



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

December 20, 1991

O. J. "Ike" Zeringue
Vice President, Browns Ferry Operations

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

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No. 50-260

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 2 - REQUEST FOR 10 CFR 50,
APPENDIX J SCHEDULAR EXEMPTION

In accordance with 10 CFR 50.12, TVA requests a one-time exemption from the schedular requirements of 10 CFR 50 Appendix J, Sections II.D.2(a) and III.D.3. Section II.D.2(a) and Section III.D.3 require Type B tests, except tests for air locks, and Type C tests to be performed at intervals no greater than two years during reactor shutdown for refueling. We are requesting a one-time exemption to allow the performance of LLRT testing during the Cycle 6 refueling outage schedule to begin January 29, 1993. This exemption request has been reviewed by the Plant Operations Review Committee and the Nuclear Steam Supply System Vendor.

During the Cycle 5 outage, LLRT testing was accomplished as the associated systems were being returned to service. Subsequent delays in the restart of Unit 2 resulted in a number of these tests being performed significantly in advance of the May 24, 1991 restart of Unit 2. Therefore, the expiration of the test interval for some Type B and Type C tests will necessitate a plant shutdown of as much as 30 days for testing prior to the Cycle 6 refueling outage. While the earliest expiration of the test interval is July 1992, load supply planning considerations may require Unit 2 to shutdown sooner for LLRT testing. Approval of this one time exemption is requested to permit the realignment of the LLRT program with the BFN refueling outage schedule. Approval of this request will also benefit the BFN ALARA program by eliminating the additional personnel exposure which would accrue during the performance of these tests prior to the Cycle 6 refueling outage.

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U.S. Nuclear Regulatory Commission

December 20, 1991

BFN has and will continue to make every effort to satisfy the Appendix J test requirements during the current test interval. During two recent forced outages local leak rate tests were performed on 30 components for which the test interval would have expired prior to the Cycle 6 refueling outage. Additional LLRT testing will be performed during any forced outage of sufficient duration should one occur prior to the Cycle 6 refueling outage.

BFN's exemption request is contained on Enclosure 1. Enclosure 2 summarizes the commitment made in this letter.

If you have any questions, please contact Raul R. Baron at (205) 729-7566.

Sincerely,



O. J. Zeringue

Enclosure

cc (Enclosure):

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ENCLOSURE 1
REQUEST FOR A SCHEDULAR EXEMPTION FROM 10 CFR 50, APPENDIX J
BROWNS FERRY NUCLEAR PLANT
UNIT 2

INTRODUCTION

In accordance with 10 CFR 50.12, TVA is requesting a one-time exemption from the test interval requirements of 10 CFR 50, Appendix J, Sections III.D.2.(a) and III.D.3 for Browns Ferry Nuclear Plant Unit 2. Section III.D.2.(a) and Section III.D.3 require Type B tests, except tests for airlocks, and Type C tests to be performed at intervals no greater than two years during reactor shutdown for refueling. Browns Ferry Unit 2 was in cold shutdown from September 1984 until startup on May 24, 1991. As-Left local leak rate test (LLRT) performance began July 30, 1990 in preparation for Unit 2 startup. Due to a longer than expected return to power sequence, the as-left LLRT program extended into May 1991. Since the next refueling outage for Unit 2 is not scheduled to begin until early 1993, the expiration of the time interval for some Type B and Type C tests would force the plant to shutdown in July 1992 to perform Appendix J testing. TVA rescheduled the next planned outage from mid-March 1992 to January 29, 1993. This schedule avoids extension of components that have demonstrated poor leak performance in the past. Type B and C tests were performed during two recent forced outages to reduce the number of components that would require an interval extension. TVA plans to continue to perform Type B and C testing during unplanned outages as conditions permit.

The components affected by this request are listed in Table 1. These components represent approximately 44% of the LLRT program. Most of the components affected are Type B tests or Type C tests on closed loop seismic class 1 and water sealed isolation valves that either account for an extremely small percentage of total Type B and C leakage or are not included in the Type B and C leakage total. The remainder of the components are air tested isolation valves.

The tests listed in Table 1 will be reperformed during the next refueling outage. This outage is scheduled to begin less than six months after the time interval for the first LLRT performed expires. This relatively small increase in test interval (25% which is permissible for other types of surveillances) does not significantly increase the risk to the public health and safety based on the expected performance of the subject components. An analysis of past component performance indicates the incremental increase in leakage due to the extension is not a significant contributor to the total Type B and C leakage limit. The components included in this request that have experienced significant degradation over the past operating cycle have been repaired or replaced. The cost of doubling radiation exposure to plant test personnel when compared to the minimal gain in assurance that the affected components have not significantly degraded is unnecessary based upon the present test results and anticipated incremental increases in component leak rates. The requested exemption would reduce both personnel radiological exposure and resources expended to comply with the regulation without undue risk to the public health and safety.

If Unit 2 is required to shutdown and de-inert primary containment to perform local leak rate tests, a minimum of thirty days may be needed to perform various surveillance instructions. A heatup and cooldown cycle would be added increasing the probability of events more likely to occur during such evolutions. The length of a testing outage is heavily dependent on the rate of decay heat removal, since shutdown cooling must be removed from service to be tested. Eliminating a shutdown to perform testing mid-cycle and continuing operation until the next scheduled outage would result in a savings of approximately \$8 million.

DESCRIPTION

The first Cycle 5 as-left LLRT on Unit 2 was performed July 30, 1990; therefore, the maximum extension of the two year interval is 182 days. Prior to two forced outage that began October 18 and December 9, 1991, local leak rate tests on 158 components performed between July 30, 1990 and January 29, 1991 required time interval extension. However, during these two outages which resulted in Unit 2 being shutdown for approximately 5 days, 30 components were tested reducing the number of components requiring extension to 121. The listing below provides a breakdown of the number and types of components included in the requested extension. Components tested after January 29, 1991 are not affected by this request.

Air Tested Components (Subject to 0.6La Leakage Limit)

Expansion Bellows	28
Electrical Penetrations	15
Bonnet/Packing	5
Isolation Valves	25
Flanges	7

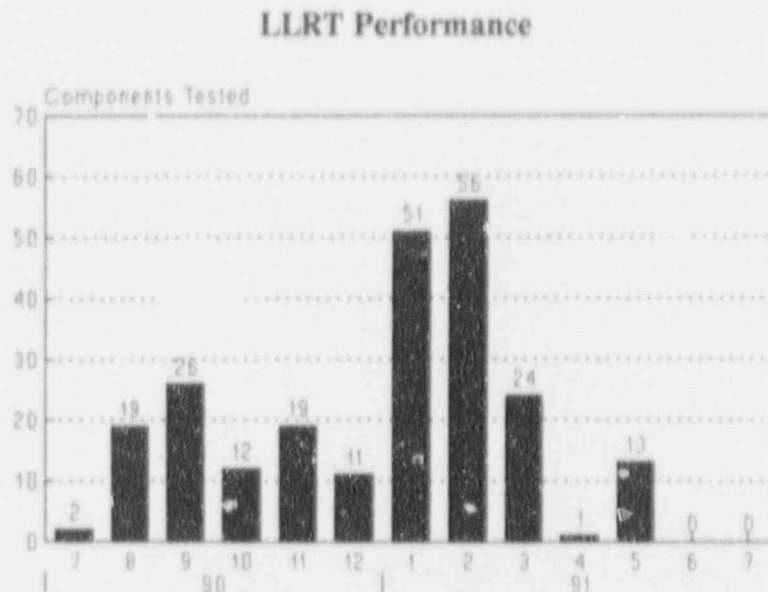
Water Sealed Components (Subject to 28.65 CFH Technical Specification Limit)

Isolation Valves	5
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Closed Loop Seismic Class I Components

Isolation Valves	26
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The following chart shows the distribution of LLRT performance for Unit 2, Cycle 6 restart. The maximum required extension for each component is tabulated in Table 1.



TECHNICAL BASIS

The two year interval specified in Appendix J is intended to be frequent enough to prevent significant degradation from occurring and long enough to permit LLRTs to be performed during refueling outages. At the time Appendix J was published (February 14, 1973) all light water reactors were on a nominal annual refueling cycle with relatively short refueling outages. Today most light water reactors are on an 18-month or two-year refueling cycle with extended refueling outages. The intent of the regulation is for isolation valves to be tested during refueling outages, not to require the unit to be shutdown solely for local leak rate testing.

Performing local leak rate tests during refueling outages lowers radiation exposure to plant personnel and is consistent with the purpose of 10 CFR Part 20. During the October 18, 1991 forced outage, conditions inside containment reduced the speed at which tests could be performed and involved significant heat stress and radiological hazards not normally present during refueling outages. A shutdown solely to perform leak tests is not consistent with the intent of either Appendix J or 10 CFR Part 20 and would result in at least doubling the radiological exposure and the risks associated with the affected tests. Since the tests will be reperformed during the next refueling outage, the cost to personnel in terms of radiological exposure and personnel safety is greater than the minimal increase in assurance that the components will not significantly degrade during the remainder of the Unit 2, Cycle 6 operating cycle.

During the extended outage, the Browns Ferry Appendix J program was reviewed and audited on several occasions. Various components were identified that were not being tested in accordance with Appendix J. Prior to restart, numerous actions were taken to upgrade the Appendix J program. The following is a summary of actions taken to upgrade the program:

- Block valves, test connections, and vent valves to enable isolation valves to be tested in the accident direction were added.
- Block valves and test connections to facilitate testing of bonnet and packing seals were added.
- Valves were reoriented to allow packing and bonnet seals to be tested during the normal Type C test.
- Lines no longer used were capped to remove potential leak path.
- Changes in valve type were made to improve leakage characteristics.
- Stainless steel overlays were added to ventilation valves to improve leakage characteristics.
- Various repairs, replacements, and modifications of historical problem valves to improve leakage performance were conducted during the cycle 5 outage.

As a result of these upgrades, modifications, and improved maintenance practices, the possibility of significant degradation of containment components is reduced.

The projected incremental increase in the total Type B and Type C leak rate due to the extension is estimated in Table 2 utilizing historical local leak rate data from Unit 2, Cycles 4 and 5. Based on the past performance of the affected components, there is reasonable assurance that no significant degradation would occur during the extension interval. The condition of the components is, therefore, not expected to change significantly over the extension period of approximately 25-percent of the two-year interval specified in Appendix J. Furthermore, the two-year interval specified for Type B and Type C tests was based on two years of exposure to service conditions. For the months prior to startup, these components were not exposed to service conditions. This should further reduce any potential degradation of these components.

