Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609

January 18, 2000

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

Gentlemen:

In the Matter of) Docket No. 50-296
Tennessee Valley Authority)

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 3 - SUPPLEMENTAL INFORMATION REQUESTED DURING THE STAFF'S DECEMBER 2, 1999, ON-SITE RISK-INFORMED INSERVICE INSPECTION (RI-ISI) PROGRAM AUDIT REVIEW MEETING (TAC NO. MA5355)

TVA's letter to NRC dated November 10, 1999, invited the staff to the BFN site to review the proposed BFN Unit 3 RI-ISI program supporting documentation. The staff accepted this offer and conducted a review on December 1 and 2, 1999. On December 2, 1999, the staff met with TVA personnel and requested TVA to provide additional information as a result of the review. The purpose of this letter is to reply to the staff's request for additional information.

The staff requested TVA to provide the information stated in bullets one through three at the site meeting and the information stated in bullets four through six during subsequent communications:

- Modify the failure rate for Intergranular Stress Corrosion Cracking (IGSCC) Category C and E welds to reflect mitigative actions previously implemented.
- Perform a further evaluation to determine if any additional IGSCC Category "A" welds would require inspection based on the modified failure rates.

A047

- Provide the Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) with and without operator actions for each individual segment including the risk reduction worth (RRW) for each case.
- Provide the welds added for defense in depth consideration.
- Provide clarifications regarding the augmented programs that are not included in the RI-ISI program.
- Provide clarifications regarding the calculations used to rank segments and the risk evaluation criteria provided in the Westinghouse Owners Group Topical Report WCAP-14572.

Enclosures 1 and 2 provide the staff's requested information. The attachment to Enclosure 2 provides the revised BFN Unit 3 RI-ISI program Table 5-1, Page E-30 as a result of the requested information.

There are no commitments contained in this letter. If you have any questions, please telephone me at (256) 729-2636.

Sincerely,

T. E. Abney
Manager of ~~Licensing~~
and Industry Affairs

cc: See page 3

Enclosures
cc (Enclosures):
Mr. Michael T. Anderson
INEL Research Center
2151 North Boulevard
P.O. Box 1625
Idaho Falls, Idaho 83415-2209

Mr. William O. Long, Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. Paul E. Fredrickson, Branch Chief
U.S. Nuclear Regulatory Commission
Region II
61 Forsyth Street, S.W.
Suite 23T85
Atlanta, Georgia 30303

NRC Resident Inspector
Browns Ferry Nuclear Plant
10833 Shaw Road
Athens, Alabama 35611

ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 3

SUPPLEMENTAL INFORMATION REQUESTED DURING THE STAFF'S DECEMBER 2, 1999, ON-SITE PROPOSED RISK-INFORMED INSERVICE INSPECTION PROGRAM DOCUMENTATION REVIEW MEETING AND DURING SUBSEQUENT COMMUNICATIONS

I. Purpose

TVA's letter to NRC dated November 10, 1999, invited the staff to the BFN site to review the proposed BFN Unit 3 RI-ISI program supporting documentation. The staff accepted this offer and conducted a review on December 1 and 2, 1999. On December 2, 1999, the staff met with TVA personnel and requested TVA to provide additional information as a result of the review. The purpose of this enclosure is to reply to the staff's request for additional information.

The staff requested TVA to provide the information contained in Section II at the site meeting and the information contained in Section III during subsequent communications.

II. NRC Requested information

NRC's Request Number 1

Modify the failure rate for Intergranular Stress Corrosion Cracking (IGSCC) Category C and E welds to reflect mitigative actions previously implemented.

TVA's Response

The change in failure rate for IGSCC Category C and E welds resulted in a lower total core damage frequency (CDF). No additional segments were determined to be high safety significant (HSS) when compared to the new CDF.

NRC's Request Number 2

Perform a further evaluation to determine if any additional IGSCC Category "A" welds would require inspection based on the modified failure rates.

TVA's Response

One weld inspection was added to an existing HSS segment in the Reactor Water Cleanup system (RWCU). Weld RWCU-3-001-G014 in segment 3-069-001 was the result of recalculation of risk reduction worth (RRW) for each individual Category A weld. It was the only inspection added as a result of Category C and E failure rate changes.

NRC's Request 3

Provide the Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) with and without operator actions for each individual segment including the risk reduction worth (RRW) for each case.

TVA's Response

Enclosure 2 provides a list of the CDF and LERF with and without operator actions for each individual segment including the RRW for each case.

This information had been supplied previously on a system basis, without the RRW values. For cases where the RRW was greater than 1.001 and the Expert Panel did not consider the segment HSS, the logic leading to that conclusion is provided below.

TVA reevaluated the RRW for each piping segment, with and without operator action. The evaluation identified ten pipe segments where the RRW was greater than 1.001 when "no operator action" is credited in the analysis. In a meeting on December 16, 1999, the Expert Panel reviewed the documentation in detail and re-confirmed their previous conclusions regarding the significance of segments where credit was taken for operator action. This will be documented in Expert Panel meeting minutes which are maintained as retrievable records as part of the normal Expert Panel process.

Basis For Expert Panel Conclusion Regarding Ten Segments With RRW Greater Than 1 When No Operator Actions Are Taken.

For each of the segments where the RRW with operator action is 1.000, and the RRW with "no operator action" is greater than 1.001, the consequence without operator action could be a accumulation of water in the reactor building basement. The result of this water accumulation could result in the postulated loss of Residual Heat Removal (RHR) and

Core Spray (CS) pumps due to submerging of the pumps or total loss of suction source. The postulated events would only occur following "no operator action" and would require an extended period of time to occur. The Expert Panel conducted a thorough review of the actions that would result from a leak in any of these segments. The following was considered:

Leak Observation:

- Operations performs periodic observations in the reactor building a minimum of once each shift. These observations include looking for water leaks in all areas of the reactor building.
- Personnel in other plant departments such as, RadChem, Security, Maintenance, Engineering, and Plant fire watch frequently work in areas where any leaking water from these segments would accumulate. Plant personnel are expected to notify appropriate Operations personnel following the observation of any unusual conditions including fluid leaks.
- The areas that could exhibit leakage are located where personnel routinely walk in the building, not in untraveled areas.
- Leaks from segments would fall and accumulate to a normally dry concrete floor. The floor is open for the most part and not restricted by equipment to allow observation of water accumulation.

Leak Detection:

- Water accumulated on the reactor building floor would flow to the installed floor drains which are routed to the building sumps. The sumps are an integral part of the reactor building floor and equipment drain system and are equipped with sump pumps. The sumps have

installed limit switches and alarms. The sump pumps are controlled by these limit switches.

- Inleakage goals are established by plant management at a rate of less than nine gallons per minute for a 24 hour average for all inleakage from the three units floor drains systems. Inleakage is reviewed in each plan of the day meeting.

The reactor building floor and equipment drains are monitored by Operations personnel each shift for changes that would indicate a new source of leakage. This would detect a small leak. The following alarms provide notification of increase sump levels.

- High level detected in the sump starts one sump pump. The Radwaste Operator monitors pump run times for excessive operation.
- High High level detected in the sump starts the second sump pump and annunicates in the radwaste panel. The Radwaste Operator notifies the main control room for the annunicated condition. This an Emergency Operating Instructions (EOI)-3 entry condition. EOI-3 requires actions to mitigate the leak. If these actions are not successful, the Unit is shutdown.
- Torus level is monitored by Operations in the main control room. An abnormal level is an EOI-2 entry condition. EOI-2 requires actions to mitigate the leak. If these actions are not successful, the Unit is shutdown.
- In addition to sump level monitors, each reactor building basement room has installed level switches. These switches independently and individually annunciate in the main control room. Each room level annunciation requires EOI-3 entry. EOI-3 requires actions to mitigate the leak. If these actions are not successful, the Unit is shutdown.

Leak Isolation:

- Operations training includes instruction in the EOIs, periodic refresher training, and simulation of all EOI-2 and -3 entry conditions and response actions on a periodic basis. Simulator scenarios used for periodic training include both small leaks and catastrophic pipe failures.
- The specific method of isolation for each postulated leak for which operator action is credited was reviewed by the Expert Panel. Methods of isolation include closing valves and/or securing pumps.

(Leak Isolation Continued)

In each specific case, location of the required valve(s) and or pump(s), accessibility, local and remote operational capability, procedural guidance and training was considered. In each of the ten cases reviewed, the Expert Panel reconfirmed the original determination that appropriate operator action will be taken to isolate postulated leaks.

NRC's Request Number 4

Provide the welds added for defense in depth consideration.

TVA's Response

During a recent program review, it was noted that few non-augmented American Society of Mechanical Engineers (ASME) Section XI welds were included in the inspection program. Defense in depth was reviewed. This review included reconsideration of various degradation mechanisms and ASME Section XI, Code Class 2 welds, including welds in segments determined to be low safety significant. As a result of this review, a total of 14 welds have been added to the proposed inspection program.

Five of the 14 are Code Class 1 welds and were added to address thermal fatigue. Nine of the 14 welds address ASME Section XI, Code Class 2 welds. The Code Class 2 welds include five of the segments discussed above which, without operator actions result in RRWs greater than 1.001. The following provides a list of the fourteen Code Class 1 and 2 welds added to the inspection program.

Item 1: **ASME Code Class 1 Welds Added For Thermal Fatigue**

System 003 - Feedwater

Potential cold water injection into a hot pipe was identified at the reactor core isolation cooling (RCIC) and high pressure coolant injection (HPCI) injection points. The connections have thermal tees designed and installed. Welds GFW-3-02 and GFW-3-19 were added to the program and will be examined.

System 069 - Reactor Water Cleanup

Potential cold water injection into a hot pipe was identified at the control rod drive re-route injection point. These connections have thermal tees designed and installed. Weld RWCU-3-007-G004 was added to the program and will be examined.

System 074 - Residual Heat Removal

There is potential turbulent penetration into the RHR lines where they branch off the reactor water recirculation lines. Welds RHR-3-002-G003 and RHR-3-002-G001 were added to the program and will be examined. In addition, weld DRHR-3-19 is subject to this mechanism, but has already been selected for examination for IGSCC. That examination will detect any flaw due to this secondary degradation mechanism. These three welds are the first weld in each of the branch lines and as such are the welds which would be subject to the turbulent penetration.

