 115 volt busses. The review of surveillance test procedures identified that voltage indication is verified for the 4 Kv and 115 VAC busses, however, there was no voltage verification for the 230 volt and 460 volt busses. The voltage verification for the 4 KV and 115 VAC busses was being performed using the installed bus voltage indication; however, the 230 and 460 VAC busses do not have any installed voltage indication meters. Failure to perform the bus voltage indication verification for the 230 and 460 VAC busses is contrary to TS surveillance requirements 4.8.2.1 and 4.8.2.2.

On January 2, 1997, a discrepancy was discovered in the Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) testing methodology. The discrepancy could result in the TS 3.4.7.2 limit for PIV leakage (1.0 gpm) and the total identified leakage (10 gpm) being exceeded. The test methodology for the PIV did not account for: 1) the pressure on the upstream side of the PIV, and 2) the impact of standing water when calculating the leakage rate. The pressure on the upstream side of the PIV was assumed to be 0, when in fact, some minimal back pressure could be present on the upstream side of the PIV. This back pressure on the upstream side of the PIV would be from the Chemical Volume Control System Hold up tanks. The normal operating pressure of the CVCS Hold up tanks is 0.5 to 5 psig, with the maximum pressure being control by relief valves set at 12 psig. The impact of standing water on differential pressure varies due to the physical location of the PIVs in the plant. This impact has been determined and will be accounted for in the revised procedures.

On January 16, 1997, a determination was made that the frequency and method for stroke testing the motor operators on the 21-24BF22 valves did not meet the surveillance requirements of Technical Specification 4.0.5. The subject valves motor operators had not been included in the In-Service Testing (IST) program. The motor operator stroke testing was being performed in accordance with the GL 89-10 program. The testing frequency of GL 89-10 does not meet the requirements of Technical Specification 4.0.5 for stroking and timing the operators. In addition, this testing is required prior to entering Mode 4 and was not performed as required in the past.

CAUSE OF OCCURRENCE

The cause of these occurrences has been attributed to a lack of adequate controls and understanding of the development and maintenance of Technical Specification surveillance procedures. This weakness was previously identified in LER 311/95-008.

PRIOR SIMILAR OCCURRENCES

A review of LERs for Salem Units 1 and 2 issued in the last two years identified twenty-one LERs (272/94-008, 272/95-004, 272/95-019, 272/95-013, 272/95-024, 272/95-028, 272/96-003, 272/96-004, 272/96-006, 272/96-008, 272/96-016, 272/96-023, 272/96-024, 311/94-012, 311/95-006, 311/95-008, 311/96-003, 311/96-005, 311/96-007, 311/96-010 and 311/96-011) that were a result of missed surveillances due to inadequate implementation of Technical Specification requirements. The identification of these programmatic issues resulted in the initiation of the Technical Specification Surveillance Improvement Program (TSSIP) described in LER 311/95-008. The TSSIP should ensure that Technical Specification surveillance requirements are adequately implemented.

SAFETY CONSEQUENCES AND IMPLICATIONS

Tavg Channel Checks:

There were no safety consequences for this occurrence since plant operators monitor Tavg readings for each loop once every eight (8) hours in Modes 1 and 2, and every 30 minutes if the reactor is critical and Tavg is below 551°F with the Tavg-Tref in alarm. In addition, the RC Loops Tavg Deviation alarm provides a continuous monitor of the deviation between all Tavg channels - alarming at a preset value. While not a Technical Specification required function, this alarm would readily alert operators to any significant deviation between Tavg indications. The alarm response requires monitoring Tavg readings and initiating repairs to restore faulty instrumentation. Based on the above, the health and safety of the public were not affected.

Undervoltage Instrument Channel Checks:

There were no safety consequences for this occurrence since plant operators monitor the vital 4KV bus voltages and the 13KV bus voltages every shift in Modes 1, 2 and 3 with minimum and maximum acceptable values specified. Channel Functional Tests of the Sustained Degraded Voltage instruments are performed on a monthly basis in Modes 1, 2 and 3 and verify operability of the instruments. Based on the above, the health and safety of the public were not affected.

