

# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 90-302

May 19, 1995  
3F0595-02

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

Subject: One-Time Scheduler Exemption Request from 10 CFR 50, Appendix J

Reference: A. FPC to NRC, 3F0388-16, letter dated March 21, 1988  
B. FPC to NRC, 3F0192-16, letter dated January 29, 1992

Dear Sir:

Florida Power Corporation (FPC) is hereby submitting a one-time scheduler exemption request from the requirements of 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors," regarding Integrated Leak Rate Testing (ILRT) testing frequency for Crystal River Unit 3 (CR-3). The proposed exemption would allow CR-3 to perform the next ILRT during our Refueling Outage 11 (R11) currently scheduled for Spring of 1998.

The attachment includes a description of the proposed exemption request, the reason for the request and its basis. The basis provided in the attachment provides a regulatory review section that evaluates the applicability of 10 CFR 50.12 to the request, the evaluation concludes this proposed exemption meets the requirements of 10 CFR 50.12; provides CR-3's Types A, B and C testing history which justifies the proposed reduction of ILRTs during the current 10-year service period; describes the structural capabilities of the CR-3 containment and provides a probabilistic safety assessment.

9505300084 950519  
PDR ADOCK 95000302  
P PDR

AD17

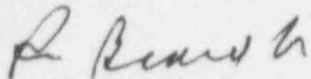
U. S. Nuclear Regulatory Commission

3F0595-02

Page 2

FPC has recently adopted the Improved Technical Specifications (ITS). The ITS requirements for Type A testing are to follow the requirements of Appendix J with approved exemptions. Therefore, no license amendment is required.

Sincerely,



P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

PMB/LVC  
Attachment

xc: Regional Administrator, Region II  
Senior Resident Inspector  
NRR Project Manager

**10 CFR 50.55, APPENDIX J EXEMPTION REQUEST  
CRYSTAL RIVER UNIT 3**

**DESCRIPTION OF THE PROPOSED EXEMPTION REQUEST**

Title 10 of the Code of Federal Regulations, Part 50.55, Appendix J, Section III.D.1, "Primary Containment Overall Integrated Leakage Rate Periodic Testing (ILRT)" requires "a set of three Type A (Integrated Leak Rate Tests) tests shall be performed, at approximately equal intervals during each 10-year service period". The third test of each set shall be conducted when the plant is shutdown for the 10-year plant inservice inspections.

Florida Power Corporation (FPC) in accordance with the provisions of 10 CFR 50.12 is requesting a one-time schedular exemption from those requirements for CR-3. Specifically, FPC is requesting a deferral of our next ILRT until Spring 1998 (CR-3's Refueling Outage 11). The technical analyses supporting this request, indicates that this one-time exemption does not add any significant risk to public health and safety.

FPC has recently adopted the Improved Technical Specifications (ITS). The ITS requirements for Type A testing are to follow the requirements of Appendix J with approved exemptions. Therefore, no license amendment is required.

**REASON FOR THE REQUEST**

The current ISI/IST service period for CR-3 started in March 1987 (Second 10-year service period) and ends in March 1997. CR-3 has performed one ILRT during this service period in November 7, 1991. FPC performed a prior test in November 1987. However, FPC counted the 1987 test as the third test of the first 10-year interval (10 CFR 50.55a establishes the requirements for inspections by referencing to the ASME Code, Section XI which allows the extension of the 10-year interval to coincide with a refueling outage). Therefore, FPC can only "take credit" for the November 1991 test for the current interval. The next ILRT for the interval was originally scheduled for Refuel 9 (April 1994). However, FPC re-scheduled the test until the then planned next mid-cycle outage due schedular impact upon Refuel 9. That mid-cycle outage (Spring 1995) was not conducted due to the improved system and equipment performance during this cycle.

The next available opportunity for performing the ILRT would be in Spring 1996 (Refuel 10). However, if our request for exemption is approved, FPC would be able to save over two million dollars and would produce a reduction in personnel radiation exposure. Therefore, we propose scheduling the next ILRT in Refuel 11 (1998).

## BASES FOR THE EXEMPTION REQUEST

### Regulatory Review

The provisions of 10 CFR 50.12 (a)(1) apply in that the proposed exemption is authorized by law, will not present an undue risk to the public health and safety and is consistent with the common defense and security. The Special Circumstances required by 10 CFR 50.12 (a)(2)(ii) "Application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule", apply to this situation. A one-time schedular exemption from the Type A testing frequency of Appendix J is requested on the following basis.