Many of the components associated with this extension request cannot be tested at power due to their intended function and location. The specific reason why testing at power is impracticable is provided for each component in the notes to Table 1. BFN has and will continue to make every effort to satisfy the Appendix J requirements during the current test interval. Additional LLRT testing will be performed during any forced outage of sufficient duration should one occur prior to the Cycle 6 refueling outage. The current prioritization for forced outage leak rate testing is provided in Table 5.

Air Tested Components

Included in the extension request are the following types of air tested components: flanges, expansion bellows, electrical penetrations, bonnets and packing, and isolation valves. Flanges, expansion bellows, electrical penetrations, and bonnets and packing leakage account for only a very small fraction of Type B and C leakage. Based on historical data for these components, leak rates did not increase significantly over the last operating cycle. These results provide assurance that any incremental increase in leakage occurring during the extension period would not result in unacceptable component leakage rates. Isolation valves included in the extension have generally met the reference leak rates assigned based on valve size. Reference leak rates are administratively assigned to each component to help maintain leakage below associated allowable limits. A comparison of measured leakage to the reference leak rate for the particular component aids in determining if repairs are necessary and provides a means for identifying potential problem valves. Efforts are made to maintain leak rates below the reference values to ensure significant degradation of containment components does not occur. Of the 35 air tested isolation valves included in this extension request, 10 valves failed to meet assigned reference leak rates when cycle 5 as-found tests were performed. These components were repaired (2-69-579, 2-HCV-73-23, 2-73-603, 2-FCV-71-2, 2-FCV-71-3), modified (2-3-554), or replaced with a different type of valve (2-68-508, 2-68-550, 2-68-555, 2-FCV-73-45). Subsequent leak tests on these components were acceptable and well within established reference leak rates. The current total Type B and C leakage is less than 17% of the 0.6 La limit (655.9 scfh).

Water Sealed Isolation Valves

Four of the five water sealed isolation valves included in this extension have not experienced any significant degradation in the past and account for only a small fraction of the Technical Specification allowable limit of 28.65 cfh. There is no contribution to total Type B and C leakage due to these components. These results provide assurance that any incremental increase in leakage due to the extension would not result in any significant leakage through any valve. The remaining water sealed isolation valve was added to the Appendix J program this outage. The current total water sealed leakage is less than 1.5% of the Technical Specification limit.

Closed Loop Seismic Class 1 Isolation Valves

Closed Loop Seismic Class I components of the Residual Heat Removal System and Core Spray System are water filled post-accident and are required to be tested, but are not included in the 0.6La leakage limit. There is no contribution to total Type B and C leakage due to these components. Of the 26 valves of this type, only 3 valves failed to meet the assigned reference leak rate. These valves (2-FCV-74-57 and 2-FCV-74-58 tested simultaneously and 2-FCV-75-26) have been repaired and subsequent tests were completed satisfactorily. Based on past performance and recent test results any incremental increase in leakage due to an extension would not result in unacceptable leakage through these valves.

New Components

As a result of Appendix J program upgrades, 6 air tested components, 1 water sealed component, and 8 closed loop seismic class 1 components were added to the program. No historical data are available for these components; however, the integrity of the 6 air tested components was demonstrated during the Type A test performed in March 1991. The 8 closed-loop seismic class 1 components added to the program were tested upon completion of modifications to make these valves testable and at other times throughout the extended outage. No significant problems have been experienced with these valves since they were included in the Appendix J program. During an October 18, 1991 forced outage, these valves were tested to demonstrate valve closure for ASME Section XI. No leakage through these valves was identified.

JUSTIFICATION

10 CFR 50.12 states that the commission may grant exemptions from the requirements of the regulations contained in 10 CFR 50 provided that

- The exemption is authorized by law;
- The exemption does not present an undue risk to the public health and safety;
- The requested exemption will not endanger the common defense and security;
- Special circumstances are present as defined in 10 CFR 50.12 (a)(2).

I. The Requested Exemption is Authorized by Law

The Commission is authorized by law to grant this exemption.

II. The Requested Exemption Does Not Present an Undue Risk to the Public Health and Safety

The intent of sections III.D.2.(a) and III.D.3 of Appendix J is to ensure containment integrity is maintained. Based on the following information, the exemption requested will not significantly affect the ability of the individual primary containment components to perform their safety functions.

1. The valves and components for which the extension of the two year interval is being requested are considered to be leak tight and in good condition. The leak tight condition of these components has been verified by Type B and C local leak rate tests and again for most by the Type A test conducted on unit 2 in March 1991. Based on the present containment leak rate that accounts for less than 17% of the 0.6-percent La limit, TVA believes the remaining margin is sufficient to ensure any incremental increases in leakage due to the extension will not result in unacceptable as-found test results.

2. Based on historical data, any incremental increase in leakage due to the extension will be small (less than 18% of 0.6 La). Improved maintenance practices implemented during the unit 2 cycle 5 outage, including motor operator testing (MOVATS) of containment isolation valves, provides increased assurance that these components will perform their safety function.
3. Significant changes and improvements were made to the Browns Ferry LLRT program since the unit was shutdown in 1984. Numerous components previously untested were added to the program as a result of program reviews. Individual LLRT procedures were upgraded and detailed valve line-ups, isometrics, and draining and venting instructions were added.
4. Maintenance and modification of components with poor leak performance history was performed to improve subsequent performance of these components. Post-modification and post-maintenance tests were completed satisfactorily.
5. Many of the components for which the exemption is requested were included in the Type A test performed in March 1991. This test indicated a containment leak rate of 0.24% per day, which is well below the 1.5% per day limit.

III. The Requested Exemption Will Not Endanger the Common Defense and Security

The common defense and security are not affected by this request for exemption.

IV. Special Circumstances are Present Which Necessitate the Request for an Exemption to the Regulations of 10 CFR 50, Appendix J, Sections III.D.2.(a) and III.D.3.

Per 10 CFR 50.12(a)(2), the following special circumstances are present

1. Application of the regulation in the particular circumstances present would not serve the intent of the regulation. The intent of the regulation is to assure containment integrity through component performance. The expected incremental increases in component leakage due to the extension are small (less than 18% of 0.6 La). Assignment of the projected increase in total leakage due to the extension to the as-left leakage total reduces the margin between as-left leakage and 0.6 La by less than 22-percent. Since operation would be allowed for two years with less margin than is present even with the additional leakage due to the extension added to the as-left total, the requested exemption does not conflict with the intent of the regulation. Thus, the exemption to defer testing of the subject components until the next scheduled refueling is appropriate.
2. Compliance with the regulation would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted. The intent of the regulation is that the required testing be performed during normal refueling outages to ensure containment integrity. When the regulation was adopted, provisions to accommodate an 18 or 24-month fuel cycle

were not provided; thus increasing the likelihood of a plant shutdown to perform LLRTs. However, it was not the intent of the regulation to force a shutdown solely to perform Type B and C testing. A requirement to shutdown to perform LLRTs, even though the projected incremental increase in leakage due to extension of the test interval to the next scheduled refueling outage is minimal, would represent undue hardship and excessive costs in the form of increase personnel radiological exposure, lost revenues, and higher costs associated with two outages instead of one. Eliminating a shutdown to perform testing would also result in a savings of approximately \$8 million. Furthermore, a heatup and cooldown cycle is eliminated by increasing the test interval and would reduce the probability of events that are more likely to occur during such evolutions.

3. The exemption would provide only temporary relief from the regulation and TVA has made a good faith effort to strictly comply with the regulation. This exemption is being requested as a one-time schedular exemption to allow Unit 2 to operate until the next refueling outage scheduled to begin January 29, 1993. This request is a result of a longer than anticipated return to power sequence. In addition, by performing LLRT testing during forced outages, TVA has made a good faith effort to comply with the regulation.

SAFETY IMPACT

The extension of the LLRT test interval does not impact the probability of occurrence of any accident.

The present containment leakrate represents less than 17% of the maximum Type B and C leakage rate of 0.60 La allowed by TS. Thus a severe amount of additional degradation would have to occur for the TS limit to be exceeded. The potential for a large amount of degradation to occur during the extension period is small. Since the integrity of the containment boundary is not expected to be substantially diminished during the extension period, it is concluded that the proposed amendment does not involve a significant increase in the consequences of any accident previously evaluated.

Physical modifications are not being made and plant operations are not being changed. Consequently the containment system's ability to perform its intended function will be maintained, no new accident precursors are generated, and therefore no new or different kind of accident scenarios are created.

The present margin between the most recent as-left total leakrate and the 0.60 La limit is sufficient to allow for the additional projected leakage due to the extension. Therefore, extending the LLRT test interval will not result in a significant reduction in the margin of safety.

CONCLUSION

The valves and components for which the extension of the two year interval is being requested are considered to be leak tight and in good condition. The leak tight condition of these components has been verified by Type B and C local leak rate tests and again for most by the Type A test conducted on unit 2 in March 1991. Based on the present containment leak rate that accounts for less than 17% of the 0.6 La limit, TVA believes the remaining margin is sufficient to ensure any incremental increases in leakage due to the extension will not result in unacceptable as-found test results.

Based on historical data, any incremental increase in leakage due to the extension will be small (less than 18% of 0.6 La). Improved maintenance practices implemented during the unit 2 cycle 5 outage, including motor operator testing (MOVATS) of containment isolation valves, provides increased assurance that these components will perform their safety function.

On the average, as-left leak rates are less than 25% of the established reference leak rates for the components listed in Table 1. Since the maximum extension requested is relatively short in comparison to the two-year test interval (approximately 25%), it is unlikely that substantial degradation of containment components leading to failure of the containment to perform its safety function would occur.

Based on the discussion above, TVA concludes that the extension of the two year interval for the components listed in Table 1 will not impair valve operability or significantly degrade the integrity of primary containment and would not significantly increase the risk to the health and safety of the public.