System 075 - Core Spray

There is potential thermal stratification in segments 3-075-001 and 3-075-002 if there is backflow from a small leak in FCV 75-54 or FCV 75-26. These areas would also be subject to injection of cooler water into a warmer line upon CS initiation. Welds DSCS-3-01, DSCS-3-02, DCS-3-04, DSCS-3-07, DSCS-3-08, and DSCS-3-09 in these areas have already been selected for examination due to IGSCC. Those examinations will also detect any flaw due to this secondary degradation mechanism. The above welds (three in each segment) are those which are subject to thermal fatigue as a secondary degradation mechanisms.

Five welds were added for thermal fatigue. Additionally, one weld in the RHR system and six welds in the Core Spray system were already selected for examination due to IGSCC. These examinations will also detect flaws subject to thermal fatigue as a potential secondary degradation mechanism.

Item 2: **ASME Code Class 2 Welds Added For Segment With RRWs Greater Than 1.001 With No Operator Actions**

System 071 - Reactor Core Isolation Cooling

In addition, this weld is located in a segment discussed above where the RRW is greater than 1.001 when no operator actions are taken. This weld is located on the RCIC pump suction line.

Weld TRCIC-3-3-061 was added to the program and will be examined. This weld was added to represent non-augmented inspection coverage of Code Class 2 systems.

System 074 - Residual Heat Removal

Welds TRHR-3-246, TRHR-3-293, TRHR-3-222, and TRHR-3-281 were added to the program and will be examined. These welds were added to represent non-augmented inspection coverage for Code Class 2 systems. In addition, these welds are located in segments discussed above where the RRWs are greater than 1.001 when no operator actions are taken. These welds are located on the RHR pump suction lines .

Item 3: **ASME Code Class 2 Welds Added For Additional System Coverage**

System 001 - Main Steam

Welds DSAS-3-03 and DSMS-3-15 were added to the program and will be examined. There were no Code Class 2 welds proposed for inspection in the MS system. Two welds were added to represent non-augmented inspection coverage of Code Class 2 system. These welds are located in the turbine building.

System 073 - High Pressure Coolant Injection

Welds THPCI-3-107 and THPCI-3-109 were added to the program and will be examined. There were no Code Class 2 welds proposed for inspection in the HPCI system. Two welds were added to represent non-augmented inspection coverage of Code Class 2 system. These welds are on the HPCI steam supply line .

NRC's Request Number 5

Provide clarifications regarding the augmented programs that are not included in the RI-ISI program.

TVA's Response

All augmented programs listed in 3-SI-4.6.G other than NUREG-0313 Category A welds susceptible to IGSCC are unaffected by this submittal and all examinations committed in those programs will continue. None of those examinations are included in any of the tables in the submittal. The programs include:

- Feedwater nozzles (NUREG-0619)
- CRD return line reroute (NUREG-0619)
- Reactor vessel interior examinations
- Weld inspection for pipe whip protection

NRC's Request 6

Provide clarifications regarding the calculations used to rank segments and the risk evaluation criteria provided in the Westinghouse Owners Group Topical Report WCAP-14572.

TVA's Response

Calculations performed include initial calculations to rank all the segments, change in risk calculations for all systems and for the plant, and RRW calculations which identify which welds to inspect within each HSS segment.

In those cases where segments of different consequences were combined in a single segment, the segment part with the highest pipe failure related CDF or LERF was used to represent the segment in all the calculations.

WCAP-14572, revision 1, paragraph 4.4.2 risk/safety evaluation criteria are met.

ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 3

LIST OF CORE DAMAGE FREQUENCY AND LARGE EARLY RELEASE FREQUENCY WITH AND WITHOUT OPERATOR ACTIONS FOR EACH INDIVIDUAL SEGMENT INCLUDING THE RISK REDUCTION WORTH FOR EACH CASE

001 Main Steam

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-001-001	18" - 24" supply line from MS header to High pressure turbine	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-002	2-6" supply line from MS header to RFP Turbines "A", "B", and "C" at HPSVs FCV 1-127, 135, and 143; and valves FCV-1-172, 155, 173, 156, 176B and	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-003	8" discharge line from Turb Bypass Valve FCV 1-61 to Condenser "A"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-004	8" discharge line from Turb Bypass Valve FCV 1-64 to Condenser "A"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-005	8" discharge line from Turb Bypass Valve FCV 1-67 to Condenser "A"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-006	8" discharge line from Turb Bypass Valve FCV 1-68 to Condenser "B"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-007	8" discharge line from Turb Bypass Valve FCV 1-65 to Condenser "B"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-008	8" discharge line from Turb Bypass Valve FCV 1-62 to Condenser "B"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-009	8" discharge line from Turb Bypass Valve FCV 1-69 to Condenser "C"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-010	8" discharge line from Turb Bypass Valve FCV 1-66 to Condenser "C"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-011	8" discharge line from Turb Bypass Valve FCV 1-63 to Condenser "C"	2.23E-10	1.000	2.23E-10	1.000	6.25E-11	1.000	6.25E-11	1.000	The segment has low safety significance
3-001-012	42" discharge line from HP Turbine to Moisture Separator "A1" w/ 24" branch to FCV 5-1 in No. 1 Ext steam line	5.29E-10	1.000	5.29E-10	1.000	1.48E-10	1.000	1.48E-10	1.000	The segment has low safety significance
3-001-013	42" discharge line from HP Turbine to Moisture Separator "C1"	4.70E-10	1.000	4.70E-10	1.000	1.32E-10	1.000	1.32E-10	1.000	The segment has low safety significance
3-001-014	42" discharge line from HP Turbine to Moisture Separator "B1" w/ 24" branch to No. 1 Ext steam line	5.29E-10	1.000	5.29E-10	1.000	1.48E-10	1.000	1.48E-10	1.000	The segment has low safety significance
3-001-015	42" discharge line from HP Turbine to Moisture Separator "C2"	3.62E-10	1.000	3.62E-10	1.000	1.01E-10	1.000	1.01E-10	1.000	The segment has low safety significance
3-001-016	42" discharge line from HP Turbine to Moisture Separator "B2"	3.62E-10	1.000	3.62E-10	1.000	1.01E-10	1.000	1.01E-10	1.000	The segment has low safety significance
3-001-017	42" discharge line from HP Turbine to Moisture Separator "A2"	4.70E-10	1.000	4.70E-10	1.000	1.32E-10	1.000	1.32E-10	1.000	The segment has low safety significance
3-001-018	36" supply line from Moisture Separator "A1" to LP Turbine "A"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-019	36" supply line from Moisture Separator "B1" to LP Turbine "B"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance

001 Main Steam

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel
3-001-020	36" supply line from Moisture Separator "C1" to LP Turbine "C"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-021	36" supply line from Moisture Separator "C2" LP Turbine "C"	6.34E-10	1.000	6.34E-10	1.000	1.77E-10	1.000	1.77E-10	1.000	The segment has low safety significance
3-001-022	36" supply line from Moisture Separator "B2" LP Turbine "B"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-023	36" supply line from Moisture Separator "A2" LP Turbine "A"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-024	52" discharge line from RFP Turbine "A" to Condenser "A"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-025	52" discharge line from RFP Turbine "B" to Condenser "B"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-026	52" discharge line from RFP Turbine "C" to Condenser "C"	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-001-027	10" Supply line to RFPT LP header from Moisture Separator B1	3.69E-10	1.000	3.69E-10	1.000	1.03E-10	1.000	1.03E-10	1.000	The segment has low safety significance
3-001-028	10" Supply line to RFPT LP header from Moisture Separator C1	3.69E-10	1.000	3.69E-10	1.000	1.03E-10	1.000	1.03E-10	1.000	The segment has low safety significance
3-001-029	10" - 8" RFPT LP steam supply header to LPSVs FCV 1-123, 131, and 139	8.73E-10	1.000	8.73E-10	1.000	2.45E-10	1.000	2.45E-10	1.000	The segment has low safety significance
3-001-036	26" discharge line from Reactor to penetration X-7A including valves PCV-1-4, 179, 5 and penetrations X-34A	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-001-037	26" discharge line from Reactor to penetration X-7B including valves PCV-1-18, 19, 22, 23 and penetrations X-34B and X-30B	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-001-038	26" discharge line from Reactor to penetration X-7C including valves PCV-1-30, 31, 34, and penetrations X-34C and X-30C	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-001-039	26" discharge line from Reactor to penetration X-7D including valves PCV-1-41, 180, 42 and penetrations X-34D and X-30D	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-001-040	1" instrument line from penetrations X-34A and X-30A to FT 1-13	1.78E-09	1.000	1.78E-09	1.000	4.99E-10	1.000	4.99E-10	1.000	The segment has low safety significance
3-001-041	1" instrument line from penetrations X-34B and X-30B to FT 1-25	1.78E-09	1.000	1.78E-09	1.000	4.99E-10	1.000	4.99E-10	1.000	The segment has low safety significance
3-001-042	1-2" drain line from FCV-1-14, 26, 37, and 51 and from RCIC/HPCI turbine steam supply lines to FCV 1-55	3.73E-10	1.000	3.73E-10	1.000	1.04E-10	1.000	1.04E-10	1.000	The segment has low safety significance

001 Main Steam

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-001-043	1" instrument line from penetrations X-34D and X-30E to FT 1-50	1.78E-09	1.000	1.78E-09	1.000	4.99E-10	1.000	4.99E-10	1.000	The segment has low safety significance
3-001-044	1" instrument line from penetrations X-34C and X-30C to FT 1-36	1.78E-09	1.000	1.78E-09	1.000	4.99E-10	1.000	4.99E-10	1.000	The segment has low safety significance
3-001-045	24"-26" discharge line from penetration X-7A to Main Steam Header	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-046	24"-26" discharge line from penetration X-7B to Main Steam Header	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-047	3" discharge line from FCV-1-55 to FCV-1-56	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-048	24"-26" discharge line from penetration X-7C to Main Steam Header	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-049	24"-26" discharge line from penetration X-7D to Main Steam Header	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	4.08E-10	1.000	The segment has low safety significance
3-001-050	10" discharge line from MS Relief PCV-1-179 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-051	10" discharge line from MS Relief PCV-1-5 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-052	10" discharge line from MS Relief PCV-1-4 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-053	10" discharge line from MS Relief PCV-1-23 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-054	10" discharge line fromMS Relief PCV-1-22 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-055	10" discharge line from MS Relief PCV-1-19 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-056	10" discharge line from MS Relief PCV-1-18 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-057	10" discharge line from MS Relief PCV-1-30 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-058	10" discharge line from MS Relief PCV-1-31 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-059	10" discharge line from MS Relief PCV-1-34 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-060	10" discharge line from MS Relief PCV-1-42 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-061	10" discharge line from MS Relief PCV-141 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-001-062	10" discharge line from MS Relief PCV-1-180 to Suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