The exemption request meets the underlying purpose of the regulation. Appendix J states that the purpose of Type A tests is to assure, by periodic verification tests, the leak tight integrity of the primary reactor containment. The following discussion contains information pertaining to Types A, B and C testing history, structural capability, and risk assessment. The discussion establishes that CR-3 has shown acceptable containment leakage rates which are confirmed by satisfactory local leak rates (LLRTs) performed on penetrations and containment isolation valves; that structural integrity is assured; and, that the risk in changing the Type A testing frequency is negligible.

This exemption request does not affect the periodic schedule for Type B and C. The performance of Types B and C testing demonstrate the leak-tightness of the penetrations and associated components. Thus, providing a high degree of confidence that the containment will not significantly degrade while this exemption is in effect. This confidence is supported by:

- a) The two most recent Type A test data which shows the 95% Upper Confidence Limit (UCL) leakage rates to be 0.097 weight % per day and 0.0958 weight % per day for the 1987 and 1991 ILRTs respectively. These values when corrected for maintenance penalties were within the acceptance limit of  $.75 L_a$  (.1875 weight % per day). Additionally, combined Types B and C leakage tests results have been significantly below the acceptance criteria of Appendix J ( $0.6 L_a$ ) as shown in Table A.
- b) There have been no modifications to the containment structure, liner or penetrations since the last Type A test that could adversely affect the Type A test results.
- c) No modifications that require a Type A test are planned prior to the 1998 refueling outage.
- d) There have been no pressure or temperature excursions since the last Type A test in the containment which could have adversely affected containment integrity.

Operating experience demonstrates that essentially all containment leakage can be detected by LLRTs (Type B and C). As noted in draft NUREG-1493, out of 180 ILRT reports which covered 110 individual reactors and approximately 770 years of operating history, only 5 ILRT failures were found which local leak rate testing could not detect. Therefore, it is unlikely that this one-time exemption for the performance of Type A testing at CR-3 would result in significant degradation of the overall containment integrity. As a result the application of the regulation's stated frequency in this particular circumstance is not necessary to achieve the underlying purpose of the rule.

## **BASES FOR THE EXEMPTION REQUEST (continued)**

### **Type A Testing History**

The CR-3 testing history provides justification for the proposed reduction of the number of ILRTs during the current service period. Two ILRTs have been performed during the last seven years with successful results (all previous tests have also been successful). The results of the last two tests are significant to show that this request is also consistent with the recommended performance criteria for establishing Type A test intervals given in the draft industry guidelines for implementing performance-based option of the proposed 10 CFR Part 50, Appendix J Rule. The following summaries provide the results of the 1987 and 1991 ILRTs.

#### November 13-15, 1987

The test was performed using the Absolute Method of leakage rate determination. The test data analysis was done by the Total Time Method as described in ANSI N45.4-1972 and by the Mass Point Method described in ANS 56.8-81. The 95 % UCL leakage rate was .097 % wt/day. The total reported leakage value by the Total Time method, after corrections for pre-test valve repairs and in-test valve lineups was 0.137 weight % per day. This value is less than the Appendix J acceptance criteria value of 0.1875 weight % per day ( $.75L_g$ ). A detailed discussion of the results was provided to the NRC in Reference A.

#### November 7, 1991

This periodic type A test was performed using the Absolute Method of leakage determination as described in ANSI/ANS 56.8-1987, "Containment System Leakage Testing Requirements". The 95 % UCL leakage rate was .0958 % wt/day. The total leakage value after corrections by the Total Time Analysis Method was 0.0986 weight % per day and by the Mass Point Analysis after corrections for pre-tests valve repairs and in-test valve lineups was 0.1014 weight % per day. Those values are lower than the allowable ( $0.75 L_g = 0.1875$ ) weight % per day. The complete report was provided to the NRC in Reference B.

### **Types B and C Testing History**

FPC has a good record of leak tight containment as summarized below and as shown in Table A (immediately follows) which contain the minimum path LLRT results for each penetration that is in the LLRT program. The tables show that the overall combined as-found leakage in each campaign (from 1983 to 1994) was less than the allowed combined Type B and C leakage rate of  $0.6 L_g$  (266,431 SCCM) at the calculated maximum peak containment pressure as specified in Appendix J.

The as-left leakage was also significantly under the allowable. As Table A shows, the results of LLRTs have always been acceptable. Furthermore, those results have continuously improved and as could be seen in the table, the combined Types B and C tests resulting leakage has trend down since the 1987 campaign. This shows FPC's commitment to fix those components that may not perform to the expected criteria.