LISTING OF TABLES

Table 1.....	Components Requiring Extension
Table 2.....	Projected Type B and C Leak Rates
Table 3.....	Projected Type C Seismic Class 1 Leak Rates
Table 4.....	Unit 2 Cycle 5 As-Found/As-Leak Test Results
Table 5.....	Unit 2 Forced Outage Testing Priority

TABLE 1
COMPONENTS REQUIRING EXTENSION

TYPE B TESTED COMPONENTS

COMPONENT	PENETRATION	DESCRIPTION	EXP. DATE	SIF	EXTENSION Days/Notes
BELLOWS	X-7A	Inboard Bellows MS Line A	1/2/93	g-2/9La	27/1
BELLOWS	X-7A	Outboard Bellows MS Line A	1/2/93		27/1
BELLOWS	X-7B	Inboard Bellows MS Line B	1/19/93		10/1
BELLOWS	X-7B	Outboard Bellows MS Line B	1/19/93		10/1
BELLOWS	X-7C	Inboard Bellows MS Line C	1/19/93		10/1
BELLOWS	X-7C	Outboard Bellows MS Line C	1/19/93		10/1
BELLOWS	X-7D	Inboard Bellows MS Line D	1/19/93		10/1
BELLOWS	X-7D	Outboard Bellows MS Line D	1/19/93		10/1
BELLOWS	X-8	Inboard Bellows MS Drain	1/2/93		27/1
BELLOWS	X-8	Outboard Bellows MS Drain	1/2/93		27/1
BELLOWS	X-9A	Inboard Bellows FW Line A	10/10/92		111/1
BELLOWS	X-9A	Outboard Bellows FW Line A	10/10/92		111/1
BELLOWS	X-9B	Inboard Bellows FW Line B	10/10/92		111/1
BELLOWS	X-9B	Outboard Bellows FW Line B	10/10/92		111/1
BELLOWS	X-10	Inboard Bellows RCIC Steam	10/1/92		120/1
BELLOWS	X-10	Outboard Bellows RCIC Steam	10/1/92		120/1
BELLOWS	X-11	Inboard Bellows HPCI Steam	1/20/93		9/1
BELLOWS	X-11	Outboard Bellows HPCI Steam	1/20/93		9/1
BELLOWS	X-12	Inboard Bellows SDC Suction	12/18/92		42/1
BELLOWS	X-12	Outboard Bellows SDC Suction	12/18/92		42/1
BELLOWS	X-13A	Inboard Bellows RHR Discharge	12/18/92		42/1
BELLOWS	X-13A	Outboard Bellows RHR Discharge	12/18/92		42/1
BELLOWS	X-13B	Inboard Bellows RHR Discharge	12/18/92		42/1
BELLOWS	X-13B	Outboard Bellows RHR Discharge	12/18/92		42/1
BELLOWS	X-16A	Inboard Bellows CS Discharge	12/18/92		42/1
BELLOWS	X-16A	Outboard Bellows CS Discharge	12/18/92		42/1
BELLOWS	X-16B	Inboard Bellows CS Discharge	12/18/92		42/1
BELLOWS	X-16B	Outboard Bellows CS Discharge	12/18/92		42/1
E-PENETRATION	X-100B	Neutron Monitoring	9/16/92	g-2/ELa	133/2
E-PENETRATION	X-100C	Neutron Monitoring	9/18/92		133/2
E-PENETRATION	X-100D	Neutron Monitoring	9/18/92		133/2
E-PENETRATION	X-100E	Neutron Monitoring	9/18/92		133/2
E-PENETRATION	X-100F	Neutron Monitoring	9/20/92		131/2
E-PENETRATION	X-100G	Neutron Monitoring	9/16/92		135/2
E-PENETRATION	X-103	CRD Position Indication	9/18/92		133/2
E-PENETRATION	X-104D	Thermocouples	9/18/92		133/2
E-PENETRATION	X-104E	Indication & Control	9/18/92		133/2
E-PENETRATION	X-104F	Indication & Control	9/18/92		133/2
E-PENETRATION	X-105A	Power	12/11/92		49/2
E-PENETRATION	X-108B	CRD Position Indication	9/18/92		133/2
E-PENETRATION	X-110A	Power	9/20/92		131/2
E-PENETRATION	X-110B	CRD Position Indication	9/18/92		133/2
E-PENETRATION	X-219	PSC Vacuum Breakers	9/20/92		131/2

TABLE 1, (CONTINUED)
COMPONENTS REQUIRING EXTENSION

TYPE B TESTED COMPONENTS

COMPONENT	PENETRATION	DESCRIPTION	EXP. DATE	Stg	EXTENSION Days/Notes
FLANGE	N/A	Shear Lug Access Cover 0°	1/17/93	g-2/PHa	12/4
FLANGE	N/A	Shear Lug Access Cover 45°	1/17/93		12/4
FLANGE	N/A	Shear Lug Access Cover 90°	1/16/93		13/4
FLANGE	N/A	Shear Lug Access Cover 135°	1/16/93		13/4
FLANGE	N/A	Shear Lug Access Cover 270°	1/17/93		12/4
FLANGE	N/A	Shear Lug Access Cover 315°	1/17/93		12/4
BONNET/PACKING	X-218	2-PCV-71-59/601	1/20/93	g-2/PBb	9/3
BONNET/PACKING	X-220	2-PCV-73-64/642	1/20/93		9/3
BONNET/PACKING	71-32	RCIC Vacuum Pump Discharge	11/26/92	g-3/71c	64/3
BONNET/PACKING	73-24	HPCI Turbine Exhaust Drain	8/25/92	g-3/73c	167/3
BONNET	73-23	HPCI Turbine Exhaust	1/13/93	g-3/73b	16/6
FLANGE	64-19	Containment Ventilation	1/26/93	g-3/64e	3/7

TABLE 1, (CONTINUED)
COMPONENTS REQUIRING EXTENSION

TYPE C TESTED COMPONENTS

COMPONENT	PENETRATION	DESCRIPTION	EXP. DATE	SI#	EXTENSION Days/Notes
2-2-1383	X-20	Demineralized Water	7/31/92	g-3/2	182/4
2-2-1192	X-20	Demineralized Water	7/31/92	g-3/2	182/4
2-3-558	X-9A	Reactor Feedwater A	1/15/93	g-3/3a	14/4
2-3-554	X-9A	Reactor Feedwater A	1/15/93	g-3/3a	14/4
2-PCV-73-45	X-9A	UPCI Injection	1/15/93	g-3/3a	14/4
2-3-572	X-9B	Reactor Feedwater B	9/14/92	g-3/3b	137/4
2-3-568	X-9B	Reactor Feedwater B	9/14/92	g-3/3b	137/4
2-69-579	X-9B	RWCU Return	9/14/92	g-3/3b	137/4
2-PCV-71-40	X-9B	RCIC Injection	9/14/92	g-3/3b	137/4
2-85-576	X-9B	CRD Return	9/14/92	g-3/3b	137/4
2-32-336	X-22	Drywell Control Air Supply	8/5/92	g-3/32b	177/4
2-32-2163	X-22	Drywell Control Air Supply	8/20/92	g-3/32b	162/4
2-84-617	X-22	CAD/OCA Tis In	8/5/92	g-3/32b	177/4
2-63-525	X-42	Standby Liquid Control	8/7/92	g-3/63	175/4
2-63-526	X-42	Standby Liquid Control	8/7/92	g-3/63	175/4
2-68-508	X-37C	RCP Seal Water	1/5/93	g-3/68a	24/4
2-68-550	X-37C	RCP Seal Water	1/5/93	g-3/68a	24/4
2-68-523	X-38C	RCP Seal Water	8/4/92	g-3/68b	178/4
2-68-555	X-38C	RCP Seal Water	8/4/92	g-3/68b	178/4
2-PCV-69-1	X-14	RWCU Injection	9/5/92	g-3/69	146/4
2-PCV-69-2	X-14	RWCU Injection	9/5/92	g-3/69	146/4
2-PCV-70-47	X-23	RBCCW Return	12/5/92	g-3/70	55/4
2-70-506	X-24	RBCCW Supply	8/5/92	g-3/70	177/4
2-PCV-71-2/3	X-10	RCIC Steam Supply	1/24/93	g-3/71a	5/4
2-PCV-73-23/603	X-214	UPCI Turbine Exhaust	1/13/93	g-3/73b	16/3
2-PCV-74-47	X-12	RHR Shutdown Cooling	10/30/92	g-3/74g	91/4
2-PCV-74-48	X-12	RHR Shutdown Cooling	10/30/92	g-3/74g	91/4
2-74-661/662	X-12	RHR Shutdown Cooling	10/30/92	g-3/74g	91/4
2-PCV-77-2A	X-18	Drywell Floor Drain Sump	11/30/92	g-3/77a	60/4
2-PCV-77-2B	X-18	Drywell Floor Drain Sump	11/30/92	g-3/77a	60/4
2-PCV-77-15A	X-19	Drywell Equipment Drain Sump	11/30/92	g-3/77b	60/4
2-PCV-77-15B	X-19	Drywell Equipment Drain Sump	11/30/92	g-3/77b	60/4

TABLE 1, (CONTINUED)
COMPONENTS REQUIRING EXTENSION

TYPE C TESTED COMPONENTS (WATER SEALED)

COMPONENT	PENETRATION	DISCRIPTION	EXP. DATE	SIR	EXTENSION Days/Notes
2-HCV-71-32/592	X-221	RCIC Vacuum Pump Discharge	11/26/92	g-3/71e	64/3
2-HCV-73-24/609	X-222	HPCI Turbine Exhaust Drain	8/15/92	g-3/73c	167/3
2-FCV-71-18	X-227A	RCIC Pump Suction	1/23/93	g-3/71d	6/3

TABLE 1, (CONTINUED)
COMPONENTS REQUIRING EXTENSION

TYPE C TESTED COMPONENTS (SEISMIC CLASS 1)

COMPONENT	PENETRATION	DESCRIPTION	EXP. DATE	SI#	EXTENSION Days/Notes
2-PCV-74-53	X-13A	RHR Return	11/3/92	g-3/74a	87/4
2-PCV-74-54	X-13A	RHR Return	11/3/92	g-3/74a	87/4
2-PCV-74-57/58	X-211A	RHR Containment Spray	11/5/92	g-3/74b	85/5
2-PCV-74-60	X-39B	RHR Containment Spray	11/2/92	g-3/74c	88/5
2-PCV-74-61	X-39B	RHR Containment Spray	11/2/92	g-3/74c	88/5
2-PCV-74-67	X-13B	RHR Return	11/1/92	g-3/74d	89/4
2-PCV-74-68	X-13B	RHR Return	11/9/92	g-3/74d	81/4
2-PCV-74-71/72	X-211B	RHR Containment Spray	11/15/92	g-3/74e	75/5
2-PCV-74-74	X-39A	RHR Containment Spray	11/1/92	g-3/74f	89/5
2-PCV-74-75	X-39A	RHR Containment Spray	11/1/92	g-3/74f	89/5
2-74-792	N/A	RHR PSC Head Tank Tie-in	9/8/92	g-3/74i	143/5
2-74-804	N/A	RHR PSC Head Tank Tie-in	9/8/92	g-3/74i	143/5
2-74-802	N/A	RHR PSC Head Tank Tie-in	10/24/92	g-3/74j	97/5
2-74-803	N/A	RHR PSC Head Tank Tie-in	10/24/92	g-3/74j	97/5
2-PCV-75-25	X-16A	Core Spray Injection	8/9/92	g-3/75a	173/4
2-PCV-75-26	X-16A	Core Spray Injection	8/9/92	g-3/75a	173/4
2-PCV-75-53	X-16B	Core Spray Injection	8/10/92	g-3/75b	172/4
2-PCV-75-54	X-16B	Core Spray Injection	8/25/92	g-3/75b	157/4
2-PCV-75-57/58	X-227A	PSC Level Control	9/4/92	g-3/75c	147/5
2-75-609	N/A	PSC Head Tank Tie-in	8/29/92	g-3/75d	153/5
2-75-610	N/A	PSC Head Tank Tie-in	8/29/92	g-3/75d	153/5
2-75-606	N/A	PSC Head Tank Tie-in	8/28/92	g-3/75e	154/5
2-75-607	N/A	PSC Head Tank Tie-in	8/28/92	g-3/75e	154/5

TABLE 1, (CONTINUED)

COMPONENTS REQUIRING EXTENSION

Notes:

1. Expansion bellows cannot be tested at power due to heat and radiological conditions.
2. Electrical penetrations can be tested at power, but may unnecessarily increase the potential for challenges to safety systems.
3. These components cannot be tested at power because it would require entering a Limiting Condition for Operation in order to perform the tests. In addition, other Surveillance Instructions must be performed in order to demonstrate operability. Performance of these Surveillance Instructions in order to accommodate leak rate testing represents unnecessary challenges to safety systems.
4. Testing of these components requires drywell entry; therefore, these components cannot be tested at power.
5. Cannot be tested at power due to system alignments required for testing.
6. Can be tested at power, but requires scaffolding to be erected in the HPCI room.
7. Can be tested at power.