002 Condensate and Demineralized Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-002-001	18" suction header to RFPs A, B, & C and S/U bypass valve LCV 3-53 from FCVs 2-124, 125, 126	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-002	18" line from heater "C4" through heater "C3" to FCV 2-126	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-003	18" line from heater "B4" through heater "B3" to FCV 2-125	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-004	18" line from heater "A4" through heater "A3" to FCV 2-124	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-005	18" line from heater "A5" to heater "A4"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-006	18" line from FCV 2-72 through drain cooler "A5" to heater "A5"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-007	18" line from heater "B5" to heater "B4"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-008	18" line from FCV 2-84 through drain cooler "B5" to heater "B5"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-009	18" line from heater "C5" to heater "C4"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-010	18" line from FCV 2-96 through drain cooler "C5" to heater "C5"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-011	10" - 30" CBP Disch Header to FCVs 2-72, 84, & 96 and Condenser Recirc short cycle valve FCV-2-29A	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-012	14" - 18" CBP A discharge	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-013	14" - 18" CBP B discharge	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-014	14" - 18" CBP C discharge	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance
3-002-015	18"-30" supply line from Demineralizers to Condensate Booster pumps "A", "B", "C"	1.49E-11	1.000	1.49E-11	1.000	4.17E-12	1.000	4.17E-12	1.000	The segment has low safety significance
3-002-016	10" makeup line from FCV-2-611 to Hotwell "A"	5.02E-10	1.000	5.02E-10	1.000	1.41E-10	1.000	1.41E-10	1.000	The segment has low safety significance
3-002-017	4" makeup bypass line around LCV 2-7	5.02E-10	1.000	5.02E-10	1.000	1.41E-10	1.000	1.41E-10	1.000	The segment has low safety significance
3-002-018	3"-10" line from Turbine penetration to 2-648 and CHK-2-640	1.26E-09	1.000	1.26E-09	1.000	3.52E-10	1.000	3.52E-10	1.000	The segment has low safety significance
3-002-019	24" cross connection line from Hotwell "A" to Hotwell "B"	6.95E-13	1.000	6.95E-13	1.000	1.94E-13	1.000	1.94E-13	1.000	The segment has low safety significance
3-002-020	24" cross connection line from Hotwell "B" to Hotwell "C"	6.95E-13	1.000	6.95E-13	1.000	1.94E-13	1.000	1.94E-13	1.000	The segment has low safety significance
3-002-021	36" suction header from Hotwell "A", "B", "C" to Condensate pumps "A", "B", "C"	4.40E-14	1.000	4.40E-14	1.000	1.23E-14	1.000	1.23E-14	1.000	The segment has low safety significance
3-002-022	18-30" Condensate Pump discharge header to Steam Packing Exhauster	1.49E-11	1.000	1.49E-11	1.000	4.17E-12	1.000	4.17E-12	1.000	The segment has low safety significance

002 Condensate and Demineralized Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-002-023	30" line from Steam Packing Exhauster to Demineralizer inlets	1.01E-11	1.000	1.01E-11	1.000	2.83E-12	1.000	2.83E-12	1.000	The segment has low safety significance
3-002-024	16" SPE bypass	1.96E-11	1.000	1.96E-11	1.000	5.48E-12	1.000	5.48E-12	1.000	The segment has low safety significance
3-002-025	10" - 14" Supply to SJAEs from Cond Pump Discharge header	4.94E-11	1.000	4.94E-11	1.000	1.38E-11	1.000	1.38E-11	1.000	The segment has low safety significance
3-002-026	8" Supply to Off Gas Condenser from Cond Pump Discharge header	1.15E-10	1.000	1.15E-10	1.000	3.22E-11	1.000	3.22E-11	1.000	The segment has low safety significance
3-002-027	8" - 14" Discharge from SJAEs & Off Gas Condenser	1.15E-10	1.000	1.15E-10	1.000	3.22E-11	1.000	3.22E-11	1.000	The segment has low safety significance
3-002-028	10" Bypass line from Turb Bldg penetration to 24" Aluminum CST3 Header	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-029	10" Condenser makeup line from 20" CST3 header to Turb Bldg penetration	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-030	20" Aluminum header from steel header from CST3 to steel header going to Rx	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-031	20" Aluminum header from steel header from CST3 to Rx bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-032	20" steel CST header from aluminum portion to Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-033	20" steel CST header in Rx Bldg to HPCI test connection & blind flange	0.00E+00	1.000	4.34E-10	1.000	0.00E+00	1.000	1.22E-10	1.000	The segment has low safety significance
3-002-034	24" Aluminum CST header in Rx Bldg to Safety significanceSystems Supply header	0.00E+00	1.000	2.73E-10	1.000	0.00E+00	1.000	7.64E-11	1.000	The segment has low safety significance
3-002-035	20" header from CST3 through FCV 2-167 and Unit 1 header to aluminum header and cross-tie valve 0-2-701	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-002-036	20" header from CST2 through FCV 2-166 and Unit 1 header to aluminum header and cross-tie valve 0-2-701	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

003 Feedwater

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-003-001	1"-2" instrument line from Reactor N12A nozzle to penetrations X-17A & X-17B	5.28E-09	1.000	5.28E-09	1.000	1.48E-09	1.000	1.48E-09	1.000	The segment has low safety significance
3-003-002	1"-2" instrument line from Reactor N16A nozzle to penetration X-28C	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-003	1"-2" instrument line from Reactor N11A nozzle penetration X-28B	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-004	1" instrument line from RPV head vent N7 nozzle at refuel floor penetration to penetration X-28E	2.44E-10	1.000	2.44E-10	1.000	6.84E-11	1.000	6.84E-11	1.000	The segment has low safety significance
3-003-005	1" instrument line from high pressure seal leakoff N13 nozzle to penetration X-28F	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-003-006	24" supply line from penetration X-9A to HCV-3-67	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-007	24" supply line from penetration X-9B to HCV-3-66	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-008	24" supply line from steam tunnel wall to penetration X-9A	6.75E-10	1.000	6.75E-10	1.000	1.89E-10	1.000	1.89E-10	1.000	The segment has low safety significance
3-003-009	24" supply line from steam tunnel wall to penetration X-9B	1.02E-08	1.000	1.02E-08	1.000	2.86E-09	1.000	2.86E-09	1.000	The segment has low safety significance
3-003-010	1" inst lines from penetration X-17B to ECKV-3-816	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-011	1" inst lines from penetration X-17A to ECKV-3-817	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-012	1" inst lines from penetration X-28C to ECKV-3-829	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-013	1" inst lines from penetration X-28B to ECKV-3-830A	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-014	1" inst lines from penetration X-28E to ECKV-3-835	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-003-015	1" inst lines from penetration X-28F to ECKV-3-837	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-003-016	1" instrument line from RPV head vent at refuel floor penetration to 10-500, FCV-3-98 and MS line C	3.28E-10	1.000	3.28E-10	1.000	9.18E-11	1.000	9.18E-11	1.000	The segment has low safety significance
3-003-017	1"-2" RPV head vent from N7 nozzle thru primary containment	4.42E-10	1.000	4.42E-10	1.000	1.24E-10	1.000	1.24E-10	1.000	The segment has low safety significance
3-003-018	1"-2" instrument line from Reactor N12B nozzle to penetration X-26A and X-26B	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-019	1"-2" instrument line from Reactor N16B nozzle to penetration X-29C	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance

003 Feedwater

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-003-020	1"-2" instrument line from Reactor N11B nozzle to penetration X-29D	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-021	1" inst lines from penetration X-26A to ECKV-3-819	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-022	1" inst lines from penetration X-26B to ECKV-3-818	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-023	1" inst lines from penetration X-29C to ECKV-3-836	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-024	1" inst lines from penetration X-29D to ECKV-3-833	6.46E-09	1.000	6.46E-09	1.000	1.81E-09	1.000	1.81E-09	1.000	The segment has low safety significance
3-003-025	18"-30" line from FCV-3-75, 76, 77 to steam tunnel wall	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-026	20" cross connection line from FW Heater "3A2" to FW Heater "3A1"	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-027	20" cross connection line from FW Heater "3B2" to FW Heater "3B1"	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-028	20" cross connection line from FW Heater "3C2" to FW Heater "3C1"	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-029	18" inlet line to FWH 3A2 from FCV 3-38	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-030	18" inlet line to FWH 3B2 from FCV 3-31	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-031	18" inlet line to FWH 3C2 from FCV 3-24	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-032	18" - 30" header from RFP discharge valves FCV 3-5, 3-12, 3-19 to FWH isolation valves FCV 3-24, 3-31, 3-38	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-033	18" discharge line from RFW Pump "C" to FCV-3-5 and FCV-3-6	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-034	18" discharge line from RFW Pump "B" to FCV-3-12 and FCV-3-13	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-035	18" discharge line from RFW Pump "A" to FCV-3-19 and FCV-3-20	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-036	20" supply line from HCV-3-67 to 12" inlet piping - ring header	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-037	12" supply line from 20" ring header to Reactor (N4A)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-038	12" supply line from 20" ring header to Reactor (N4B)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-039	12" supply line from 20" ring header to Reactor (N4C)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-040	20" supply line from HCV-3-66 to 12" inlet piping - ring header	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance

003 Feedwater

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-003-041	12" supply line from 20" ring header to Reactor (N4F)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-042	12" supply line from 20" ring header to Reactor (N4E)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-043	12" supply line from 20" ring header to Reactor (N4D)	5.65E-08	1.005	5.65E-08	1.005	1.58E-08	1.005	1.58E-08	1.004	The segment has high safety significance
3-003-044	line from FW Heater 3A1 to FCV-3-75	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-045	line from FW Heater 3B1 to FCV-3-76	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance
3-003-046	line from FW Heater 3C1 to FCV-3-77	2.16E-10	1.000	2.16E-10	1.000	6.05E-11	1.000	6.05E-11	1.000	The segment has low safety significance