FPC imposes administrative limits based on valve opening size. When valves fail to meet those administrative limits, the valves are repaired or replaced and re-tested. Corrective measures are taken in accordance with the CR-3's Inservice Testing and Repair and Replacement Programs. Table B shows in detail, the maximum path, LLRT leakage rate results for the CR-3 last refueling outage (1994). This table provides the as-found and as-left leakage rates for electrical penetrations and containment isolation valves. It could be seen from



### **BASES FOR THE EXEMPTION REQUEST (continued)**

the values on the as-left column in that table, that containment isolation valves which presented leakage rates higher than allowed by FPC's administrative limits were repaired and re-tested.

The downward leakage trend shown in Table A, has been confirmed by the ILRT results which have also shown acceptable results and show overall improved results for the 1991 ILRT thus confirming a down trend of overall containment leakage.

### **Structural Capability of the Containment**

The CR-3 containment is a reinforced concrete structure with a cylindrical wall, a flat foundation mat, and a shallow dome roof. The cylinder wall is prestressed with a post tensioning system in the vertical and horizontal directions. The dome roof is prestressed using a three way post tensioning system. The inside surface of the containment has a carbon steel liner to ensure a high degree of leak tightness during operating and accident conditions. The liner plate nominal thickness is 3/8 inch for the cylinder and dome and 1/4 inch for the base. The liner is anchored to the concrete as to ensure composite action with the concrete shell.

Piping penetrations have been designed to ensure that the liner will not be breached due to the rupture of any process pipe.

### **Risk Impact Assessment**

The purpose of containment leak testing is to detect containment leakage which could be the result of failures (active or passive) before an accident occurs. Containment leakage caused by degradation of sealing material within containment penetrations and containment isolation components will continue being effectively measured by the Type B and C testing programs. The only potential failures not covered by types B and C testing are failures of the containment due to structural deterioration because of parameters such as pressure or temperature. However, under normal conditions there is no significant environmental or operational stress which could contribute to the degradation of the containment structure to allow leakage. Such passive failures of the containment resulting in containment leakage have never occurred at CR-3.

The proposed one-time change in Type A leakage test frequency only affects the length of time that the containment could be in an undetected failed state as a result of a failure. However, the Types B and C testing which will continue being performed each refueling outage will identify the majority of potential leakage paths.

Draft NUREG-1493 includes the results of a sensitivity study performed to explore the risk impact of several alternate leak rate testing schedules. The draft NUREG concludes that the impact on risk due to the relaxation of Type A testing is very low. The NUREG also concludes that a decrease of ILRT frequency to once per 20 years would not have a significant increase in risk. FPC believes the proposed one-time exemption request is bounded by the analyses for draft NUREG-1493. FPC also believes that the information contained in NUREG-1493 reinforces our conclusion that the risk increase due to the reduction of the number of ILRTs for this service period is not significant.

TABLE A

Minimum Penetration Path	Type C Leakage 1983	Type C Leakage 1987	Type C Leakage 1990	Type C Leakage 1991	Type C Leakage 1992	Type C Leakage 1994	
329	2.80	20.00	20.00	20.00	464.00	458.00	SCCM
439	2,108.00	1,096.00	60.00	60.00	220.40	88.70	SCCM
425-1	2.00	20.00	30.00	30.00	77.80	49.40	SCCM
425-2	2.00	20.00	250.00	250.00	20.00	20.00	SCCM
440	3.60	230.00	225.00	313.00	380.00	244.00	SCCM
441	2.00	20.00	976.00	360.00	528.00	20.00	SCCM
206	838.00	775.00	82.00	82.00	1,368.00	390.00	SCCM
207	4,460.00	12.00	15.00	15.00	45.50	4,450.00	SCCM
366	2.50	2.00	15.00	15.00	10.00	28.00	SCCM
367	122.50	85.00	650.00	650.00	369.00	16.40	SCCM
117	1,040.00	327.00	2.00	2.00	271.00	176.00	SCCM
333	459.00	95.00	1,976.00	1,903.80	345.00	522.00	SCCM
377	2.00	145.00	291.10	564.00	1,049.00	80.00	SCCM
339	2.00	1,405.00	152.40	152.40	54.40	20.00	SCCM
349	2.00	59.20	227.00	234.00	20.00	20.00	SCCM
354	21.20	3,440.00	1,130.00	227.00	2.50	2.00	SCCM
374	2.00	76.80	20.00	20.00	20.00	154.00	SCCM
315	70.00	20.00	73.30	73.30	20.00	20.00	SCCM
332	52.40	20.00	7.76	7.76	20.00	28.00	SCCM
356	106.00	80.00	62.48	62.48	80.00	80.00	SCCM
123	350.00	20.00	13.00	13.00	171.40	167.00	SCCM
373	314.00	20.00	190.40	190.40	179.40	350.00	SCCM
124	1,178.00	1,152.00	20.00	20.00	261.00	297.00	SCCM
350	157.60	1,095.00	172.00	172.00	412.00	340.00	SCCM
351	6.30	20.00	431.00	431.00	20.00	20.00	SCCM
352	4.70	40.00	640.00	20.00	20.00	20.00	SCCM
355	150.30	133.00	1,670.00	1,670.00	42.20	1,775.00	SCCM
372	24.80	43.80	37.00	37.00	28.50	12.17	SCCM
317	517.00	231.00	750.00	750.00	4.40	119.80	SCCM
110	1,000.00	124.00	98.90	98.90	166.70	363.00	SCCM
111	89.50	79.00	20.00	20.00	229.00	42.20	SCCM
112	594.00	125.00	49.20	49.20	20.00	8.23	SCCM
347	12,340.00	15,940.00	13.60	13.60	387.00	118.00	SCCM
430	25.00	61.10	1,400.00	1,400.00	30.00	820.00	SCCM
316	106.00	20.00	5.00	5.00	20.00	2.00	SCCM
320	132.00	1,201.00	1,015.00	1,015.00	1,040.00	1,029.00	SCCM