PROJECTED TYPE B AND C LEAK RATES

COMPONENT	Cycle 4 As-Left LR	Cycle 5 As-Found LR	As-Found Date	A	No. of Days	Δ/Day	Days Extended	Cycle 5 As-Left LR	Projected LR	Δ Max PLR	Reference LR	As-Left Reference LR % Difference
Air Tested Isolation Valves	0	0	9/8/82	0	997	0.0000	182	0.3173	0.3173	0.0000	1	31.73%
	0	0	9/8/82	0	997	0.0000	182	0.0169	0.0169		1	1.69%
	4.1684	0	10/23/82	-3.1309	813	0.0000	14	9.1938	9.1938		24	33.31%
	5.1549	107.63	10/23/82	107.63	813	0.1260	14	1.5416	95.3196	1.7946	24	6.42%
	1.3244	232.31	10/23/82	232.31	995	0.2321	137	4.5509	205.8218	31.8040	14	32.51%
	14.148	0.0082	11/5/82	-14.1398	865	0.0000	137	1.551	1.5510		24	6.48%
	2.443	0.0082	11/7/82	-2.4348	863	0.0000	137	3.5025	3.5025	0.0000	24	14.65%
	0.1846	264.7912	11/7/82	264.6086	863	0.3066	137	2.3595	268.1928	42.0059	4	58.99%
	2.8023	0.5873	11/7/82	-2.215	863	0.0000	137	2.6237	2.6237	0.0000	6	43.73%
	0	0.5873	11/8/82	0.4475	862	0.0005	137	1.1395	1.5895	0.0711	4	28.49%
	0	41.906	12/8/84	41.906	825	0.0508	24	0.1633	38.4628		0.75	21.77%
	0	109.75	12/8/84	109.75	825	0.1330	24	0.2445	100.5493	3.1927	0.75	32.60%
	0.1583	0	9/5/82	-0.1683	826	0.0000	178	0.0185	0.0185		0.75	2.20%
	0.3492	24.7573	9/5/82	24.4081	826	0.0295	178	C-185	26.8477	5.2599	0.75	2.20%
	0.242	0.0093	9/3/82	-0.2327	1003	0.0000	177	0.0166	0.0166		1	1.66%
	0.2583	0.2629	10/5/82	0.0446	910	0.0000	182	0.253	0.2575	0.0008	1	25.30%
	N/A	N/A	N/A	N/A	N/A	N/A	177	0.0196	1.0000	1.0000	1	1.96%
	0.2965	0.0094	4/21/85	-0.2871	959	0.0000	175	0.0175	0.0175		1.5	1.17%
	0	0.0094	4/21/85	0.0094	959	0.0000	175	0.0165	0.0254	0.0017	1.5	1.10%
	0.2434	0.0551	9/20/85	-0.1893	1046	0.0000	146	0.5084	0.5084		6	4.7%
	4.1507	0.0551	9/20/85	-4.1056	1044	0.0000	146	3.9454	3.9454	0.0000	6	65.26%
	N/A	N/A	N/A	N/A	N/A	N/A	55	0.0171	5.0000	5.0000	5	0.34%
	N/A	N/A	N/A	N/A	N/A	N/A	177	0.0165	5.0000	5.0000	5	0.33%
	0	51.868	7/22/85	51.868	1052	0.0493	5	0.0167	36.2692	0.2468	3	0.56%
	N/A	N/A	N/A	N/A	N/A	N/A	16	6.5971	20.0000	20.0000	20	32.89%
	0	12.1129	1/13/85	12.1129	829	0.0146	91	3.6238	15.8198	1.3096	20	18.12%
	16.9234	4.3393	1/13/85	-12.5841	829	0.0000	91	5.5614	5.5614		20	27.81%
	0.1841	0.0506	1/13/85	-0.1335	829	0.0000	91	0.721	10/30/90		0.75	96.13%
	0	2.4294	1/13/85	2.4294	807	0.0030	80	1.2342	3.6124	0.1806	3	41.14%
	0	2.1564	1/13/85	2.1564	812	0.0027	60	1.6724	3.7704	0.1593	3	55.75%
Expans. valves	0.0494	N/A	N/A	-0.0046	720	0.0000	120	0.1065	0.1011	0.0000	1.5	7.10%
Electrical Penetrations	1.4546	N/A	N/A	2.0566	720	0.0029	136	2.3453	4.8189	0.3685	3.5	71.07%
Gommets/Packing	N/A	N/A	N/A	N/A	N/A	N/A	157	0.0508	0.0506	0.0000	0	N/A
Flanges	0.1048	9/16/82	9/17/84	0.0406	732	0.0001	13	0.1861	0.2478	0.0011	0.7766	23.96%
Total Max PLR/Increase Percentage % of Reference LR (As-Left)											117.4064	24.31%

PROJECTED TYPE B AND C LEAK RATES

COMPONENT	Cycle 2		Cycle 3		No. c ⁺ days	Δ/day	Days Extended	Cycle 5		Projected LR	Δ Miss %	Reference LR	As-Left % Reference LR	
	As-Left LR	As-Left Date	As-Found LR	As-Found Date				As-Left LR	As-Left Date					
Water Sealed Infiltration Values														
2-71-32/152	0	10/6/82	0.003	10/26/84	751	0.000004	84	0.003	11/26/90	0.0062	0.0003	0.1	3.00%	
2-73-24/809	0	8/9/84	0.003	10/27/84	79	0.000038	187	0.0167	8/15/90	0.0508	0.0063	0.1	16.70%	
2-71-18	N/A	N/A	N/A	N/A	N/A	N/A	6	0.0%	1/23/91	0.3000	0.3000	0.3	30.00%	
Total Miss PLUMBS Increase											0.3066			16.37%
Average % of Reference LR (As-Left)														

TABLE 2, (CONTINUED)
PROJECTED TYPE B AND C LEAK RATES

NOTES

1. A new seat was installed in 2-69-579 during Cycle 5. Subsequent testing was satisfactory.
2. 2-68-555, 2-68-523, 2-68-550, and 2-68-508 were cut out and replaced to improve leakage performance. Subsequent testing was satisfactory.
3. 2-3-554 was modified during the Cycle 5 outage to improve leakage performance.
4. 2-FCV-73-45 was replaced with a different type of valve during Cycle 5 to improve leakage performance.
5. 2-HCV-73-23/603 required extensive maintenance to meet air test acceptance criteria.
6. 2-FCV-71-2/3 failed the cycle 5 as-found test due to a large packing leak. Packing has been modified and is now live load type. Subsequent testing was satisfactory.

The following general notes are applicable to Table 2 in its entirety:

1. The average length of extension requested is 115 days (16% extension).
2. In accordance with ANSI 56.8, measured leak rates that are below the calculated test error are reported as the test error.
3. The extended interval between as-found and as-left tests was due to the extended Cycle 5 outage.

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Seismic Class I Path Increase
Average % of Reference LR (As-Built)

PROJECTION METHODOLOGY UTILIZED FOR TABLES 2 AND 3

The following methodology was used to determine the projected leak rates (LR).

1. Unit 2 cycle 4 as-left data and cycle 5 as-found data were used to obtain the increase in leak rate over the operating cycle (D).
2. The increase in leak rate was then divided by the number of days between the as-left and as-found dates (D/day).
3. The D/day for each component was multiplied by the number of days of the requested extension plus the two-year interval to obtain the projected LR.
4. The increase in the total maximum path leak rate (D Max PLR) was then determined using plant instructions for guidance.

The following conventions were used in calculating the total maximum path leakage rate increase and projected component leak rates.

1. All D less than zero were considered to be zero for the purposes of these calculations.
2. Twelve valves included in the extension were added to the Appendix J program in cycle 5; therefore, no historical information was available. The projected leak rate for these components was considered to be the reference leak rate.
3. Expansion bellows, flanges, and electrical penetrations were not considered as individual components. Historical information indicates no significant increases in as-found leak rates. Total as-found and as-left leak rates for all electrical pen penetrations, flanges, and all bellows penetrations were used in the calculations.
4. The bonnet and packing tests performed on 2-HCV-71-32 and 2-HCV-73-24 were added to the Appendix J program in cycle 5. No historical information is available. However, since resilient seals that were part of the Appendix J program have not been a problem in the past, no significant increase in leakage for these components is anticipated.

PROJECTION METHODOLOGY UTILIZED FOR TABLES 2 AND 3, (CONTINUED)

5. Projected leak rates for Seismic class I components that are water filled or in service during a design basis accident were calculated; however leakage through these components has no impact on the Type B and C leakage limit.
6. 2-HCV-73-23/603 were previously tested with water instead of air. Historical data with air as a test medium are not available. The projected leak rate for these components was considered to be the reference leak rate.