023 Residual Heat Removal Service Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
0-023-001	14"-24" discharge line from Pumping station pumps "C1" & "C2" to Unit 1, 2, & 3 Rx Bldg penetration	1.64E-10	1.000	1.64E-10	1.000	4.59E-11	1.000	4.59E-11	1.000	The segment has low safety significance
0-023-002	14"-24" discharge line from Pumping station pumps "A1" & "A2" to Unit 1, 2, & 3 Rx Bldg penetration	1.64E-10	1.000	1.64E-10	1.000	4.59E-11	1.000	4.59E-11	1.000	The segment has low safety significance
0-023-003	14"-24" discharge line from Pumping station pumps "B1" & "B2" to Unit 1, 2, & 3 Rx Bldg penetration	1.75E-10	1.000	1.75E-10	1.000	4.90E-11	1.000	4.90E-11	1.000	The segment has low safety significance
0-023-004	14"-24" discharge line from Pumping station pumps "D1" & "D2" to Unit 1, 2, & 3 Rx Bldg penetration	3.20E-10	1.000	3.20E-10	1.000	8.96E-11	1.000	8.96E-11	1.000	The segment has low safety significance
1-023-001	12" discharge line from FCV-23-40 and RHR HX A to Unit 1 Rx Bldg penetration	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-002	12" discharge line from RHR heat exchanger "C" to FCV-23-40	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-003	14"-16" supply line from chk vlv 23-550 to Unit 1 RHR HX "C"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-004	16" Supply line from Unit 1 Rx Bldg wall to Chk Vlv 23-550	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-005	16" Supply line from Unit 1 Rx Bldg wall to Chk Vlv 23-510	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-006	14"-16" supply line from chk vlv 23-510 to Unit 1 RHR HX "A"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-007	12" discharge line from RHR heat exchanger "D" to FCV-23-52	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-008	12" discharge line from FCV-23-52 and FCV-23-46 to Unit 1 Rx Bldg penetration	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-009	14"-16" supply line from chk vlv 23-569 to Unit 1 RHR HX "D" & FCV-23-57 crosstie to RHR	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-010	12" discharge line from RHR heat exchanger "B" to FCV-23-46	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-011	14"-16" supply line from chk vlv 23-530 to Unit 1 RHR HX "B"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-012	16" Supply line from Unit 1 Rx Bldg wall to Chk Vlv 23-569	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-023-013	16" Supply line from Unit 1 Rx Bldg wall to Chk Vlv 23-530	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-001	12" discharge line from FCV-23-40 and FCV-23-34 to Unit 2 Rx Bldg penetration	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

023 Residual Heat Removal Service Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
2-023-002	12" discharge line from RHR heat exchanger "C" to FCV-23-40	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-003	14"-16" supply line from chk vlv 23-581 to Unit 2 RHR HX "C"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-004	12" discharge line from RHR heat exchanger "A" to FCV-23-34	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-005	16" Supply line from Unit 2 Rx Bldg wall to Chk Vlv 23-581	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-006	16" Supply line from Unit 2 Rx Bldg wall to Chk Vlv 23-579	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-007	14"-16" supply line from chk vlv 23-579 to Unit 2 RHR HX "A"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-008	12-14" discharge line from RHR heat exchanger "D" to FCV-23-52	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-009	12-14" discharge line from FCV-23-52 and FCV-23-46 to Unit 2 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-010	14"-16" supply line from chk vlv 23-582 to Unit 2 RHR HX "D"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-011	14" discharge line from RHR heat exchanger "B" to FCV-23-46	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-012	10"-16" supply line from chk vlv 23-580 to Unit 2 RHR HX "B" & FCV-23-57 crosstie to RHR	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-013	16" Supply line from Unit 2 Rx Bldg wall to Chk Vlv 23-582	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-023-014	16" Supply line from Unit 2 Rx Bldg wall to Chk Vlv 23-580	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-023-001	12" discharge line from FCV-23-40 and FCV-23-34 to Unit 3 Rx Bldg penetration	7.33E-13	1.000	7.33E-13	1.000	2.05E-13	1.000	2.05E-13	1.000	The segment has low safety significance
3-023-002	12" discharge line from RHR heat exchanger "C" to FCV-23-40	3.79E-12	1.000	3.79E-12	1.000	1.06E-12	1.000	1.06E-12	1.000	The segment has low safety significance
3-023-003	14"-16" supply line from chk vlv 23-581 to Unit 3 RHR HX "C"	3.55E-10	1.000	3.55E-10	1.000	9.94E-11	1.000	9.94E-11	1.000	The segment has low safety significance
3-023-004	12" discharge line from RHR heat exchanger "A" to FCV-23-34	3.79E-12	1.000	7.20E-10	1.000	1.06E-12	1.000	2.02E-10	1.000	The segment has low safety significance
3-023-005	16" Supply line from Unit 3 Rx Bldg wall to Chk Vlv 23-581	2.87E-11	1.000	2.87E-11	1.000	8.04E-12	1.000	8.04E-12	1.000	The segment has low safety significance
3-023-006	16" Supply line from Unit 3 Rx Bldg wall to Chk Vlv 23-579	7.92E-10	1.000	7.92E-10	1.000	2.22E-10	1.000	2.22E-10	1.000	The segment has low safety significance
3-023-007	14"-16" supply line from chk vlv 23-579 to Unit 3 RHR HX "A"	3.55E-10	1.000	3.55E-10	1.000	9.94E-11	1.000	9.94E-11	1.000	The segment has low safety significance

023 Residual Heat Removal Service Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-023-008	12" discharge line from RHR heat exchanger "D" to FCV-23-52	3.79E-12	1.000	3.79E-12	1.000	1.06E-12	1.000	1.06E-12	1.000	The segment has low safety significance
3-023-009	12" discharge line from FCV-23-52 and FCV-23-46 to Unit 3 Rx Bldg penetration	0.00E+00	1.000	1.38E-10	1.000	0.00E+00	1.000	3.87E-11	1.000	The segment has low safety significance
3-023-010	14"-16" supply line from chk vlv 23-582 to Unit 3 RHR HX "D"	3.79E-10	1.000	3.79E-10	1.000	1.06E-10	1.000	1.06E-10	1.000	The segment has low safety significance
3-023-011	12" discharge line from RHR heat exchanger "B" to FCV-23-46	3.79E-12	1.000	3.79E-12	1.000	1.06E-12	1.000	1.06E-12	1.000	The segment has low safety significance
3-023-012	14"-16" supply line from chk vlv 23-580 to Unit 3 RHR HX "B"	3.79E-10	1.000	3.79E-10	1.000	1.06E-10	1.000	1.06E-10	1.000	The segment has low safety significance
3-023-013	16" Supply line from Unit 3 Rx Bldg wall to Chk Vlv 23-582	3.07E-11	1.000	3.07E-11	1.000	8.59E-12	1.000	8.59E-12	1.000	The segment has low safety significance
3-023-014	16" Supply line from Unit 3 Rx Bldg wall to Chk Vlv 23-580	3.07E-11	1.000	3.07E-11	1.000	8.59E-12	1.000	8.59E-12	1.000	The segment has low safety significance

024 Raw Cooling Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
0-024-002	20-30" RCW Pumps discharge header col C	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
1-024-001	24" RCW T2 header	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
1-024-002	12-20" RCW Unit 1 Rx Bldg header	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
1-024-003	10-14" Unit 1 RCW Booster pumps discharge to Rx Bldg penet	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
2-024-001	24-20" RCW T6/T5 header	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
2-024-003	12-20" RCW cross-tie header line from Unit 1 to Unit 3 header	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
2-024-004	10-14"RCW Booster Pump Discharge header in Unit 2 Rx Bldg	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
3-024-001	12-20" RCW Unit 3 Rx Bldg header	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
3-024-002	12-14" Unit 3 RCW Booster pumps discharge header to Unit 2, 3-24-751, and 3-24-739	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
3-024-003	24-20" RCW T13/T10 header	1.62E-09	1.000	1.62E-09	1.000	4.54E-10	1.000	4.54E-10	1.000	The segment has low safety significance
3-024-004	24-20" RCW T16 header	1.62E-09	1.000	1.62E-09	1.000	4.54E-10	1.000	4.54E-10	1.000	The segment has low safety significance
3-024-005	2" supply line from 20" RCW header at 24-731 to Control rod drive pumps 3A and	1.29E-10	1.000	1.29E-10	1.000	3.61E-11	1.000	3.61E-11	1.000	The segment has low safety significance
3-024-006	3-10" RCW supply to Recirc Pump 3A drive coolers from 24-739	2.30E-10	1.000	0.00E+00	1.000	6.44E-11	1.000	0.00E+00	1.000	The segment has low safety significance
3-024-007	3-10" RCW supply to Recirc Pump 3B drive coolers from 24-751	2.30E-10	1.000	0.00E+00	1.000	6.44E-11	1.000	0.00E+00	1.000	The segment has low safety significance
3-024-008	1-12" RCW Discharge header from Recirc Pump Drive coolers	3.86E-10	1.000	0.00E+00	1.000	1.08E-10	1.000	0.00E+00	1.000	The segment has low safety significance
3-024-009	12" RCW supply to RBCCW HX 3A from 24-713A	1.30E-10	1.000	1.30E-10	1.000	3.65E-11	1.000	3.65E-11	1.000	The segment has low safety significance
3-024-010	12" RCW supply to RBCCW HX 3B from 24-713B	1.30E-10	1.000	1.30E-10	1.000	3.65E-11	1.000	3.65E-11	1.000	The segment has low safety significance
3-024-011	6-16" RBCCW HX RCW Discharge header to Rx bldg wall	3.40E-11	1.000	3.40E-11	1.000	9.51E-12	1.000	9.51E-12	1.000	The segment has low safety significance
3-024-012	3-10" RCW supply to RFPT oil coolers from RCW pumps discharge header	6.30E-10	1.000	6.30E-10	1.000	1.76E-10	1.000	1.76E-10	1.000	The segment has low safety significance
3-024-013	12" RCW Supply to Main Turbine Oil Coolers	1.07E-10	1.000	1.07E-10	1.000	2.99E-11	1.000	2.99E-11	1.000	The segment has low safety significance
3-024-014	20-36" Unit 3 RCW pumps suction header	5.64E-11	1.000	5.64E-11	1.000	1.58E-11	1.000	1.58E-11	1.000	The segment has low safety significance