TABLE A

318	2.50	20.00	20.00	20.00	872.00	20.00	SCCM
314	1,740.00	7,210.00	12,050.00	2,100.00	70.00	1,255.00	SCCM
427	189.00	7,560.00	200.00	200.00	543.00	130.00	SCCM
428	27.60	237.00	345.00	345.00	630.00	617.00	SCCM
306	21.05	60.00	48.75	48.75	60.00	60.00	SCCM
376	4.00	40.00	15.10	15.10	40.00	40.00	SCCM
113	1,600.00	4,800.00	657.00	1,185.00	568.00	620.00	SCCM
357	690.00	20.00	1,003.00	866.00	570.00	1,369.00	SCCM
121	195.30	278.00	655.00	459.70	338.00	1,312.00	SCCM
122	89.60	29.50	252.80	20.00	112.50	106.10	SCCM
125	202.00	783.00	720.00	752.00	1,228.70	814.00	SCCM
116	2.50	75.80	2.00	2.00	107.00	211.00	SCCM
305	9.80	2.00	30.00	30.00	20.00	20.00	SCCM
306	2.00	1,093.00	59.80	57.70	20.00	20.00	SCCM
202	20.00	20.00	20.20	69.60	51.50	28.00	SCCM
	31,084.55	50,481.20	28,868.79	19,108.69	15,618.90	20,966.00	SCCM
Type B	100.10	108.80	191.98	492.97	496.03	451.47	SCCM
Hatches	12,550.00	1,474.00	9,620.00	18,580.00	17,600.00	1,822.00	SCCM
Total B + C	43,734.65	52,064.00	38,680.77	38,161.66	33,714.93	23,239.47	SCCM
Test Press.	49.6 PSIG	49.6 PSIG	53.9 PSIG	53.9 PSIG	53.9 PSIG	54.2 PSIG	
Allowed SCCM	414,471	414,471	442,189	442,189	442,189	444,099	SCCM
% of allowed SCCM	10.55%	12.56%	8.75%	8.63%	7.62%	5.23%	
Converted to Pounds Mass	1983	1987	1990	1991	1992	1994	LBM
	167.16	198.995	147.84	145.93	128.86	88.82	
B + C							
Wt Per Day	0.026	0.032	0.022	0.022	0.019	0.013	