TABLE 4

UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	REF. LR	COMPONENTS	AS-FOUND LR	AF DATE	POST-MAINT LR	PM DATE	AS-LEFT LR	AL DATE	COMMENTS
2-SI-4.7 A.2 g.1	U	V	50	Personnel Airlock	27.1465	9/15/84	17.4144	6/22/91	34.8304	10/20/91	51 psi Test (10-20-91)
2-SI-4.7 A.2 g.2/BLa or	U		0.05	X-7A MS Line A Bellows Inboard	0.0002	3/20/85			0.00313	1/2/91	
			0.05	X-7A MS Line A Bellows Outboard	0.0016	3/20/85			0.00312	1/2/91	
2-SI-4.7 A.2 g.2/BLb	U	V	0.05	X-7B MS Line B Bellows Inboard	0.0014	3/22/85			0.0021	1/19/91	
			0.05	X-7B MS Line B Bellows Outboard	0.0014	3/22/85			0.0031	1/19/91	
			0.05	X-7C MS Line C Bellows Inboard	0.0014	3/22/85			0.0031	1/19/91	
			0.05	X-7C MS Line C Bellows Outboard	0.0014	3/22/85			0.0031	1/19/91	
			0.05	X-7D MS Line D Bellows Inboard	0.0014	3/22/85			0.0031	1/19/91	
			0.05	X-7D MS Line D Bellows Outboard	0.0014	3/22/85			0.0031	1/19/91	
			0.05	X-8 MS Drain Bellows Inboard	0.0004	3/20/85			0.001	1/2/91	
			0.05	X-8 MS Drain Bellows Outboard	0.0011	9/18/85			0.001	1/2/91	
			0.05	X-9A "A" Feedwater Bellows Inboard	0.0013	9/17/85			0.003	10/10/90	
			0.05	X-9A "A" Feedwater Bellows Outboard	0.0013	9/17/85			0.003	10/10/90	
			0.05	X-9B "B" Feedwater Bellows Inboard	0.0014	3/22/85			0.003	10/10/90	
			0.05	X-9B "B" Feedwater Bellows Outboard	0.0014	3/22/85			0.003	10/10/90	
			0.05	X-10 RCI Steam Line Bellows Inboard	0.0008	9/18/85			0.00053	10/1/90	
			0.05	X-10 RCI Steam Line Bellows Outboard	0.0006	9/18/85			0.00052	10/1/90	
			0.05	X-11 HPCI Steam Line Bellows Inboard	0.0006	9/18/85			0.00318	1/20/91	
			0.05	X-11 HPCI Steam Line Bellows Outboard	0.0006	9/18/85			0.00142	1/20/91	
			0.05	X-12 RHRT SDC Line Bellows Inboard	0.0012	3/19/85			0.0026	12/18/90	
			0.05	X-12 RHRT SDC Line Bellows Outboard	0.0012	3/19/85	0.0178	4/22/88	0.0026	12/18/90	
			0.05	X-13A RHRT Disch Line Bellows Inboard	0.002	3/19/85			0.0022	12/18/90	
			0.05	X-13A RHRT Disch Line Bellows Outboard	0.002	3/19/85			0.0022	12/18/90	
			0.05	X-13B PHRT Disch Line Bellows Inboard	0.0101	3/19/85			0.0376	12/18/90	
			0.05	X-13B PHRT Disch Line Bellows Outboard	0.0015	3/19/85			0.003	12/18/90	
			0.05	X-14 RWCU Suction Line Bellows Inboard	0.0006	9/20/85			0.0014	2/2/91	
			0.05	X-14 RWCU Suction Line Bellows Outboard	0.0009	9/20/85			0.0014	2/2/91	
			0.05	X-16A CS Pump Discharge Line Bellows Inboard	0.0011	3/11/85			0.0023	12/19/90	
			0.05	X-16A CS Pump Discharge Line Bellows Outboard	0.0011	3/11/85			0.0023	12/19/90	
			0.05	X-16B CS Pump Discharge Line Bellows Inboard	0.0011	3/11/85			0.0023	12/19/90	
			0.05	X-16B CS Pump Discharge Line Bellows Outboard	0.0011	3/11/85			0.0023	12/19/90	
			0.05	X-17 RPV Head Spray Bellows Inboard	0.0006	3/14/85			N/A	N/A	
			0.05	X-17 RPV Head Spray Bellows Outboard	0.0006	3/14/85			N/A	N/A	
2-SI-4.7 A.2 g.2/ELa or	U	V	0.1	X-100A I&C El. Panel	0.1058	2/3/85	0.02641	9/16/90	0.0095	10/20/91	
			0.1	X-100B Neutron Monit. El. Panel	0.1058	2/3/85	0.1102	11/11/89	0.10327	9/16/90	
2-SI-4.7 A.2 g.2/ELb	U	V	0.1	X-100C Neutron Monit. El. Panel	0.0848	2/10/85	0.0855	10/15/89	0.0826	9/16/90	
			0.1	X-100D Neutron Monit. El. Panel	0.0845	2/10/85	0.0849	10/18/89	0.0824	9/16/90	
			0.1	X-100E Neutron Monit. El. Panel	0.0845	2/10/85	0.0846	10/18/89	0.0828	9/16/90	
			0.1	X-100F Neutron Monit. El. Panel	0.0841	2/10/85	0.0847	10/17/89	0.0824	9/20/90	
			0.1	X-100G Neutron Monit. El. Panel	0.1033	7/21/85	0.1178	10/17/89	0.1018	9/16/90	
			0.1	X-101A RCP Power El. Panel	0.0884	9/16/85	0.0878	9/22/90	0.0905	10/20/91	
			0.1	X-101B RCP Power El. Panel	0.0837	9/16/85	0.0832	9/22/90	0.0904	10/20/91	
			0.1	X-101C RCP Power El. Panel	0.1028	7/21/85	0.1036	9/22/90	0.1067	10/19/91	
			0.1	X-101D RCP Power El. Panel	0.0873	7/21/85	0.0893	9/22/90	0.0899	10/19/91	
			0.1	X-102 Thermocouple El. Panel	0.1063	2/3/85	0.1025	9/15/90	0.1064	12/9/91	
			0.1	X-103 CRD Pos. Ind. El. Panel	0.0841	2/9/85	0.085	10/19/89	0.0827	9/16/90	
			0.1	X-104A I&C El. Panel	0.0896	2/3/85	1.346	12/9/91	0.0904	12/9/91	
			0.1	X-104B CRD Pos. Ind. El. Panel	0.0894	2/3/85	0.1506	9/17/90	0.091	12/9/91	
			0.1	X-104C Neutron Monit. El. Panel	0.0897	2/3/85	0.0867	9/15/90	0.0894	10/20/91	
			0.1	X-104D Thermocouple El. Panel	0.0871	2/10/85	0.1197	10/20/89	0.1241	9/16/90	
			0.1	X-104E I&C El. Panel	0.0877	2/10/85	0.0073	10/17/89	0.0078	9/16/90	
			0.1	X-104F I&C El. Panel	0.0093	7/10/85	0.0004	11/30/87	0.0012	9/16/90	
			0.1	X-105A Power El. Panel	0.05	2/11/88	0.0284	2/17/88	0.011	12/11/90	

Leakage accepted by NDE III

Leakage accepted by NDE III

TABLE 4, (CONTINUED)

UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	REF. UR	COMPONENTS	AS-FOUND UR	AF DATE	POST-MAINT. LR	PM DATE	AS-LEFT UR	AL DATE	COMMENTS
2-SI-4.7 A.2 g. 2/ELa or 2-SI-4.7 A.2 g. 2/ELb			0.1	X-105B RCP Power El. Penet.	0.0938	9/16/85	0.0634	9/22/90	0.0858	10/20/91	
			0.1	X-105C RCP Power El. Penet.	0.103	7/21/85	0.1032	9/22/90	0.107	10/19/91	
			0.1	X-105D Power El. Penet.	0.2145	7/21/85	3.7458	9/21/91	0.00073	2/18/91	
			0.1	X-106A CRD Pos. Ind. El. Penet.	0.103	7/21/85	0.10287	9/16/90	0.1076	12/9/91	
			0.1	X-106B Neutron Monit. El. Penet.	0.1057	2/3/85	0.1024	9/15/90	0.1065	10/20/91	
			0.1	X-107A Neutron Monit. El. Penet.	0.1059	2/3/85	0.01	12/11/90	0.0297	10/20/91	
			0.1	X-107B Neutron Monit. El. Penet.	0.1036	2/3/85	0.0182	9/17/90	0.0099	10/20/91	
			0.1	X-108A Power El. Penet.	0.8447	12/9/84	3.1613	1/12/91	0.00228	2/18/91	
			0.1	X-108B CRD Pos. Ind. El. Penet.	0.0879	2/9/85	0.0692	10/20/89	0.0866	9/18/90	
			0.1	X-109 CRD Pos. Ind. El. Penet.	0.0868	7/21/85	0.08634	9/16/90	0.0901	12/9/91	
			0.1	X-110A Power El. Penet.	0.0887	12/9/84	0.0888	11/16/87	0.0873	9/20/90	
			0.1	X-110B CRD Pos. Ind. El. Penet.	0.0843	2/9/85	0.0951	10/19/89	0.0828	9/18/90	
			0.1	X-219 PSC Vacuum Brkr. El. Penet.	0.0001	3/15/85			0.0002	9/20/90	
			0.04	X-1A Equipment Hatch	0.0614	9/18/84	0.0202	3/10/91	0.02517	3/26/91	Opened Before AF test performed
2-SI-4.7 A.2 g. 2/ELb or 2-SI-4.7 A.2 g. 2/ELb			0.04	X-1B Equipment Hatch	0.0001	10/28/85	0.017	10/15/88	0.00028	2/12/91	
			0.008	X-4 DW Head Access	0.0005	10/22/84	0.0041	9/28/89	0.00027	2/9/91	
			0.001	X-6 CRD Hatch	0.0001	3/16/85	0.0004	10/13/89	0.00008	2/19/91	
			0.001	X-35A TIP Indexer Flange	0.0001	3/16/85	0.0002	10/13/89	0.00011	2/20/91	
			0.001	X-35B TIP Indexer Flange	0.0001	3/16/85	0.0007	10/13/89	0.00008	2/20/91	
			0.001	X-35C TIP Indexer Flange	0.0001	3/16/85	0.0001	10/13/89	0.00008	2/20/91	
			0.001	X-35D TIP Indexer Flange	0.0001	3/16/85	0.0001	10/13/89	0.00008	2/20/91	
			0.001	X-35E TIP Indexer Flange	0.0001	3/16/85	0.0001	10/13/89	0.00008	2/20/91	
			0.001	X-35F TIP Indexer Flange	0.0001	3/16/85	0.0001	7/2/90	0.00009	2/20/91	
			0.001	X-35G Spare	0.0001	3/16/85	0.0006	7/2/90	0.00011	2/20/91	
			0.002	X-47 Power Operation Test Flange	0.00027	2/2/91			0.00027	2/2/91	
			0.015	X-200A Torus Access Hatch	0.0004	9/17/84	0.0002	10/19/91	0.0006	10/20/91	
			0.015	X-200B Torus Access Hatch	0.0002	9/17/84			0.00017	2/9/91	
			0.0016	X-223 Torus Access Hatch	0.0001	9/17/84			0.00008	2/9/91	
			0.6	X-7 Drywell Head	0.121	9/24/84	6.1541	3/14/91	0.1056	4/13/91	
			0.005	X-7 Shear Lug Flange 0"	0.0001	3/17/85	0.0007	10/4/89	0.0003	1/17/91	
			0.005	X-7 Shear Lug Flange 45°	0.0001	3/17/85			0.0002	1/17/91	
			0.005	X-7 Shear Lug Flange 90°	0.0001	3/17/85			0.0005	1/16/91	
			0.005	X-7 Shear Lug Flange 135°	0.0001	3/17/85			0.0004	1/16/91	
			0.005	X-7 Shear Lug Flange 180°	0.0001	3/17/85	0.00524	1/17/91	0.00831	3/12/91	Leakage accepted by NDE III
			0.005	X-7 Shear Lug Flange 225°	0.0002	3/17/85	0.0147	1/17/91	0.0027	3/11/91	
			0.005	X-7 Shear Lug Flange 270°	0.0001	3/17/85	0.003	10/5/89	0.0002	1/17/91	
			0.005	X-7 Shear Lug Flange 3°	0.0001	3/17/85	0.0007	10/4/89	0.0002	1/17/91	
2-SI-4.7 A.2 g. 2/ELb			0	71-597					0.0168	1/29/91	
			0	71-598					0.0168	1/29/91	
			0	71-599					0.0168	1/29/91	
			0	71-600					0.0168	1/29/91	
			0	73-633					0.0172	2/2/91	
			0	73-634					0.0172	2/2/91	
			0	73-635					0.0172	2/2/91	
			0	73-636					0.0172	2/2/91	
2-SI-4.7 A.2 g. 2/ELb			0	71-59/601 B+P			0	7/16/90	0	1/20/91	
			0	73-64/642 B+P					0	1/20/91	