027 Condenser Circulating Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-027-001	4"-8" discharge line from condenser circulating water screen wash pump to intake pumping station	0.00E+00	1.000	4.56E-10	1.000	0.00E+00	1.000	1.28E-10	1.000	The segment has low safety significance
3-027-002	8"-10" suction line to condenser circulating water screen wash pump	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-027-003	78"-96" discharge line from condenser circulating water pumps through condensers "3A", "3B", and "3C" to turbine bldg wall	2.00E-09	1.000	2.00E-09	1.000	5.61E-10	1.000	5.61E-10	1.000	The segment has low safety significance

063 Standby Liquid Control

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-063-001	1 1/2"-2" discharge line from penetration to reactor N10	1.06E-08	1.000	1.06E-08	1.000	2.97E-09	1.000	2.97E-09	1.000	The segment has low safety significance
3-063-002	1 1/2"-2" discharge line from ISV-524 to penetration	1.15E-10	1.000	1.15E-10	1.000	3.23E-11	1.000	3.23E-11	1.000	The segment has low safety significance
3-063-003	1 1/2" discharge line from SLC pumps to FCV-63-8A & 8B, 63-518 & 522	1.73E-10	1.000	1.73E-10	1.000	4.86E-11	1.000	4.86E-11	1.000	The segment has low safety significance
3-063-004	1 1/2" discharge line from FCV-63-8A & 8B to ISV-524	1.23E-10	1.000	1.23E-10	1.000	3.43E-11	1.000	3.43E-11	1.000	The segment has low safety significance
3-063-005	2 1/2" supply line from SLC tank to SLC pumps, SHV 63-14 and SHV-502	8.59E-11	1.000	8.59E-11	1.000	2.40E-11	1.000	2.40E-11	1.000	The segment has low safety significance

067 Emergency Equipment Cooling Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
0-067-001	N EECW hdr from pump A3 to DGB	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
0-067-002	N EECW DGB hdr	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
0-067-003	S EECW hdr from pump B3 to DGB	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
0-067-004	S EECW DGB hdr	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
0-067-009	N EECW hdr from pump C3 to U3 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
0-067-010	S EECW hdr from pump D3 to U3 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-067-001	N EECW hdr in U1 Rx Bldg on 565' Elev.	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-067-002	S EECW hdr in U1 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
1-067-003	N EECW hdr in U1 Rx Bldg on 593' Elev.	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-067-011	N EECW hdr in U2 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
2-067-012	S EECW hdr in U2 Rx Bldg	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-067-001	N EECW hdr in U3 Rx Bldg on 565' Elev.	0.00E+00	1.000	4.17E-09	1.000	0.00E+00	1.000	1.17E-09	1.000	The segment has low safety significance
3-067-002	S EECW hdr in U3 Rx Bldg	0.00E+00	1.000	4.17E-09	1.000	0.00E+00	1.000	1.17E-09	1.000	The segment has low safety significance
3-067-003	N EECW hdr in U3 Rx Bldg on 593' Elev.	0.00E+00	1.000	6.51E-08	1.005	0.00E+00	1.000	1.82E-08	1.005	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-067-004	8" cross-tie line for RCW backup from 3-67-640 to FCV 67-50	0.00E+00	1.000	1.49E-08	1.001	0.00E+00	1.000	4.17E-09	1.001	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-067-005	8" cross-tie line for RCW backup from 2-67-575 to FCV-67-50, 3-67-580, 581	1.30E-10	1.000	1.30E-10	1.000	3.65E-11	1.000	3.65E-11	1.000	The segment has low safety significance
3-067-006	2 1/2" supply line from 3-67-583 (S hdr) and 3-67-655 (N hdr) to Core Spray pump room cooler "3B"	8.13E-12	1.000	2.33E-09	1.000	2.28E-12	1.000	6.51E-10	1.000	The segment has low safety significance
3-067-007	1"-4" discharge line from Core Spray pump room cooler "3B", RHR pump room coolers "3B" & "3D", RHR pump seal heat exchangers "3B" & "3D"	7.78E-10	1.000	2.99E-09	1.000	2.18E-10	1.000	8.36E-10	1.000	The segment has low safety significance
3-067-008	1"-3" supply line from 3-67-658 (N hdr) and 3-67-599 (S hdr) to RHR pump room coolers "3B" & "3D", RHR pump seal heat exchangers "3B" & "3D"	3.83E-10	1.000	3.83E-10	1.000	1.07E-10	1.000	1.07E-10	1.000	The segment has low safety significance
3-067-011	1"-3" Supply line from 3-67-637 (N hdr) and 3-67-557 (S hdr) to RHR pump room coolers "3A" & "3C"and RHR pump seal heat exchangers "3A" & "3C"	6.12E-10	1.000	6.12E-10	1.000	1.71E-10	1.000	1.71E-10	1.000	The segment has low safety significance

067 Emergency Equipment Cooling Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-067-012	2"-2 1/2" supply line from 3-67-540 (S hdr) and 3-67-647 (N hdr) to Core Spray pump room cooler "3A"	8.44E-12	1.000	2.41E-09	1.000	2.36E-12	1.000	6.76E-10	1.000	The segment has low safety significance
3-067-013	1"-10" discharge line from Core Spray pump room cooler "3A", RHR pump room coolers "3A" & "3C", RHR pump seal heat exchangers "3A" & "3C"	7.78E-10	1.000	8.73E-07	1.076	2.18E-10	1.000	2.44E-07	1.070	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-067-014	N EECW Unit 3 DGB header	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-067-015	S EECW Unit 3 DGB header	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-067-016	Supply line to DG 3D coolers from N & S DGB hdr	1.11E-10	1.000	1.11E-10	1.000	3.09E-11	1.000	3.09E-11	1.000	The segment has low safety significance
3-067-017	Supply line to DG 3C coolers from N & S DGB hdr	1.11E-10	1.000	1.11E-10	1.000	3.09E-11	1.000	3.09E-11	1.000	The segment has low safety significance
3-067-018	Supply line to DG 3B coolers from N & S DGB hdr	1.11E-10	1.000	1.11E-10	1.000	3.09E-11	1.000	3.09E-11	1.000	The segment has low safety significance
3-067-019	Supply line to DG 3A coolers from N & S DGB hdr	1.11E-10	1.000	1.11E-10	1.000	3.09E-11	1.000	3.09E-11	1.000	The segment has low safety significance

068 Reactor Recirculation

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-068-001	28" suction line from Reactor (N1A) to Recirculation pump "A"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has high safety significance
3-068-002	28" discharge line from Recirculation pump "A" to Recirc ring header	1.10E-08	1.001	1.10E-08	1.000	3.08E-09	1.001	3.08E-09	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to RRW being >=1.001.
3-068-003	22" line Recirc ring header "A"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.
3-068-004	12" discharge line from Recirc ring header "A" to Reactor (N2F)	1.52E-08	1.001	1.52E-08	1.001	4.25E-09	1.001	4.25E-09	1.001	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to RRW being >=1.001.
3-068-005	12" discharge line from Recirc ring header "A" to Reactor (N2G)	1.82E-07	1.017	1.82E-07	1.015	5.09E-08	1.017	5.09E-08	1.014	The segment has high safety significance
3-068-006	12" discharge line from Recirc ring header "A" to Reactor (N2H)	6.57E-07	1.066	6.57E-07	1.056	1.84E-07	1.066	1.84E-07	1.052	The segment has high safety significance
3-068-007	12" discharge line from Recirc ring header "A" to Reactor (N2J)	3.86E-07	1.038	3.86E-07	1.032	1.08E-07	1.038	1.08E-07	1.030	The segment has high safety significance
3-068-008	12" discharge line from Recirc ring header "A" to Reactor (N2K)	1.66E-07	1.016	1.66E-07	1.014	4.64E-08	1.016	4.64E-08	1.013	The segment has high safety significance
3-068-009	12" discharge line from Recirc ring header "B" to Reactor (N2E)	7.48E-09	1.000	7.48E-09	1.000	2.09E-09	1.000	2.09E-09	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.
3-068-010	12" discharge line from Recirc ring header "B" to Reactor (N2D)	1.54E-07	1.015	1.54E-07	1.013	4.31E-08	1.015	4.31E-08	1.012	The segment has high safety significance
3-068-011	12" discharge line from Recirc ring header "B" to Reactor (N2C)	5.66E-07	1.056	5.66E-07	1.048	1.59E-07	1.056	1.59E-07	1.044	The segment has high safety significance
3-068-012	12" discharge line from Recirc ring header "B" to Reactor (N2B)	4.59E-07	1.045	4.59E-07	1.039	1.29E-07	1.045	1.29E-07	1.036	The segment has high safety significance
3-068-013	12" discharge line from Recirc ring header "B" to Reactor (N2A)	4.03E-07	1.039	4.03E-07	1.034	1.13E-07	1.039	1.13E-07	1.031	The segment has high safety significance
3-068-014	28" discharge line from Recirculation pump "B" to Recirc ring header	3.20E-09	1.000	3.20E-09	1.000	8.95E-10	1.000	8.95E-10	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.
3-068-015	22" line Recirc ring header "B"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.

068 Reactor Recirculation

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	
3-068-016	28" suction line from Reactor (N1B) to Recirculation pump "B"	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	Expert Panel Action Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.