TABLE B

Pen #	Description	Allowed SCCM	1994						
			As Found		% of Allowed	As Left		% of Allowed	To as found
			Date	Value		Date	Value		
101	Elec	100	04/07/94	54.60	54.60%	04/07/94	54.60	54.60%	0.00
102	Elec	100	04/27/94	12.34	12.34%	04/27/94	12.34	12.34%	0.00
103	Elec	100	04/27/94	3.70	3.70%	04/27/94	3.70	3.70%	0.00
104	Elec	100	04/07/94	20.00	20.00%	04/07/94	20.00	20.00%	0.00
126	Elec	100	04/27/94	6.80	6.80%	04/27/94	6.80	6.80%	0.00
127	Elec	100	04/27/94	7.70	7.70%	04/27/94	7.70	7.70%	0.00
128	Elec	100	04/07/94	20.00	20.00%	04/07/94	20.00	20.00%	0.00
129	Elec	100	04/07/94	21.30	21.30%	04/07/94	21.30	21.30%	0.00
130	Elec	100	04/07/94	22.70	22.70%	04/07/94	22.70	22.70%	0.00
132	Elec	100	04/07/94	20.00	20.00%	05/16/94	2.00	2.00%	-18.00
133	Elec	100	04/07/94	23.20	23.20%	04/07/94	23.20	23.20%	0.00
134	Elec	100	04/11/94	2.00	2.00%	04/11/94	2.00	2.00%	0.00
135	Elec	100	04/11/94	6.50	6.50%	04/11/94	6.50	6.50%	0.00
208	Elec	100	04/08/94	9.50	9.50%	04/08/94	9.50	9.50%	0.00
209	Elec	100	04/08/94	7.30	7.30%	04/08/94	7.30	7.30%	0.00
210	Elec	100	04/08/94	2.50	2.50%	04/08/94	2.50	2.50%	0.00
211	Elec	100	04/08/94	12.90	12.90%	04/08/94	12.90	12.90%	0.00
212	Elec	100	04/11/94	9.70	9.70%	05/05/94	7.10	7.10%	-2.60
213	Elec	100	04/08/94	6.20	6.20%	04/08/94	6.20	6.20%	0.00
214	Elec	100	04/11/94	2.00	2.00%	04/11/94	2.00	2.00%	0.00
215	Elec	100	04/11/94	6.20	6.20%	04/11/94	6.20	6.20%	0.00
301	Elec	100	04/08/94	3.90	3.90%	04/08/94	3.90	3.90%	0.00
302	Elec	100	04/08/94	2.00	2.00%	04/08/94	2.00	2.00%	0.00
303	Elec	100	04/08/94	4.50	4.50%	04/08/94	4.50	4.50%	0.00
304	Elec	100	04/08/94	3.40	3.40%	04/08/94	3.40	3.40%	0.00
307	Elec	100	04/08/94	5.00	5.00%	04/08/94	5.00	5.00%	0.00
308	Elec	100	04/08/94	2.00	2.00%	04/08/94	2.00	2.00%	0.00
309	Elec	100	04/08/94	5.50	5.50%	04/08/94	5.50	5.50%	0.00
401	Elec	100	04/27/94	7.85	7.85%	04/27/94	7.85	7.85%	0.00
402	Elec	100	04/27/94	6.75	6.75%	04/27/94	6.75	6.75%	0.00
403	Elec	100	04/27/94	5.16	5.16%	04/27/94	5.16	5.16%	0.00
404	Elec	100	04/27/94	2.00	2.00%	04/27/94	2.00	2.00%	0.00
405	Elec	100	04/27/94	11.60	11.60%	04/27/94	11.60	11.60%	0.00
406	Elec	100	04/27/94	44.60	44.60%	04/27/94	44.60	44.60%	0.00
407	Elec	100	04/26/94	9.37	9.37%	04/26/94	9.37	9.37%	0.00
408	Elec	100	04/26/94	18.53	18.53%	04/26/94	18.53	18.53%	0.00
409	Elec	100	04/26/94	2.00	2.00%	04/26/94	2.00	2.00%	0.00
410	Elec	100	04/26/94	7.74	7.74%	04/26/94	7.74	7.74%	0.00
411	Elec	100	04/27/94	3.90	3.90%	04/27/94	3.90	3.90%	0.00
412	Elec	100	04/27/94	6.50	6.50%	04/27/94	6.50	6.50%	0.00
413	Elec	100	04/27/94	2.00	2.00%	04/27/94	2.00	2.00%	0.00
Total Electrical				431.44	21.57%		410.84	20.54%	-20.60
Allowed Electrical									
	2,000	sccm							