TABLE 4, (CONTINUED)
UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	W/A	REF. LR	COMPONENTS	AS-FOUND LR	RF DATE	POST-MAINT LR	PM DATE	AS-LEFT LR	AL DATE	COMMENTS
2-SI-4.7 A.2 g-3/1a	U	V	A	11.5	1 - 14/15	13.085	9/20/84	149.703	1/6/91	7.0559	1/31/91	
2-SI-4.7 A.2 g-3/1a1	U	V	A	11.5	1 - 14	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1a2	U	V	A	11.5	1 - 15	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1b	U	V	A	11.5	1 - 26/27	1017.8	9/24/84	81.731	1/6/91	8.027	1/31/91	
2-SI-4.7 A.2 g-3/1b1	U	V	A	11.5	1 - 26	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1b2	U	V	A	11.5	1 - 27	0.0065	12/7/84			N/A	N/A	
2-SI-4.7 A.2 g-3/1c	U	V	A	11.5	1 - 37/38	2711.6	9/22/84	346.87	1/6/91	0.3511	1/31/91	
2-SI-4.7 A.2 g-3/1c1	U	V	A	11.5	1 - 37	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1c2	U	V	A	11.5	1 - 38	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1d	U	V	A	11.5	1 - 51/52	17.426	9/22/84	12.4623	9/2/88	5.6999	1/31/91	
2-SI-4.7 A.2 g-3/1e	U	V	A	11.5	1 - 51	N/A	N/A	2.0486	12/22/88	N/A	N/A	
2-SI-4.7 A.2 g-3/1f	U	V	A	11.5	1 - 52	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1g	U	V	A	3	1 - 55/56	1249.5	1/13/85	2.49	9/19/88	2.0739	2/4/91	
2-SI-4.7 A.2 g-3/1h	U	V	A	1	2 - 1383	0.0093	6/11/85	0.1371	9/15/88	0.0169	7/31/90	
2-SI-4.7 A.2 g-3/1i	U	V	A	1	2 - 1192	0.0093	6/11/85	0.4318	9/13/88	0.3173	7/31/90	
2-SI-4.7 A.2 g-3/1j	U	V	A	24	3 - 556	1.0375	1/13/85	6.3479	8/13/86	9.1938	1/15/91	
2-SI-4.7 A.2 g-3/1k	U	V	A	24	3 - 554	107.63	1/13/85	50.3884	1/15/91	1.5416	1/15/91	
2-SI-4.7 A.2 g-3/1l	U	V	A	14	73 - 44	0.0082	7/13/85			N/A	N/A	
2-SI-4.7 A.2 g-3/1m	U	V	A	14	73 - 45	232.71	7/13/85			4.5509	1/15/91	
2-SI-4.7 A.2 g-3/1n	U	V	A	24	3 - 558	N/A	N/A	5.8637	8/20/88	N/A	N/A	
2-SI-4.7 A.2 g-3/1o	U	V	A	24	3 - 554	N/A	N/A	7.303	8/20/88	N/A	N/A	
2-SI-4.7 A.2 g-3/1p	U	V	A	14	73 - 44	N/A	N/A			N/A	N/A	
2-SI-4.7 A.2 g-3/1q	U	V	A	14	73 - 45	N/A	N/A	0.1256	10/1/89	N/A	N/A	
2-SI-4.7 A.2 g-3/1r	U	V	A	24	3 - 572	0.0082	3/19/85			1.551	9/14/90	
2-SI-4.7 A.2 g-3/1s	U	V	A	24	3 - 568	0.0082	3/19/85			3.5025	9/14/90	
2-SI-4.7 A.2 g-3/1t	U	V	A	4	69 - 579	264.75	3/19/85	0.1576	5/20/86	2.3595	9/14/90	
2-SI-4.7 A.2 g-3/1u	U	V	A	6	71 - 39	0.0083	3/19/85	1.7979	9/14/90	N/A	N/A	
2-SI-4.7 A.2 g-3/1v	U	V	A	6	71 - 40	0.5873	3/19/85			2.6237	9/14/90	
2-SI-4.7 A.2 g-3/1w	U	V	A	4	65 - 576	0.4474	3/19/85			1.375	9/14/90	
2-SI-4.7 A.2 g-3/1x	U	V	A	24	3 - 572	N/A	N/A	2.2936	8/26/88	N/A	N/A	
2-SI-4.7 A.2 g-3/1y	U	V	A	24	3 - 568	N/A	N/A	0.1261	8/28/86	N/A	N/A	
2-SI-4.7 A.2 g-3/1z	U	V	A	4	69 - 579	N/A	N/A	1.6654	9/11/83	N/A	N/A	
2-SI-4.7 A.2 g-3/2a	U	V	A	6	71 - 39	N/A	N/A	0.751	9/9/88	N/A	N/A	
2-SI-4.7 A.2 g-3/2b	U	V	A	6	71 - 40	N/A	N/A	2.8455	8/29/88	N/A	N/A	
2-SI-4.7 A.2 g-3/2c	U	V	A	4	85 - 576	N/A	N/A	0.0175	8/11/88	N/A	N/A	
2-SI-4.7 A.2 g-3/2d	U	V	A	0.1	12 - 738	0.00135	7/13/85	0.0036	10/26/89	0.0012	7/30/90	
2-SI-4.7 A.2 g-3/2e	U	V	A	0.1	12 - 741	0.0068	7/13/85	0.0036	10/26/89	0.0091	7/30/90	
2-SI-4.7 A.2 g-3/2f	U	V	A	3	32 - 62/63	0.7731	6/1/85	0.6177	10/28/90	0.9535	10/19/91	
2-SI-4.7 A.2 g-3/2g	U	V	A	1	32 - 336	0.0093	6/2/85	0.0177	5/23/88	0.01656	8/5/90	
2-SI-4.7 A.2 g-3/2h	U	V	A	1	32 - 2163	0.2629	6/2/85	1.7885	8/12/90	0.253	8/20/90	
2-SI-4.7 A.2 g-3/2i	U	V	A	1	84 - 617	N/A	N/A	0.0177	5/23/88	0.01656	8/5/90	
2-SI-4.7 A.2 g-3/2j	U	V	A	1	32-2516	N/A	N/A			0.0168	2/5/91	
2-SI-4.7 A.2 g-3/2k	U	V	A	1	32-2521	N/A	N/A	4.3529	12/26/90	0.0168	2/5/91	
2-SI-4.7 A.2 g-3/2l	U	V	A	1	84-680	N/A	N/A	4.1713	12/26/90	0.0168	2/5/91	
2-SI-4.7 A.2 g-3/2m	U	V	A	1	33 - 765	0.8695	6/2/85	0.04352	7/31/90	0.2712	10/20/91	
2-SI-4.7 A.2 g-3/2n	U	V	A	1	33 - 1070	0.652	6/2/85	0.0160	7/31/90	0.2723	10/20/91	
2-SI-4.7 A.2 g-3/2o	U	V	A	0.75	43 - 13	0.0082	7/20/85	0.3172	7/31/89	0.0179	2/13/91	
2-SI-4.7 A.2 g-3/2p	U	V	A	0.75	43 - 14	0.0753	7/20/85	0.0172	2/13/89	0.2806	2/13/91	
2-SI-4.7 A.2 g-3/2q	U	V	A	0.038	43 - 28A	0.0017	5/4/85	0.001	8/16/88	0.00316	10/3/90	
2-SI-4.7 A.2 g-3/2r	U	V	A	0.038	43 - 28B	0.0195	5/4/85	0.001	8/16/88	0.00238	10/3/90	
2-SI-4.7 A.2 g-3/2s	U	V	A	0.038	43 - 28A	0.005	5/4/85	0.0025	8/16/88	0.0063	8/1/90	
2-SI-4.7 A.2 g-3/2t	U	V	A	0.038	43 - 29B	0.0012	5/4/85	0.001	8/16/88	0.0063	8/1/90	

TABLE 4, (CONTINUED)