069 Reactor Water Cleanup

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-069-001	6" discharge line from 20" RHR line to penetration X-14	1.52E-06	1.166	1.52E-06	1.141	4.25E-07	1.166	4.25E-07	1.128	The segment has high safety significance
3-069-002	6" discharge line from penetration X-14 throgh FCV 69-02 to regenerative heat exchanger "3A"	1.07E-10	1.000	1.07E-10	1.000	1.07E-10	1.000	1.07E-10	1.000	The segment has low safety significance
3-069-003	4"-8" line from regenerative heat exchanger "3B" to feedwater line B at penetration X-9B and to HPCI line	3.84E-09	1.000	3.84E-09	1.000	1.08E-09	1.000	1.08E-09	1.000	The segment has low safety significance
3-069-004	3"-6" line from non-regenerative heat exchanger "3B" to RWCU Recirculation pump room	0.00E+00	1.000	2.90E-10	1.000	0.00E+00	1.000	2.90E-10	1.000	The segment has low safety significance
3-069-005	3" supply line from non-regenerative heat exchanger room to RWCU recirculation pump "3A"	0.00E+00	1.000	2.90E-10	1.000	0.00E+00	1.000	2.90E-10	1.000	The segment has low safety significance
3-069-006	3" supply line from non-regenerative heat exchanger room to RWCU recirculation pump "3B"	0.00E+00	1.000	2.90E-10	1.000	0.00E+00	1.000	2.90E-10	1.000	The segment has low safety significance
3-069-007	3" discharge line to non-regenerative heat exchanger room from RWCU recirculation pump "3A"	0.00E+00	1.000	2.93E-10	1.000	0.00E+00	1.000	2.93E-10	1.000	The segment has low safety significance
3-069-008	3" discharge line to non-regenerative heat exchanger room from RWCU recirculation pump "3B"	0.00E+00	1.000	2.93E-10	1.000	0.00E+00	1.000	2.93E-10	1.000	The segment has low safety significance
3-069-009	3"-4" discharge line from RWCU Recirculation pump room wall to sludge pumps room wall	0.00E+00	1.000	2.93E-10	1.000	0.00E+00	1.000	2.93E-10	1.000	The segment has low safety significance
3-069-010	4" cross connection line from regenerative heat exchanger "3A" to regenerative heat exchanger "3B"	0.00E+00	1.000	1.95E-10	1.000	0.00E+00	1.000	1.95E-10	1.000	The segment has low safety significance
3-069-011	4" cross connection line from regenerative heat exchanger "3B" to regenerative heat exchanger "3A"	0.00E+00	1.000	1.95E-10	1.000	0.00E+00	1.000	1.95E-10	1.000	The segment has low safety significance
3-069-012	4" cross connection line from regenerative heat exchanger "3B" to regenerative heat exchanger "3C"	0.00E+00	1.000	1.95E-10	1.000	0.00E+00	1.000	1.95E-10	1.000	The segment has low safety significance
3-069-013	4" cross connection line from regenerative heat exchanger "3C" to regenerative heat exchanger "3B"	0.00E+00	1.000	1.95E-10	1.000	0.00E+00	1.000	1.95E-10	1.000	The segment has low safety significance
3-069-014	4" discharge line from regenerative heat exchanger "3C" to non-regenerative heat exchanger "3A"	0.00E+00	1.000	1.11E-10	1.000	0.00E+00	1.000	1.11E-10	1.000	The segment has low safety significance

069 Reactor Water Cleanup

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-069-015	4" supply line to regenerative heat exchanger "3C" and FCV-69-15 from sludge pumps room wall and FCV-8	0.00E+00	1.000	1.76E-10	1.000	0.00E+00	1.000	1.76E-10	1.000	The segment has low safety significance
3-069-016	4" cross connectionline from non-regenerative heat exchanger "3A" to non-regenerative heat exchanger "3B"	0.00E+00	1.000	1.95E-10	1.000	0.00E+00	1.000	1.95E-10	1.000	The segment has low safety significance
3-069-017	3"-4" effluent line from reactor cleanup dimineralizer tank "3A" & "3B" to RWCU regenerative heat exchanger	0.00E+00	1.000	2.93E-10	1.000	0.00E+00	1.000	2.93E-10	1.000	The segment has low safety significance
3-069-018	3"-4" influent line from sludge pumps room wall and FCV-8 to reactor cleanup dimineralizer tank "3A" & "3B"	0.00E+00	1.000	2.93E-10	1.000	0.00E+00	1.000	2.93E-10	1.000	The segment has low safety significance
3-069-019	2" drain from RPV bottom through 10-505 to 6" RWCU line between 69-500 & FCV 69-1	7.49E-10	1.000	7.49E-10	1.000	2.10E-10	1.000	2.10E-10	1.000	The segment has low safety significance

070 Reactor Building Closed Cooling Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-070-001	2 1/2" supply line from 8"x2 1/2" reducer to Reactor Water Recirc pump and motor	1.46E-09	1.000	1.46E-09	1.000	4.09E-10	1.000	4.09E-10	1.000	The segment has low safety significance
3-070-002	3/4"-2 1/2" discharge line from Reactor Water Recirc pump and motor "B" to 8x2 1/2 reducer	1.46E-09	1.000	1.46E-09	1.000	4.09E-10	1.000	4.09E-10	1.000	The segment has low safety significance
3-070-003	8" supply header from penetration X-23 to 8"x2 1/2" reducer and to drywell atmosphere cooling coils	9.08E-10	1.000	9.08E-10	1.000	2.54E-10	1.000	2.54E-10	1.000	The segment has low safety significance
3-070-004	3"-8" discharge line from 8"x2 1/2" reducer, and from drywell atmosphere cooling coils to penetration X-24	9.08E-10	1.000	9.08E-10	1.000	2.54E-10	1.000	2.54E-10	1.000	The segment has low safety significance
3-070-005	3"-4" supply line from 8" supply header thru FCV-70-16 & 18 to drywell atmos cooling coils A1 & A2	7.73E-10	1.000	7.73E-10	1.000	2.17E-10	1.000	2.17E-10	1.000	The segment has low safety significance
3-070-006	3"-6" supply line from 8" supply header thru FCV-70-20, 22 & 24 to drywell atmos cooling coils A3, A4 & A5	7.73E-10	1.000	7.73E-10	1.000	2.17E-10	1.000	2.17E-10	1.000	The segment has low safety significance
3-070-007	3"-4" supply line from 8" supply header thru FCV-70-26 & 28 to drywell atmos cooling coils B1 & B2	7.73E-10	1.000	7.73E-10	1.000	2.17E-10	1.000	2.17E-10	1.000	The segment has low safety significance
3-070-008	3-6" supply line from 8" supply header through FCV-70-30, 32 & 34 to drywell atmos cooling coils B3, B4 & B-5	7.73E-10	1.000	7.73E-10	1.000	2.17E-10	1.000	2.17E-10	1.000	The segment has low safety significance
3-070-009	1 1/2" discharge line from drywell equipment drain sump heat exchanger to 8" return line	1.14E-09	1.000	1.14E-09	1.000	3.20E-10	1.000	3.20E-10	1.000	The segment has low safety significance
3-070-010	1 1/2" supply line from 8" supply header to drywell equipment drain sump heat exchanger	1.14E-09	1.000	1.14E-09	1.000	3.20E-10	1.000	3.20E-10	1.000	The segment has low safety significance
3-070-011	3/4"-1" supply line from 8" supply header to Reactor Water Recirc motor "A"	1.46E-09	1.000	1.46E-09	1.000	4.09E-10	1.000	4.09E-10	1.000	The segment has low safety significance
3-070-012	3/4"-1" discharge line from Reactor Water Recirc motor "A" to 8" return line	1.46E-09	1.000	1.46E-09	1.000	4.09E-10	1.000	4.09E-10	1.000	The segment has low safety significance
3-070-013	8"-12" return line from penetration X-24 to non-regenerative heat exchanger "3A" and Fuel Pool heat exchangers "3A" & "3B" and to Closed Cooling water heat exchangers "3A"& "3B",	1.46E-09	1.000	1.46E-09	1.000	4.09E-10	1.000	4.09E-10	1.000	The segment has low safety significance
3-070-014	8-12" supply header from RBCCW pumps 3A & 3B to penet X-23, inter-tie valve 0-70-70, & FCV 70-48	1.14E-09	1.000	1.14E-09	1.000	3.20E-10	1.000	3.20E-10	1.000	The segment has low safety significance

070 Reactor Building Closed Cooling Water

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-070-015	2"-12" supply line from Closed Cooling water heat exchangers "3A" & "3B" to Closed Cooling water pumps "3A" & "3B" & inter-tie valves 0-FCV-70-638 & 69	9.32E-10	1.000	9.32E-10	1.000	2.61E-10	1.000	2.61E-10	1.000	The segment has low safety significance
3-070-016	1 1/4"-2" supply line from 8" supply header to reactor water recirc pump "A"	1.28E-09	1.000	1.28E-09	1.000	3.59E-10	1.000	3.59E-10	1.000	The segment has low safety significance
3-070-017	2 1/2"-2" discharge line to 8" return line from reactor water recirc pump "A"	1.28E-09	1.000	1.28E-09	1.000	3.59E-10	1.000	3.59E-10	1.000	The segment has low safety significance

071 Reactor Core Isolation Cooling

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-071-001	1" instrument line from MS line "C" FE-71-1A to penet X-51E and X-51F	1.83E-10	1.000	1.83E-10	1.000	5.12E-11	1.000	5.12E-11	1.000	The segment has low safety significance
3-071-002	1" instrument line from MS line "C" FE-71-1B to penet X-33E and X-33F	1.83E-10	1.000	1.83E-10	1.000	5.12E-11	1.000	5.12E-11	1.000	The segment has low safety significance
3-071-003	3" supply line from MS line "C" thru FE-71-1A & B to penetration X-10	5.03E-11	1.000	5.03E-11	1.000	1.41E-11	1.000	1.41E-11	1.000	The segment has low safety significance
3-071-004	3"-4" steam supply line from penetration X-10 to FCV-71-9, SHV-565, and Steam Supply drain pot CPOT-5	5.01E-11	1.000	1.06E-10	1.000	5.01E-11	1.000	1.06E-10	1.000	The segment has low safety significance
3-071-005	6" supply line from Aluminum CST Header to FCV-71-18 and RCIC pump PMP-19	0.00E+00	1.000	6.08E-10	1.000	0.00E+00	1.000	1.70E-10	1.000	The segment has low safety significance
3-071-007	2" discharge line from Barometric Condenser condensate pump to 6" RCIC pump suction line	7.86E-10	1.000	7.86E-10	1.000	2.20E-10	1.000	2.20E-10	1.000	The segment has low safety significance
3-071-008	2" - 6" discharge line from RCIC pump, PMP-19 to FCV-71-38, 39 , 34 & 25	1.23E-12	1.000	1.23E-12	1.000	3.44E-13	1.000	3.44E-13	1.000	The segment has low safety significance
3-071-009	8"-12" steam exhaust line from RCIC drive turbine, TRB-9 to penetration X-212 suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-071-010	6"-8" discharge line from FCV-71-39 to VTV-529, VTV-530 and 24" Feedwater	5.12E-11	1.000	5.12E-11	1.000	1.43E-11	1.000	1.43E-11	1.000	The segment has low safety significance
3-071-011	6" Suppression pool suction line from CS suction line off ring header to FCV-71-18	0.00E+00	1.000	3.26E-07	1.027	0.00E+00	1.000	3.26E-07	1.095	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-071-012	4" pump test return line from FCV 71-38 to HPCI pump test return line	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-071-013	2" Pump mini-flow bypass from FCV 71-34 to RHR pump test line	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