TABLE B

Pen #	Description	Allowed SCCM	1994						
			As Found		% of Allowed	As Left		% of Allowed	To as found
			Date	Value		Date	Value		
216	T-POWER	100	05/23/94	2.00	2.00%	05/23/94	2.00	2.00%	0.00
217	T-POWER	100	05/23/94	2.00	2.00%	05/23/94	2.00	2.00%	0.00
348	SS-FLXFER	100	04/07/94	4.40	4.40%	05/23/94	20.00	20.00%	15.60
436	SSFLXFER	100	04/07/94	2.48	2.48%	05/23/94	20.00	20.00%	17.52
119	CG FL	100	04/07/94	2.00	2.00%	05/23/94	2.00	2.00%	0.00
120	CG FL	100	04/07/94	2.00	2.00%	05/18/94	20.00	20.00%	18.00
999	RAX 3	500	04/07/94	5.15	1.03%	05/27/94	20.00	4.00%	14.85
<b>Elec. &amp; Other Type "B" Totals</b>				447.47	15.43%		496.84	17.13%	49.37
Allowed Other & Elec. Type "B"									
	2,900	sccm							
113	AHV-1C/1D	2500	04/07/94	620.00	24.80%	05/25/94	804.00	32.16%	184.00
357	AHV-1A/1B	2500	04/07/94	1,369.00	54.76%	05/28/94	829.00	33.16%	540.00
997	RAX 1	21500	05/28/94	772.00	3.59%	05/28/94	772.00	3.59%	0.00
998	RAX 2	21500	05/27/94	1,050.00	4.88%	05/27/94	1,050.00	4.88%	0.00
<b>ALL Type "B" Totals</b>				4,258.47	8.37%		3,951.84	7.76%	306.63
Allowed Type "B"									
	50,900	sccm							

TABLE B

			TYPE "C"		Measured	Leakage	Appendix	J.	Valves	
			1994							
Allowed			As Found		% of	As Left		% of	To	
Pen #	Description	SCCM	Date	Value	Allowed	Date	Value	Allowed	as found	
110	SAV-24	4788	04/09/94	363.00	7.58%	04/09/94	363.00	7.58%	0.00	
111	IAV-28	3192	04/09/94	42.20	1.32%	04/09/94	42.20	1.32%	0.00	
112	IAV-29	3192	04/09/94	8.23	0.26%	04/09/94	8.23	0.26%	0.00	
116	LRV-45	3192	04/26/94	28.70	0.90%	04/26/94	28.70	0.90%	0.00	
116	LRV-46	1596	04/26/94	211.00	13.22%	04/26/94	211.00	13.22%	0.00	
117	DWV-160	4788	04/11/94	176.00	3.68%	04/11/94	176.00	3.68%	0.00	
117	DWV-162	4788	04/11/94	635.00	13.26%	04/11/94	635.00	13.26%	0.00	
121	LRV-36	12768	04/13/94	1,390.00	10.89%	04/13/94	1,390.00	10.89%	0.00	
121	LRV-50	12768	04/12/94	1,072.00	8.40%	04/12/94	1,072.00	8.40%	0.00	
121	LRV-89	4788	04/13/94	240.00	5.01%	04/13/94	240.00	5.01%	0.00	
121	LRV-90	4788	04/13/94	250.00	5.22%	04/13/94	250.00	5.22%	0.00	
122	LRV-87	4788	04/13/94	106.10	2.22%	04/13/94	106.10	2.22%	0.00	
122	LRV-88	4788	04/13/94	119.50	2.50%	04/13/94	119.50	2.50%	0.00	
123	CFV-20	1596	04/23/94	529.00	33.15%	04/23/94	529.00	33.15%	0.00	
123	CFV-28	1596	04/25/94	167.00	10.46%	04/25/94	167.00	10.46%	0.00	
124	CFV-17	1596	04/25/94	297.00	18.61%	04/25/94	297.00	18.61%	0.00	
124	CFV-27	1596	04/25/94	402.00	25.19%	04/25/94	402.00	25.19%	0.00	
125	LRV-91	4788	04/20/94	330.00	6.89%	04/20/94	402.00	8.40%	72.00	
125	LRV-92	4788	04/20/94	355.00	7.41%	04/20/94	355.00	7.41%	0.00	
125	LRV-93	4788	04/20/94	484.00	10.11%	04/20/94	484.00	10.11%	0.00	
125	LRV-94	4788	04/20/94	485.00	10.13%	04/20/94	485.00	10.13%	0.00	
202	LRV-44	3192	04/08/94	28.00	0.88%	04/08/94	28.00	0.88%	0.00	
206	CIV-41	3990	04/16/94	390.00	9.77%	05/06/94	5.50	0.14%	-384.50	
207	CIV-40	3990	04/16/94	4,450.00 *	111.53%	05/19/94	3,445.00	86.34%	-1,005.00	
305	LRV-72	9576	04/12/94	20.00	0.21%	04/12/94	20.00	0.21%	0.00	
305	LRV-73	9576	04/12/94	20.00	0.21%	04/12/94	20.00	0.21%	0.00	
306	LRV-70	9576	04/12/94	20.00	0.21%	04/12/94	20.00	0.21%	0.00	
306	LRV-71	9576	04/12/94	20.00	0.21%	04/12/94	20.00	0.21%	0.00	
			*CIV-40	Operator	Repaired	Prior to	As-Left	Test		