Filtration systems

The operation of the filtration systems has a direct impact on the off-site dose calculation. There were no consequences associated with the deficient implementation of the FHB and AB TS surveillances. The potential consequences of a design basis event, a LOCA with bypass flows in excess of 1% or a fuel handling accident without adequate negative pressure, could have resulted in 10CFR100 and GDC-19 limits being exceeded. However, using a more realistic source term value given the present extended shutdown condition of the Salem units, similar potential events would yield acceptable results even without filtration. Therefore, delaying the performance of the surveillances has no impact on the health and safety of the public.

SAFETY CONSEQUENCES AND IMPLICATIONS (cont'd)

Containment Fan Coolers

As demonstrated by the satisfactory results of the recalculation of the TS surveillances, the ability of the Containment Fan Cooler Units to perform their intended safety function was maintained. Therefore, the health and safety of the public was not affected.

Containment Loose Debris Inspection

There were no safety consequences for this occurrence. The implications of not performing a visual inspection is loose fibrous material that could become dislodged during an event and be transported to and block the Containment sump. However, housekeeping procedures, routine monitoring of work activities by job supervision and Radiation Protection technicians, and tracking of materials left in Containment provided reasonable assurance that loose material capable of being transported to the Containment sump was not present. Therefore, the health and safety of the public was not affected by this occurrence.

Charcoal Test Canisters

There were no safety consequences associated with the deficient implementation of these surveillances. The charcoal trays which perform the safety function and adsorption were not affected by this occurrence. There is no indication that the charcoal trays would not have performed their function. The health and safety of the public were not affected.

Turbine-Driven AFW Pump

The surveillance testing performed to demonstrate that TDAFW pump starts upon receipt of each actuation signal does not verify that the steam supply valve opens on receipt of each signal as required by TS 4.7.1.2.c.2. However, the logic (actuation circuitry) testing and the manual start of the TDAFW pump provides sufficient overlap testing to ensure that the TDAFW pump will perform its design functions.

Although the start of the TDAFW pump was not tested prior to Mode 3 in accordance with TS 4.0.4, the surveillance procedures performed in Modes 1 through 4 demonstrated the operability of the TDAFW pump as discussed above. Based on the above, the health and safety of the public were not impacted.

K-621 Relay Testing

Although the surveillance testing of the K-621 relay was not performed prior to Mode 4, the surveillance testing of the K-621 relay performed in Mode 3 demonstrated the operability of the relay. The testing of the K-621 relay was performed prior to the opening of the main steam and feedwater isolation valves and prior to the main turbine and feedwater pumps being placed into service. Although the surveillance testing of the automatic actuation logic was not performed on a staggered test basis, the testing performed would have detected any component failures and ensured the operability of the automatic actuation logic. Based on the above, the health and safety of the public were not affected.

SAFETY CONSEQUENCES AND IMPLICATIONS (cont'd)

230 and 460 Volt Buses

Onsite power distribution system voltage constraints are procedurally provided and defined at the 4KV level. The basis for the acceptance criteria is provided in design calculations ES-8.007(Q) and ES-15.004(Q). These calculations state that the voltages at the 230 and 460 volt busses will be acceptable to operate the loads on these buses when the 4KV bus is within its acceptable range. Although the surveillance procedures do not verify indicated voltage on the 230 and 460 volt busses, these procedures verify the proper breaker alignment for the 460/230 volt transformer breakers on the 4 KV busses and the voltage on the 4 Kv busses. Verification of the voltage on the 4 Kv and the proper alignment of 460/230 volt transformer breakers provides assurance that the proper voltage is maintained on the 230 and 460 volt busses.

Surveillance Requirements for PIVS

The surveillance requirements for the PIVs provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem Loss of Coolant Accidents (LOCA). The TS value of 1 gpm of unidentified leakage is set as a threshold value and is sufficiently low to ensure early detection of additional leakage. The error as a result of not considering back pressure and standing water would not have prevented gross failure of a PIV from going undetected.

BF22 Steam Generator Feed Stop-Check Valve Testing

The testing on the subject valves was being performed in accordance with standards and guidance in Section XI of the ASME Boiler and Pressure Vessel Code but not in accordance with the operability requirements of the Technical Specifications prior to mode changes. The motor operators were being tested under the guidance of the GL 89-10 program. The containment isolation feature of the subject valves is backed-up by the BF19 and BF40 feed regulating valves formerly credited as the feedwater containment isolation valves for GDC 57 criteria prior to LCR 91-04 of August 30, 1993.