073 High Pressure Coolant Injection

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-073-001	10" supply line from 26" MS line "B" to penetration X-11	2.82E-09	1.000	2.82E-09	1.000	7.89E-10	1.000	7.89E-10	1.000	Although RRW is not >1.005, the segment will be considered high safety significant for defense-in-depth due to the potential of a large LOCA.
3-073-002	10" supply line from penetration X-11 to turbine inlet	8.84E-12	1.000	1.95E-11	1.000	8.84E-12	1.000	1.95E-11	1.000	The segment has low safety significance
3-073-003	14" supply line from aluminum CST header and FCV-73-27 to HPCI booster pump PMP-73-29	4.15E-11	1.000	4.15E-11	1.000	1.16E-11	1.000	1.16E-11	1.000	The segment has low safety significance
3-073-004	10"-14" discharge line from HPCI pump PMP-73-54 to FCV-73-35 and 24" Feedwater line	1.41E-11	1.000	1.41E-11	1.000	1.41E-11	1.000	1.41E-11	1.000	The segment has low safety significance
3-073-005	16"-20" exhaust line from HPCI turbine TRB-73-54 to Turbine Exh drain pot and penetration X-214	9.58E-12	1.000	9.58E-12	1.000	2.68E-12	1.000	2.68E-12	1.000	The segment has low safety significance
3-073-006	16" alternate supply line from suppression pool ring header isolation valve 73-25 to FCV-73-27.	0.00E+00	1.000	6.38E-09	1.000	0.00E+00	1.000	1.79E-09	1.000	The segment has low safety significance
3-073-007	12" Booster pump discharge to HPCI pump suction	1.18E-11	1.000	1.18E-11	1.000	3.32E-12	1.000	3.32E-12	1.000	The segment has low safety significance
3-073-008	1" Inst lines from FE 73-1 to penet X-32E & X-32F	1.35E-09	1.000	1.35E-09	1.000	3.77E-10	1.000	3.77E-10	1.000	The segment has low safety significance
3-073-009	2" cooling water return line from Gland Seal Condenser Condensate Pump and Gland Seal Condenser cooling water	8.75E-10	1.000	8.75E-10	1.000	2.45E-10	1.000	2.45E-10	1.000	The segment has low safety significance
3-073-010	10" Pump Test Return line from FCV 73-35 to 20" steel CST header in Rx bldg	1.33E-09	1.000	1.33E-09	1.000	3.72E-10	1.000	3.72E-10	1.000	The segment has low safety significance
3-073-011	4" Pump min flow line to FCV 73-30	1.66E-09	1.000	1.66E-09	1.000	4.66E-10	1.000	4.66E-10	1.000	The segment has low safety significance

074 Residual Heat Removal

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-074-001	1"-4" supply line from 74-793 system fill from CS	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-074-002	18"-24" discharge line from RHR heat exchanger "A"&"C" to FCV-74-46, 57 and penetration X-13A and X-39B	8.01E-09	1.000	8.01E-09	1.000	2.24E-09	1.000	2.24E-09	1.000	The segment has low safety significance
3-074-003	10" line Containment spray ring header from penet X-39B	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-074-004	4"-18" discharge line from FCV-74-57 to FCV-74-59 and to penetration X-211A	3.68E-12	1.000	3.68E-12	1.000	1.03E-12	1.000	1.03E-12	1.000	The segment has low safety significance
3-074-005	24" discharge line from penetration X-13A to recirculation line "B"	6.13E-08	1.006	6.13E-08	1.005	1.72E-08	1.006	1.72E-08	1.005	The segment has high safety significance
3-074-006	4-6" discharge line from penetration X-211A to suppression pool spray	5.11E-10	1.000	5.11E-10	1.000	1.43E-10	1.000	1.43E-10	1.000	The segment has low safety significance
3-074-007	24" line from recirculation line "A" to penetration X-12	5.82E-07	1.058	5.82E-07	1.050	1.63E-07	1.058	1.63E-07	1.046	The segment has high safety significance
3-074-008	24-30" supply line to FCV 74-1, 12 from 30" suppression pool ring header isolation valve 74-85	2.33E-09	1.000	3.50E-08	1.003	2.33E-09	1.000	3.50E-08	1.009	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-074-009	24-30" supply line to FCV 74-24, 35 from 30" suppression pool ring header isolation valve 74-88	1.56E-09	1.000	3.50E-08	1.003	1.56E-09	1.000	3.50E-08	1.009	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has l low safety significance
3-074-010	18"-24" discharge line from RHR heat exchanger "B"&"D" to FCV-74-46, 71 and penetration X-13B and X-39A	8.48E-09	1.000	8.48E-09	1.000	2.37E-09	1.000	2.37E-09	1.000	The segment has low safety significance
3-074-011	10" line Containment spray ring header from penet X-39A	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-074-012	6" - 8" discharge line from 18" RHR line to FCV-78-61 & 801 Fuel Pool Cooling	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-074-013	24" discharge line from penetration X-13B to recirculation line "A"	5.17E-07	1.051	5.17E-07	1.044	1.45E-07	1.051	1.45E-07	1.040	The segment has high safety significance
3-074-014	4"-18" discharge line from FCV-74-71 to FCV 74-73 and to penet X-211B	4.71E-11	1.000	4.71E-11	1.000	1.32E-11	1.000	1.32E-11	1.000	The segment has low safety significance
3-074-015	4"-6" discharge line from penetration X-211B to Suppression Pool spray	5.11E-10	1.000	5.11E-10	1.000	1.43E-10	1.000	1.43E-10	1.000	The segment has low safety significance
3-074-016	20" shutdown cooling supply line from penetration X-12 to FCV-74-13, 2, 36, 25	3.31E-09	1.000	3.31E-09	1.000	9.26E-10	1.000	9.26E-10	1.000	The segment has low safety significance
3-074-017	20"-24" discharge line from RHR pump "D" to RHR heat exchanger "D"	8.95E-10	1.000	8.95E-10	1.000	2.50E-10	1.000	2.50E-10	1.000	The segment has low safety significance

074 Residual Heat Removal

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-074-018	20"-24" discharge line from RHR pump "B" to RHR heat exchanger "B"	8.95E-10	1.000	8.95E-10	1.000	2.50E-10	1.000	2.50E-10	1.000	The segment has low safety significance
3-074-019	20"-24" discharge line from RHR pump "C" to RHR heat exchanger "C"	9.00E-10	1.000	9.00E-10	1.000	2.52E-10	1.000	2.52E-10	1.000	The segment has low safety significance
3-074-020	20"-24" discharge line from RHR pump "A" to RHR heat exchanger "A"	9.00E-10	1.000	9.00E-10	1.000	2.52E-10	1.000	2.52E-10	1.000	The segment has low safety significance
3-074-021	16" Alternate supply from Aluminum CST header to SHV-74-11 & 23	1.73E-11	1.000	1.73E-11	1.000	4.85E-12	1.000	4.85E-12	1.000	The segment has low safety significance
3-074-022	16" Alternate supply from Aluminum CST header to SHV-74-34 & 45	1.73E-11	1.000	1.73E-11	1.000	4.85E-12	1.000	4.85E-12	1.000	The segment has low safety significance
3-074-023	12-18" Recirc and Pump Test Line B/D from 74-73 to Suppression pool	2.18E-11	1.000	2.18E-11	1.000	6.09E-12	1.000	6.09E-12	1.000	The segment has low safety significance
3-074-024	12-18" Recirc and Pump Test Line A/C from 74-59 to Suppression pool	3.43E-12	1.000	3.43E-12	1.000	9.61E-13	1.000	9.61E-13	1.000	The segment has low safety significance
3-074-025	3-4" Pump B/D Miniflow line	4.27E-11	1.000	4.27E-11	1.000	1.20E-11	1.000	1.20E-11	1.000	The segment has low safety significance
3-074-026	3-4" Pump A/C Miniflow line	5.82E-11	1.000	5.82E-11	1.000	1.63E-11	1.000	1.63E-11	1.000	The segment has low safety significance
3-074-027	16"-30" supply line to RHR pump 3A from FCV 74-1, 2, 96 and CST alternate supply valve SHV 74-11	1.95E-11	1.000	6.12E-08	1.005	5.45E-12	1.000	1.71E-08	1.005	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-074-028	14" crosstie line from FCV 74-9, 96 to unit 2 pumps B & D	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-074-029	14"-30" supply line to RHR pump 3C from FCV 74-12, 13, 97 and CST alternate supply valve SHV 74-23	1.95E-11	1.000	6.12E-08	1.005	5.45E-12	1.000	1.71E-08	1.005	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-074-030	16"-30" supply line to RHR pump 3B from FCV 74-24, 25 and CST alternate supply valve SHV 74-34	3.23E-11	1.000	3.45E-08	1.003	9.05E-12	1.000	9.65E-09	1.003	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance
3-074-031	14"-30" supply line to RHR pump 3D from FCV 74-35, 36 and CST alternate supply valve SHV 74-45	1.09E-10	1.000	1.16E-07	1.010	3.05E-11	1.000	3.25E-08	1.009	RRW is >1.001 w/noOA; however, this would require multiple operator errors and omissions to allow the Rx bldg to flood. This is not a credible consequence. The segment has low safety significance