Enclosure 1
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UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	W/A	REF. LR	COMPONENTS	AS-FOUND LR	AF DATE	POST-MAINT. LR	PM DATE	AS-LEFT LR	AL DATE	COMMENTS
2-SI-4.7.A.2.g-3/43d	U	V	A	0.5	43 - 40	N/A	N/A	0.3487	3/3/91	0.3538	3/13/91	Leakage accepted by NDE III
			A	0.5	43 - 42	N/A	N/A	0.3822	3/3/91	0.6863	3/13/91	
2-SI-4.7.A.2.g-3/43e	U	V	W	0.025	43 - 50	N/A	N/A	0.30285	3/3/91	0.002	3/12/91	
			W	0.025	43 - 56	N/A	N/A	0.00091	3/3/91	0.0009	3/12/91	
2-SI-4.7.A.2.g-3/43f	U	V	A	0.5	43 - 70	N/A	N/A	N/A	N/A	0.0173	3/3/91	
2-SI-4.7.A.2.g-3/63	U	V	A	1.5	63 - 525	0.0094	4/21/85	13.0246	7/27/90	0.0175	8/7/90	
			A	1.5	63 - 526	0.0094	4/21/85	0.0831	9/1/88	0.0165	8/7/90	
2-SI-4.7.A.2.g-3/64a	U	V	A	10	64 - 17/18/19/76-24	318.47	12/8/84	109.8725	12/22/90	3.0469	2/3/91	Leakage accepted by NDE III
			A	0	64 - 18FL	0.00179	6/10/87	0.0169	10/24/88	0.2447	2/3/91	
			A	0	64 - 19FL	0.0033	6/10/87	0.0169	10/24/88	0.0168	1/26/91	
2-SI-4.7.A.2.g-3/64b	U	V	A	20	64 - 20/800	18.038	12/9/84	0.4167	1/3/91	1.3721	5/7/91	
			A	0	64 - 20FL	0.30068	6/10/87	0.0173	1/3/91	0.0179	5/7/91	
2-SI-4.7.A.2.g-3/64c	U	V	A	20	64 - 21/801	120.75	12/9/84	0.0178	4/21/88	0.0173	3/4/91	
			A	0	64 - 21FL	0.0001E	6/10/87	0.0178	4/21/88	0.0173	3/4/91	
2-SI-4.7.A.2.g-3/64d	U	V	A	10	64 - 29/30/32/33/84-19	104.33	12/8/84	316.4809	5/17/89	1.1871	5/1/91	
			A	0	64 - 29FL	0.09028	6/10/87	0.0176	8/2/88	0.0177	5/1/91	
			A	0	64 - 32FL	0.00958	6/10/87	0.0176	8/2/88	0.0177	5/1/91	
2-SI-4.7.A.2.g-3/64e	U	V	A	2	64 - 31/34/139/140/84-20	0.0094	12/8/84	1.2409	7/10/91	0.351	7/10/91	
			A	0	64 - 31FL	0.00028	6/11/87	0.0175	7/11/88	0.018	3/9/91	
			A	0	64 - 34FL	0.00006	6/10/87	0.018	3/9/91	0.0176	6/24/91	
2-SI-4.7.A.2.g-3/68a	U	V	A	0.75	68 - 508	41.905	12/8/84	0.0175	7/21/88	0.1633	1/5/91	
			A	0.75	68 - 550	109.75	12/8/84	0.0175	7/21/88	0.2445	1/5/91	
2-SI-4.7.A.2.g-3/68b	U	V	A	0.75	68 - 523	0.0094	12/8/84	0.0175	7/21/88	0.0165	8/4/90	
			A	0.75	68 - 555	24.757	12/9/84	0.0175	7/21/88	0.0165	8/4/90	
2-SI-4.7.A.2.g-3/69	U	V	A	6	69 - 1	0.0551	9/20/85	0.9916	8/21/88	0.5084	9/5/90	
			A	6	69 - 2	0.0551	9/20/85			3.9454	9/5/90	
2-SI-4.7.A.2.g-3/70	U	V	A	5	70 - 47	291.8	9/14/87	0.0169	9/27/90	0.0171	12/5/90	
			A	5	70 - 506	167.73	9/14/87	4.5866	5/17/90	0.0165	8/5/90	
2-SI-4.7.A.2.g-3/71a	U		A	3	71 - 2/3	51.888	7/22/85	0.0095	6/9/86	0.0167	1/24/91	
2-SI-4.7.A.2.g-3/71b	U	V	A	10	71 - 14/580	28.5882	10/28/84	1.8567	3/2/91	1.316	3/15/91	
			A	0	71 - 14P	0.3926	1/22/86	0.0172	3/2/91	0.1216	3/15/91	Leakage accepted by NDE III
			A	0	71 - 4B	0.0083	3/18/85	1.336	10/12/90	0.0178	5/3/91	
2-SI-4.7.A.2.g-3/71c	U	V	W	0.1	71 - 14	0.0036*	8/26/85	0.0225	9/17/88	0.003	1/30/91	
			W	0.1	71 - 147	0.0036*	8/26/85	0.0075	9/17/88	0.003	1/30/91	
2-SI-4.7.A.2.g-3/71d	U	V	W	0.3	71 - 17 Body	0.0765	8/27/85	0.0225	1/23/91	0.0036	3/29/91	
			W	0	71-17 Packing			0.0036	10/26/88	N/A	N/A	PACKING MODIFIED
			W	0.3	71 - 8			0.09	10/26/88	0.09	1/23/91	
2-SI-4.7.A.2.g-3/71e	U		W	0.1	71 - 32/592	0.003	10/28/84	0.0036	9/7/90	0.003	11/26/90	
			A	0	71 - 32B+P	0.19802	1/7/86	0.0169	9/7/90	0.017	11/26/90	AF TESTED FROM WITHIN TORUS
2-SI-4.7.A.2.g-3/73a	U		A	10	73 - 21/81	35.629	5/6/85	9.159	2/3/91	1.3038	5/9/91	
2-SI-4.7.A.2.g-3/73b	U	V	A	20	73 - 23/603	33.517	10/27/84	5.2197	9/21/88	6.5971	1/13/91	
			A	0	73 - 23P	0.0038	3/18/85	0.3313	1/25/91	0.0172	1/30/91	
			A	0	73 - 23B	6.169	1/22/86	0.0176	9/21/88	0.0169	1/13/91	
2-SI-4.7.A.2.g-3/73c	U		W	0.1	73 - 24/609	0.003	10/27/84			0.0036	8/15/90	
			A	0	73 - 24B+P	0.145	1/7/86			0.0167	8/25/90	AF TESTED FROM WITHIN TORUS
2-SI-4.7.A.2.g-3/73d	U	V	W	0.8	73 - 26	0.9463	10/17/85	0.4612	11/30/88	0.27	2/25/91	
			W	0.8	73-27	N/A	N/A	0.225	10/27/88	0.09	2/25/91	
2-SI-4.7.A.2.g-3/73e	U		W	0.1	73 - 30	0.090*	8/28/85	0.036	2/25/91	0.0036	3/17/91	AF TESTED SIMULTANEOUSLY
			W	0.1	73 - 559	0.090*	8/26/85			0.0036	2/25/91	
2-SI-4.7.A.2.g-3/74a	U	V	W	1.2	74 - 53	0.0477	12/8/84	0.0225	7/29/88	0.009	11/3/90	
			W	1.2	74 - 54	0.27	12/9/84	0.135	5/16/88	0.549	11/3/90	
2-SI-4.7.A.2.g-3/74b	U	V	W	0.6	74 - 57/58	48.56	10/28/84	2.025	10/31/90	0.396	11/5/90	

TABLE 4, (CONTINUED)

UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	W/A	REF. LR	COMMENTS	AS-FOUND LR	AF DATE	POST-MANT LR	PM DATE	AS-LEFT LR	AL DATE	COMMENTS
2-SI-4.7 A.2 g. 3/74c	U	V	W	0.6	74 - 80	0.0072	12/9/84	0.0675	8/16/88	0.315	11/2/90	TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/74d	U	V	W	0.6	74 - 81	N/A	N/A	N/A	N/A	0.2255	11/2/90	
2-SI-4.7 A.2 g. 3/74e	U	V	W	1.2	74 - 87	0.2286	11/1/84	0.045	8/1/88	0.2565	11/1/90	
2-SI-4.7 A.2 g. 3/74f	U	V	W	1.2	74 - 88	0.243	11/2/84	4.05	11/1/90	0.436	11/9/90	
2-SI-4.7 A.2 g. 3/74g	U	V	W	0.6	74 - 71/72	0.3555	10/28/84	3.7327	11/4/90	0.576	11/15/90	TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/74h	U	V	W	0.6	74 - 74	0.0036	6/23/85	0.144	8/2/88	0.4365	11/1/90	
2-SI-4.7 A.2 g. 3/74i	U	V	W	0.6	74 - 75	N/A	N/A	N/A	N/A	0.171	11/1/90	
2-SI-4.7 A.2 g. 3/74j	U	V	W	0.6	74 - 47	12.113	1/3/85	0.1178	8/21/88	3.6238	10/30/90	
2-SI-4.7 A.2 g. 3/74k	U	V	W	0.6	74 - 48	4.3393	1/13/85	1.473	8/12/88	5.5614	11/1/90	
2-SI-4.7 A.2 g. 3/74l	U	V	W	0.6	74 - 861/862	0.0505	1/13/85	0.0178	8/26/88	0.721	10/30/90	
2-SI-4.7 A.2 g. 3/74m	U	V	W	0.4	74 - 722	0.495	10/27/84	0.2051	10/26/88	0.054	8/16/90	
2-SI-4.7 A.2 g. 3/74n	U	V	W	0.1	74 - 792	N/A	N/A	N/A	N/A	0.0225	2/22/91	
2-SI-4.7 A.2 g. 3/74o	U	V	W	0.1	74 - 804	0.0036	11/14/87	0.0144	5/9/88	0.0056	9/8/90	
2-SI-4.7 A.2 g. 3/74p	U	V	W	0.1	74 - 802	0.0036	11/15/87	0.0144	4/25/88	0.0036	9/8/90	
2-SI-4.7 A.2 g. 3/74q	U	V	W	0.1	74 - 803	36.02	11/15/87	0.0225	4/25/88	0.0036	10/24/90	
2-SI-4.7 A.2 g. 3/74r	U	V	W	0.6	75 - 25	0.0063	6/23/85	0.0266	8/29/88	0.135	8/9/90	
2-SI-4.7 A.2 g. 3/74s	U	V	W	0.6	75 - 26	2.133	6/23/85	0.018	3/2/89	0.0225	8/9/90	
2-SI-4.7 A.2 g. 3/74t	U	V	W	0.6	75 - 53	0.0063	2/10/85	0.09	7/28/88	0.1125	8/10/90	
2-SI-4.7 A.2 g. 3/74u	U	V	W	0.6	75 - 54	0.1278	2/10/85	32.4	8/10/90	0.198	8/25/90	
2-SI-4.7 A.2 g. 3/74v	U	V	W	0.15	75 - 57/58	0.0063	3/15/85	0.18	8/5/88	0.009	9/4/90	
2-SI-4.7 A.2 g. 3/74w	U	V	W	0.1	75 - 609	0.0036	11/14/87	0.324	8/29/90	0.009	8/29/90	
2-SI-4.7 A.2 g. 3/74x	U	V	W	0.1	75 - 610	0.009	11/14/87	0.324	8/29/90	0.0036	8/29/90	
2-SI-4.7 A.2 g. 3/74y	U	V	W	0.1	75 - 606	0.0036	11/15/87	0.0225	9/5/88	0.0056	8/28/90	
2-SI-4.7 A.2 g. 3/74z	U	V	W	0.1	75 - 607	0.009	11/15/87			0.027	8/28/90	Leakage Accepted by NDE III
2-SI-4.7 A.2 g. 3/75a	U	V	W	0.5	76 - 49	0.0094	3/9/85	0.0175	8/16/88	0.52.7	2/6/91	Leakage Accepted by NDE III
2-SI-4.7 A.2 g. 3/75b	U	V	W	0.5	76 - 50	0.0094	3/9/85	0.0175	8/16/88	0.5549	2/6/91	Leakage Accepted by NDE III
2-SI-4.7 A.2 g. 3/75c	U	V	W	0.5	76 - 55	0.0082	7/20/85	0.1645	2/6/91	0.018	2/10/91	
2-SI-4.7 A.2 g. 3/75d	U	V	W	0.5	76 - 56	0.0082	7/20/85	0.2321	2/6/91	0.1344	2/10/91	
2-SI-4.7 A.2 g. 3/75e	U	V	W	0.5	76 - 57	0.0082	7/20/85	0.0175	8/16/88	0.0168	2/6/91	
2-SI-4.7 A.2 g. 3/75f	U	V	W	0.5	76 - 58	0.0082	7/20/85	0.0175	8/16/88	0.0168	2/6/91	
2-SI-4.7 A.2 g. 3/75g	U	V	W	0.5	76 - 59	0.0093	3/10/85	0.0175	8/16/88	0.0168	2/6/91	
2-SI-4.7 A.2 g. 3/75h	U	V	W	0.5	76 - 60	0.0093	3/10/85	0.0175	8/16/88	0.0168	2/6/91	
2-SI-4.7 A.2 g. 3/75i	U	V	W	0.5	76 - 65	0.0082	7/20/85	0.0169	5/5/89	0.2389	2/6/91	
2-SI-4.7 A.2 g. 3/75j	U	V	W	0.5	76 - 66	0.0082	7/20/85	0.0169	5/5/89	0.1645	2/6/91	
2-SI-4.7 A.2 g. 3/75k	U	V	W	0.5	76 - 67	0.0082	7/20/85	0.0168	2/6/91	0.0969	3/14/91	
2-SI-4.7 A.2 g. 3/75l	U	V	W	0.5	76 - 68	0.0082	7/20/85	0.0175	9/18/88	0.0168	2/6/91	
2-SI-4.7 A.2 g. 3/75m	U	V	W	2	76 - 1/18/19	0.0094	1/19/85	0.4283	11/27/90	2.0774	10/18/91	Leakage Accepted by NDE III
2-SI-4.7 A.2 g. 3/75n	U	V	W	0	76 - 8FL	0.0001	3/10/85	0.0171	11/27/90	0.0168	10/18/91	
2-SI-4.7 A.2 g. 3/75o	U	V	W	0	76 - 19FL	0.0001	3/10/85	0.0171	11/27/90	0.0168	10/18/91	
2-SI-4.7 A.2 g. 3/75p	U	V	W	3	77 - 2a	2.4293	1/13/85	0.6113	12/17/88	0.7914	11/30/90	
2-SI-4.7 A.2 g. 3/75q	U	V	W	3	77 - 2b	2.4293	1/13/85	3.9373	8/30/89	0.4428	11/30/90	
2-SI-4.7 A.2 g. 3/75r	U	V	W	3	77 - 15a	2.1564	1/13/85	0.0383	12/17/88	0.5858	11/30/90	
2-SI-4.7 A.2 g. 3/75s	U	V	W	3	77 - 15b	2.1564	1/13/85	0.4636	12/17/88	1.0866	11/30/90	
2-SI-4.7 A.2 g. 3/75t	U	V	W	1	84 - 8A	33.981	1/10/85	1.6452	10/14/89	0.0181	2/14/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75u	U	V	W	1	84 - 600	33.981	1/10/85	0.0182	10/14/89	0.0181	2/14/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75v	U	V	W	1	84 - 85	6.5637	1/19/85	0.0180	2/14/91	0.0173	3/9/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75w	U	V	W	1	84 - 501	6.5637	1/19/85	0.0182	11/15/89	0.0181	2/14/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75x	U	V	W	1	84 - 8C	0.2126	1/19/85	0.0182	10/12/89	0.0171	2/7/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75y	U	V	W	1	84 - 503	0.2126	1/19/85	0.1977	10/12/89	0.1634	2/7/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/75z	U	V	W	1	84 - 8D	0.0097	1/19/85	1.121	10/14/89	0.0171	2/7/91	AF TESTED SIMULTANEOUSLY
2-SI-4.7 A.2 g. 3/76a	U	V	W	1	84 - 502	0.0097	1/19/85	0.0182	10/14/89	0.0171	2/7/91	AF TESTED SIMULTANEOUSLY

TABLE 4, (CONTINUED)

UNIT 2, CYCLE 5 AS-FOUND/AS-LEFT TEST RESULTS

SURVEILLANCE INSTRUCTION	U	V	W/A	REF. LR	COMPONENTS	UND LR	AF DATE	POST-MAINT. LR	PM DATE	AS-LEFT LR	AL DATE	COMMENTS
2-SI-4.7.A.2.g-3/94a	U	V	A	1	94 - 501	7.6044	3/8/85	0.0175	8/8/86	0.0173	2/17/91	
			A	1	94 - 502	2.4747	3/9/85	0.0175	8/8/86	0.0173	2/17/91	
			A	1	94 - 503	1.6193	3/8/85	0.0175	8/8/88	0.0173	2/17/91	
			A	1	94 - 504	0.0567	3/9/85	0.611	8/8/86	0.0173	2/17/91	
			A	1	94 - 505	0.3807	3/9/85	1.0523	2/18/91	0.0178	5/23/91	
2-SI-4.7.A.2.g-3/94b	U	V	A	1	94 - 653	0.0083	3/10/85	1.0523	8/2/86	0.0172	2/26/91	

UNIT 2 FORCED OUTAGE TESTING PRIORITY

SUPPLY LINE INSTRUCTIONS	Duration	Priority	Reference LR Component	Drywall Entry	Draining	RRCS	M/I Support	No Restriction	AS-LE7 LR	AL DATE	Comments
2-SI-4.7 A 2 g 374f	10	19	W 0.6 74. 74			X			0.4365	11/1/90	
2-SI-4.7 A 2 g 374c	10	19	W 0.6 74. 75			X			0.171	11/1/90	
2-SI-4.7 A 2 g 374a	6	None 3	W 0.6 74. 61			X			0.315	11/2/90	
2-SI-4.7 A 2 g 374b	10	15	W 0.6 74. 53	X		X			0.0225	11/2/90	
2-SI-4.7 A 2 g 374e	10	16	W 0.6 74. 54	X		X			0.549	11/3/90	
2-SI-4.7 A 2 g 374d	10	10	W 0.6 74. 55			X			0.386	11/5/90	
2-SI-4.7 A 2 g 374g	10	10	W 0.6 74. 56			X			0.576	11/15/90	
2-SI-4.7 A 2 g 374i	10	10	W 0.6 74. 57			X			0.603	11/26/90	Requires Sealhead
2-SI-4.7 A 2 g 377e	10	Note 8	A 3 77. 28	X	X		X		0.017	11/26/90	Requires Sealhead
2-SI-4.7 A 2 g 377f	10	Note 5	A 3 77. 29	X	X		X		0.914	11/30/90	Requires Sealhead
2-SI-4.7 A 2 g 377g	10	Note 5	A 3 77. 29	X	X		X		0.4428	11/30/90	Requires Sealhead
2-SI-4.7 A 2 g 377h	10	Note 5	A 3 77. 29	X	X		X		0.5858	11/1/90	Requires Sealhead
2-SI-4.7 A 2 g 377i	10	Note 5	A 3 77. 29	X	X		X		1.0866	11/30/90	Requires Sealhead
2-SI-4.7 A 2 g 377j	10	Note 5	A 3 77. 29	X	X		X		0.011	12/11/90	Requires Sealhead
2-SI-4.7 A 2 g 377k	10	Note 5	A 3 77. 29	X	X		X		0.0026	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377l	10	Note 5	A 3 77. 29	X	X		X		0.0026	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377m	10	Note 5	A 3 77. 29	X	X		X		0.0022	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377n	10	Note 5	A 3 77. 29	X	X		X		0.0022	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377o	10	Note 5	A 3 77. 29	X	X		X		0.003	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377p	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377q	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377r	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377s	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377t	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377u	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377v	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377w	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377x	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377y	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377z	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377aa	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ab	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ac	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ad	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ae	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377af	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ag	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ah	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ai	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377aj	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ak	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377al	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377am	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377an	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ao	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ap	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377aq	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ar	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377as	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377at	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377au	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377av	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377aw	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ax	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ay	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377az	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ba	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bb	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bc	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bd	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377be	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bf	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bg	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bh	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bi	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bj	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bk	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bl	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bm	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bn	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bo	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bp	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bq	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377br	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bs	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bt	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bu	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bv	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bw	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bx	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377by	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377bz	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ca	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cb	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cc	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cd	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ce	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cf	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cg	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ch	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ci	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cj	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ck	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cl	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cm	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cn	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377co	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cp	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cq	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cr	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cs	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377ct	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cu	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cv	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cw	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cx	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cy	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377cz	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377da	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377db	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377dc	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377dd	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377de	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7 A 2 g 377df	10	Note 5	A 3 77. 29	X	X		X		0.0023	12/18/90	Requires Sealhead
2-SI-4.7											

TABLE 5, (CONTINUED)

UNIT 2 FORCED OUTAGE TESTING PRIORITY

Notes:

1. Electrical penetrations will be tested as the outage schedule permits as filler work.
2. Expansion bellows will be tested as the outage schedule permits as filler work after all electrical penetrations are tested.
3. Shear lugs are located at the top of the drywell. High temperature and radiation conditions at this location present a significant risk to personnel.
4. High coolant and component temperatures may adversely affect test results and personnel safety.
5. RCP pump seal water is isolated to perform this test. System fill and venting is required prior to system return to service.
6. Requires disassembly of sump pump discharge piping. High dose rates, high contamination levels, and heat stress conditions may be present.

ENCLOSURE 2

SUMMARY OF THE COMMITMENT MADE IN THIS LETTER

Additional LLRT testing will be performed during any forced outage of sufficient duration should one occur prior to the Unit 2, Cycle 6 refueling outage.