TABLE B

			TYPE "C"		Measured	Leakage	Apendix	J. Valves	
			1994						
		Allowed	As Found		% of	As Left		% of	To
306	WSV-26	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
306	WSV-27	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
306	WSV-28	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
306	WSV-29	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
306	WSV-32	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
306	WSV-33	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00
314	MSV-146	6384	05/11/94	1,255.00	19.66%	05/11/94	1,255.00	19.66%	0.00
315	WSV-3	1596	04/26/94	51.50	3.23%	04/26/94	51.50	3.23%	0.00
315	WSV-4	1596	04/26/94	20.00	1.25%	04/26/94	20.00	1.25%	0.00
316	MSV-114	2394	04/22/94	2.00	0.08%	04/22/94	2.00	0.08%	0.00
317	NGV-81	2394	04/19/94	119.80	5.00%	04/19/94	119.80	5.00%	0.00
318	MSV-128	6384	04/22/94	20.00	0.31%	04/22/94	20.00	0.31%	0.00
320	MSV-132	2394	04/22/94	1,029.00	42.98%	04/22/94	1,029.00	42.98%	0.00
329	DHV-91	3192	04/13/94	458.00	14.35%	05/03/94	139.00	4.35%	319.00
329	DHV-93	3192	04/13/94	2,260.00	70.80%	04/13/94	2,260.00	70.80%	0.00
332	WSV-5	1596	04/26/94	32.00	2.01%	04/26/94	32.00	2.01%	0.00
332	WSV-6	1596	04/26/94	28.00	1.75%	04/26/94	28.00	1.75%	0.00
333	MUV-40	3990	04/21/94	830.00	20.80%	05/07/94	25.00	0.63%	805.00
333	MUV-41	3990	04/20/94	289.00	7.24%	05/07/94	146.00	3.66%	143.00
333	MUV-49	3990	04/21/94	522.00	13.08%	04/21/94	522.00	13.08%	0.00
333	MUV-505	4788	04/21/94	176.50	3.69%	05/16/94	151.80	3.17%	24.70
339	WDV-3	6384	04/16/94	566.00	8.87%	04/16/94	566.00	8.87%	0.00
339	WDV-4	6384	04/16/94	20.00	0.31%	05/17/94	41.40	0.65%	21.40
347	SFV-18/19	15960	04/11/94	118.00	0.74%	05/20/94	20.00	0.13%	98.00
349	WDV-60	3192	04/16/94	20.00	0.63%	05/04/94	20.00	0.63%	0.00
349	WDV-61	3192	04/16/94	20.00	0.63%	05/12/94	280.00	8.77%	260.00
350	CFV-18	1596	04/25/94	340.00	21.30%	04/25/94	340.00	21.30%	0.00
350	CFV-26	1596	04/23/94	350.00	21.93%	04/23/94	350.00	21.93%	0.00
351	CFV-15	1596	04/15/94	176.10	11.03%	04/28/94	71.00	4.45%	105.10
351	CFV-16	1596	04/15/94	20.00	1.25%	04/28/94	20.00	1.25%	0.00
351	CFV-29	2394	04/15/94	20.00	0.84%	04/15/94	20.00	0.84%	0.00