Based on the above, there was no impact to the health and safety of the public.

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CORRECTIVE ACTIONS

1. A Technical Specification Surveillance Improvement Project (TSSIP) has been initiated for Salem Units 1 and 2. The scope and content of the TSSIP program was described previously in LER 311/95-008-00. The TSSIP review is expected to be completed by December 31, 1997.

2. Channel Checks of Tavg instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

3. Channel Checks of the Sustained Degraded Voltage instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

4. The appropriate procedures were reviewed and the FHB testing procedure was revised to incorporate additional guidance to ensure adequate bypass flow and negative pressure testing.

5. An in-depth review of the Technical Specifications regarding ventilation system testing was performed by Radiation Protection personnel with no additional deficiencies identified.

6. The total bypass flow and negative pressure testing for the Units 1 and 2 FHB will be demonstrated acceptable prior to fuel movement, as appropriate.

7. The total bypass flow for the Units 1 and 2 AB ventilation systems will be demonstrated acceptable prior to the respective Unit entering Mode 4.

8. The CFCU time responses for Units 1 and 2 were recalculated using the appropriate inputs from containment pressure high, with satisfactory results.

9. A station implementing procedure for Salem Units 1 and 2 will be revised and/or developed to assure compliance with Technical Specification 4.5.2.c.2 prior to establishing Containment Integrity for Salem Unit 2.

10. The Charcoal trays and test canisters are being replaced in the Auxiliary Building Ventilation, Control Area Ventilation and the Fuel Handling Ventilation systems. Both the trays and canisters are being sent to a vendor for replacement. This will be completed by Mode 6 for the Control Area and Fuel Handling Ventilation systems, and Mode 4 for the Auxiliary Building Ventilation system.

11. A consultant with experience in nuclear ventilation systems design and testing is in the process of conducting a review to verify that ventilation systems testing is in compliance with the Technical Specifications Surveillance and UFSAR requirements.

12. Ventilation procedures will be revised by Mode 6 for the Control Area and Fuel Handling Ventilation systems, and Mode 4 for the Auxiliary Building Ventilation system.

13. As stated in LER 272/96-016-00, mode transition procedural controls are being evaluated and improved as necessary to ensure that the higher Mode acceptance criteria are used to verify the acceptability of making a Mode transition. This review will be completed prior to Mode 6.

14. A License Change Request to include an exemption to the provisions of Specification 4.0.4 in Technical Specification 4.7.1.2.c.2 will be submitted by October 30, 1996.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

CORRECTIVE ACTIONS (cont'd)

15. Procedure changes will be implemented or new procedures will be developed prior to each respective Units entry into Mode 3 to ensure that the TDAFW pumps are tested in accordance with TS 4.7.1.2.c.2.

16. Integrated Operating Procedure and Surveillance Test Procedure changes will be implemented prior to the respective Unit's entry into Mode 4 to ensure that relay K-621 is tested in accordance with TS 4.3.2.1.1, Table 4.3-2, Item 1.b prior to entering Mode 4.

17. The Unit 2 Emergency Diesel Generator surveillance tests, which are the only staggered tests in Modes 5 and 6, will be verified as correctly scheduled prior to Unit 2 entry into Mode 6.

18. Administrative Procedures will be revised prior to Unit 2 entry into Mode 4 to improve the controls to ensure that equipment required to be tested on a staggered basis by the Technical Specifications is properly scheduled.

19. Appropriate procedures will be revised to ensure that the 230 and 460 VAC busses are surveilled in accordance with TS 4.8.2.1 and 4.8.2.2 prior to the respective Unit's entry into Mode 6.

20. The test procedures for performing the RCS PIV leak testing will be revised for Salem Unit 1 prior to entry into Mode 4 , and will be revised for Salem Unit 2, prior to entry into Mode 4.

21. The procedures for BF22 valve tests and surveillances will be revised for Salem Unit 1 prior to Unit 1 entry into Mode 4. The motor operators of the 11-14BF22 valves have been added to the IST program.

22. The procedures for BF22 valve tests and surveillances have been revised for Salem Unit 2 and valve testing will be completed prior to Unit 2 entry into Mode 4. The motor operators of the 21-24BF22 valves have been added to the IST program.