075 Core Spray

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-075-001	1"-12" discharge line from penetration X-16B and penetration X-27C to reactor	1.55E-06	1.170	1.55E-06	1.144	4.34E-07	1.170	4.34E-07	1.132	The segment has high safety significance
3-075-002	1"-12" discharge line from penetration -16A and penetration X-27D to reactor	2.39E-06	1.289	2.39E-06	1.242	6.70E-07	1.289	6.70E-07	1.219	The segment has high safety significance
3-075-003	1" instrument line from penetration X-27C to ECKV-75-56	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-075-004	1" instrument line from penetration X-27D to ECKV-75-28	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-075-005	12"-14" discharge line from Core Spray pumps "B" & "D" to FCV-75-51 and pump test bypass valve FCV-75-50	4.62E-11	1.000	4.62E-11	1.000	1.29E-11	1.000	1.29E-11	1.000	The segment has low safety significance
3-075-006	12"-14" discharge line from Core Spray pumps "A" & "C" to FCV-75-23 and pump test bypass valve FCV-75-22	1.71E-10	1.000	1.71E-10	1.000	4.78E-11	1.000	4.78E-11	1.000	The segment has low safety significance
3-075-007	10"-16" supply line from Suppression pool ring header isolation valve 75-1 to Core Spray pumps "A" & "C"	3.29E-12	1.000	2.90E-09	1.000	3.29E-12	1.000	2.90E-09	1.000	The segment has low safety significance
3-075-008	10"-16" supply line from Suppression pool ring header isolation valve 75-29 to Core Spray pumps "B" & "D"	2.53E-12	1.000	2.23E-09	1.000	2.53E-12	1.000	2.23E-09	1.000	The segment has low safety significance
3-075-009	Suppression pool ring header	4.63E-10	1.000	4.63E-10	1.000	4.63E-10	1.000	4.63E-10	1.000	The segment has low safety significance
3-075-010	10"-14" Alternate supply from Aluminum CST header to SHV-75-3 & 12	1.77E-11	1.000	1.77E-11	1.000	4.97E-12	1.000	4.97E-12	1.000	The segment has low safety significance
3-075-011	10"-14" Alternate supply from Aluminum CST header to SHV-75-40 & 31	1.77E-11	1.000	1.77E-11	1.000	4.97E-12	1.000	4.97E-12	1.000	The segment has low safety significance
3-075-012	12" line from FCV-75-51 to penet X-16B	2.49E-13	1.000	2.49E-13	1.000	6.97E-14	1.000	6.97E-14	1.000	The segment has low safety significance
3-075-013	12" line from FCV-75-23 to penet X-16A	2.49E-13	1.000	2.49E-13	1.000	6.97E-14	1.000	6.97E-14	1.000	The segment has low safety significance
3-075-014	10" Pump test line from FCV-75-22 to suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-075-015	10" Pump test line from FCV-75-50 to suppression pool	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

078 Fuel Pool Cooling

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-078-001	6" RHR discharge line from FCV-78-61 to FCV-78-62	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance

085 Control Rod Drive Hydraulics

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-085-001	3/4" line from CRD drive to penetration X-38C & D (typ for 93 CRDs)	2.77E-10	1.000	2.77E-10	1.000	7.76E-11	1.000	7.76E-11	1.000	The segment has low safety significance
3-085-002	3/4" line from CRD drive to penetration X-38A & B (typ for 92 CRDs)	2.77E-10	1.000	2.77E-10	1.000	7.76E-11	1.000	7.76E-11	1.000	The segment has low safety significance
3-085-003	3/4" line from CRD drive to penetration X-37C & D (typ for 93 CRDs)	2.89E-10	1.000	2.89E-10	1.000	8.08E-11	1.000	8.08E-11	1.000	The segment has low safety significance
3-085-004	3/4" line from CRD drive to penetration X-37A & B (typ for 92 CRDs)	2.77E-10	1.000	2.77E-10	1.000	7.76E-11	1.000	7.76E-11	1.000	The segment has low safety significance
3-085-005	3/4" east bank scram inlet line to penetration X-37C & D from FCV-85-612 (typ for 93 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-006	3/4" west bank scram inlet line to penetration X-37A & B from FCV-85-612 (typ for 92 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-007	3/4" east bank scram outlet line from penetration X-38C & D to FCV-85-615 (typ for 93 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-008	3/4" west bank scram outlet line from penetration X-38A & B to FCV-85-615 (typ for 92 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-009	1/2"-2" exhaust water line from FCV-85-600 to east header (typ for 93	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-010	1/2"-2" exhaust water line from FCV-85-600 to west header (typ for 92	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-011	1/2"-2" drive water line to FCV-85-593 from east header (typ for 93 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-012	1/2"-2" drive water line to FCV-85-593 from west header (typ for 92 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-013	1/2"-2" cooling water line to FCV-85-596 from east header (typ for 93 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-014	1/2"-2" cooling water line to FCV-85-596 from west header (typ for 92 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-015	1/2"-2" charging line to FCV-85-588 from-east header (typ for 93 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-016	1/2"-2" charging line to FCV-85-588 from-west header (typ for 92 HCUs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-017	2" Charging water to East & West	1.14E-09	1.000	1.03E-11	1.000	3.19E-10	1.000	2.88E-12	1.000	The segment has low safety significance
3-085-018	1" Drive water to East & West headers	1.87E-09	1.000	1.69E-11	1.000	5.25E-10	1.000	4.74E-12	1.000	The segment has low safety significance
3-085-019	1 1/2" Cooling water to East & West headers	1.42E-09	1.000	1.29E-11	1.000	3.99E-10	1.000	3.60E-12	1.000	The segment has low safety significance

085 Control Rod Drive Hydraulics

		CDF-OA	RRW	CDF-noOA	RRW	LERF-OA	RRW	LERF-noOA	RRW	Expert Panel Action
3-085-020	1" Exhaust water from East & West headers	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-021	1 /2"-4" CRD main header to FCV-85-50	1.42E-09	1.000	1.29E-11	1.000	3.99E-10	1.000	3.60E-12	1.000	The segment has low safety significance
3-085-022	6" scram discharge west header	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-023	3/4" scram discharge line from CRD unit to east Scram Discharge Header (typ for 93 CRDs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-024	3/4" scram discharge line from CRD unit to west Scram Discharge Header (typ for 92 CRDs)	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-025	6" scram discharge east header	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-026	12"dia. west scram discharge instrument volume tank	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-027	12"dia. east scram discharge instrument volume tank	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	0.00E+00	1.000	The segment has low safety significance
3-085-029	2"-2 1/2" discharge line from CRD drive water pumps "3A" & "3B"to CRD hydraulic control header	3.73E-09	1.000	3.37E-11	1.000	1.04E-09	1.000	9.43E-12	1.000	The segment has low safety significance
3-085-030	3-4" Supply line to CRD drive water pumps "3A" & "3B" from CST	8.74E-10	1.000	7.90E-12	1.000	2.45E-10	1.000	2.21E-12	1.000	The segment has low safety significance
3-085-031	4" Line to RWCU from FCV 85-50 for vessel injection	8.85E-12	1.000	7.99E-14	1.000	2.48E-12	1.000	2.24E-14	1.000	The segment has low safety significance

Attachment

BFN Unit 3 Revised RI-ISI Program
Page E-30

5. PROPOSED ISI PROGRAM PLAN CHANGE

The locations selected for examination in the RI-ISI program and augmented programs were compared to the locations examined under the previous programs. The results are tabulated in Table 5-1. The current ASME Section XI selects a total of 222 locations for non-destructive exams, while the proposed RI-ISI program selects 85 locations for exams and credits 15 FAC segments, which results in a reduction of 136 non-destructive exam locations (61.3%). The current Generic Letter 88-01 augmented program for IGSCC selects a total of 164 locations for non-destructive exams while the proposed RI program selects 138 locations for exams (including 26 locations not selected in the current program), which results in a reduction of 26 non-destructive exam locations (15.8%).

Table 5-1
STRUCTURAL ELEMENT SELECTION RESULTS AND COMPARISON TO ASME SECTION XI
1989 EDITION REQUIREMENTS AND GL 88-01 REQUIREMENTS

		Current											Proposed (a) (b) (c)							
		ASME XI Elements (d)				Augmented Elements							RI-ISI Examinations							
System	# Segs	B-F	B-J	C-F-1	C-F-2	A	C	D	E	G	Dual Credit (XI & Aug)	FAC(e)	R1.11	R1.16	R1.18	A	C	D	E	G
001 MS	56		38		10							295	2 Cl 2		4					
002 CDW	36											478								
003 FW	46		23									321	2 Cl 1		11					
023 RHRSW	45																			
024 RCW	20																			
027 CCW	3																			
063 SLC	5																			
067 EECW	28																			
068 RECIRC	16	14	18			44	32		9		32 Cl 1			28 A 9 E		28	32		9	
069 RWCU	19		7			19	1				6 Cl 1		1 Cl 1	9 A		9	1			
070 RBCCW	17																			
071 RCIC	12		1		5								1 Cl 2							
073 HPCI	11		5	5	11								1 Cl 1 2 Cl 2							
074 RHR	31		10	2	35	4	27	2	1	2	10 Cl 1 2 Cl 2		2 Cl 1 4 Cl 2	7 C 1 E 2 G			27	2	1	2
075 CS	15	2	10	6	13		19				10 Cl 1			4 A 10 C		4	19			
078 FPC	1																			
085 CRD	31	1			6		4				1 Cl 1						4			
Total Examinations	392	17	112	13	80	67	83	2	10	2	59 Cl 1 2 Cl 2		6 Cl 1 9 Cl 2	70	15	41	83	2	10	2
Total Elements	1383	17	357	111	898															

Notes: (a) System pressure test requirements and VT-2 visual examinations shall continue to be performed in all ASME Code Class 1, 2, and 3 systems.

(b) Augmented programs including FAC and Reactor Nozzle Thermal Fatigue Cracking (NUREG-0619) continue

(c) Augmented program for IGSCC Categories C through G (GL88-01, NUREG-0313) continues.

(d) The current ASME Section XI ISI Program examines a minimum of 25% of the Class 1 and a minimum of 7.5% of the Class 2 elements

(e) The FAC Augmented Program examines approximately 10% of the identified locations each refueling outage.