TABLE B

			TYPE "C"		Measured	Leakage	Appendix	J.	Valves	
			1994							
		Allowed	As Found		% of	As Left		% of	To	
352	CFV-11	1596	04/15/94	20.00	1.25%	05/05/94	20.00	1.25%	0.00	
352	CFV-12	1596	04/15/94	20.00	1.25%	04/28/94	20.00	1.25%	0.00	
352	CFV-42	1596	04/15/94	20.00	1.25%	04/15/94	20.00	1.25%	0.00	
354	WDV-405	2394	04/15/94	2.00	0.08%	05/13/94	20.00	0.84%	18.00	
354	WDV-406	2394	04/16/94	76.00	3.17%	05/13/94	2,100.00	87.72%	2,024.00	
355	NGV-62	2394	04/19/94	1,775.00	74.14%	04/19/94	1,775.00	74.14%	0.00	
356	WSV-1	1596	04/19/94	20.00	1.25%	04/19/94	20.00	1.25%	0.00	
356	WSV-2	1596	04/19/94	20.00	1.25%	04/19/94	20.00	1.25%	0.00	
356	WSV-30	798	04/19/94	20.00	2.51%	04/19/94	20.00	2.51%	0.00	
356	WSV-31	798	04/19/94	20.00	2.51%	04/19/94	20.00	2.51%	0.00	
356	WSV-34	798	04/19/94	20.00	2.51%	04/19/94	20.00	2.51%	0.00	
356	WSV-35	798	04/19/94	20.00	2.51%	04/19/94	20.00	2.51%	0.00	
356	WSV-38	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00	
356	WSV-39	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00	
366	CIV-34	3990	04/16/94	2.80	0.07%	05/06/94	4.70	0.12%	1.90	
367	CIV-35	3990	04/16/94	16.40	0.41%	05/06/94	114.00	2.86%	97.60	
372	NGV-82	1596	04/19/94	12.17	0.76%	04/19/94	12.17	0.76%	0.00	
373	CFV-19	1596	04/23/94	554.00	34.71%	04/23/94	554.00	34.71%	0.00	
373	CFV-25	1596	04/23/94	350.00	21.93%	04/23/94	350.00	21.93%	0.00	
374	WDV-62	4788	04/18/94	154.00	3.22%	05/10/94	2.00	0.04%	152.00	
374	WDV-94	4788	04/18/94	210.00	4.39%	05/04/94	110.00	2.30%	100.00	
376	WSV-40	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00	
376	WSV-41	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00	
376	WSV-42	798	04/20/94	20.00	2.51%	04/20/94	20.00	2.51%	0.00	
376	WSV-43	798	04/20/94	87.70	10.99%	04/20/94	87.70	10.99%	0.00	
377	MUV-253	1596	04/16/94	80.00	5.01%	04/16/94	80.00	5.01%	0.00	
377	MUV-258	1596	04/16/94	20.00	1.25%	05/09/94	21.40	1.34%	1.40	
377	MUV-259	1596	04/16/94	20.00	1.25%	05/09/94	54.00	3.38%	34.00	
377	MUV-260	1596	04/16/94	20.00	1.25%	05/09/90	20.00	1.25%	0.00	
377	MUV-261	1596	04/16/94	20.00	1.25%	05/09/94	29.30	1.84%	9.30	



TABLE B

			TYPE "C"		Measured	Leakage		Apendix	J. Valves		
			1994								
Allowed			As Found		% of	As Left		% of	To		
425	CAV-433	598	04/18/94	481.00	80.43%	04/18/94	481.00	80.43%	0.00		
425	CAV-434	598	04/18/94	20.00	3.34%	04/18/94	20.00	3.34%	0.00		
425	CAV-435	598	04/18/94	49.40	8.26%	04/18/94	49.40	8.26%	0.00		
425	CAV-436	598	04/18/94	20.00	3.34%	04/18/94	20.00	3.34%	0.00		
427	MSV-130	4788	04/21/94	130.00	2.72%	05/20/94	305.00	6.37%	175.00		
428	MSV-148	4788	04/21/94	617.00	12.89%	04/21/94	617.00	12.89%	0.00		
430	FSV-261	6384	04/09/94	820.00	12.84%	04/09/94	820.00	12.84%	0.00		
430	FSV-262	6384	04/09/94	830.00	13.00%	04/09/94	830.00	13.00%	0.00		
439	CAV-1	598	04/15/94	20.00	3.34%	05/02/94	20.00	3.34%	0.00		
439	CAV-2	1596	04/15/94	80.00	5.01%	04/15/94	80.00	5.01%	0.00		
439	CAV-3	598	04/15/94	20.00	3.34%	05/02/94	20.00	3.34%	0.00		
439	CAV-126	598	04/15/94	20.00	3.34%	05/02/94	20.00	3.34%	0.00		
439	CAV-429	598	04/14/94	94.70	15.84%	04/14/94	94.70	15.84%	0.00		
439	CAV-430	598	04/14/94	160.00	26.76%	04/14/94	160.00	26.76%	0.00		
439	CAV-431	598	04/15/94	6.70	1.12%	04/15/94	6.70	1.12%	0.00		
439	CAV-432	598	04/15/94	2.00	0.33%	04/15/94	2.00	0.33%	0.00		
440	CAV-4	598	04/12/94	249.00	41.64%	05/02/94	364.00	60.87%	115.00		
440	CAV-6	1596	04/12/94	244.00	15.29%	04/12/94	244.00	15.29%	0.00		
441	CAV-5	598	04/12/94	20.00	3.34%	04/28/94	20.00	3.34%	0.00		
441	CAV-7	1596	04/12/94	831.00	52.07%	04/12/94	831.00	52.07%	0.00		