



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

May 14, 1993

Dr. Thomas E. Murley  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Unit 3  
Request for Scheduling Exemption  
From 10 CFR 50, Appendix J,  
Type B and C Test Interval  
NRC Docket No. 50-249

Reference: (a) P. Piet Letter to T.E. Murley, dated March 18, 1993

Dear Dr. Murley:

As discussed in Reference (a), pursuant to 10 CFR 50.12(a), Commonwealth Edison requests a one time scheduling exemption for Dresden Unit 3 from the two year test interval for Type B and C leak rate testing required by 10 CFR 50, Appendix J, Sections III.D.2(a) and III.D.3. The exemption is requested to increase the surveillance interval for volumes which cannot be local leak rate tested during plant operations in order to support the current refueling outage schedule and to avoid the potential for an earlier reactor shutdown. It is requested that the proposed exemption request be approved no later than August 15, 1993.

Commonwealth Edison Company is rescheduling the Dresden Unit 3 Refuel Outage (D3R13) from September, 1993 to February, 1994. Increasing the interval between refueling outages will cause the Station to exceed the 24 month Type B and C leak rate testing surveillance interval required by 10 CFR 50, Appendix J. Therefore, an extension to the 24 month test interval is required for Type B and C leak rate tests which cannot be performed during reactor operation. The exemption requests a maximum extension of 190 days; the additional time provides for any unforeseen minor schedule changes to the Unit 3 refuel outage time table. If a separate forced outage was imposed to perform type B and C testing and operation resumed until the scheduled refuel outage, Commonwealth Edison would be subject to "undue hardship or other costs" that result from increased radiological exposure and unit thermal cycling. In addition, Commonwealth Edison has demonstrated good faith efforts to comply with the requirements, and the exemption would provide only temporary relief from the applicable regulation.

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As previously stated, Commonwealth Edison Company anticipates rescheduling the Dresden Unit 3 Refuel Outage from September of 1993 to February, 1994. We therefore request a maximum exemption of up to 190 days, for the most extreme case, from the two year Appendix J test interval for the Type B and C testable volumes listed in Attachments II and III. This exemption is requested because these volumes cannot be tested during reactor operation. Attachment IV provides the justification for not performing local leak rate testing on these volumes during reactor operation. Commonwealth Edison will test the volumes listed in Attachment III should a forced outage of suitable duration occur prior to the D3R13 refuel outage. Attachment VI outlines the testing methodology which will be used if forced outages occur. In addition, an administrative limit, 80% of  $0.6L_a$ , will be established for the remainder of the Unit 3 operating cycle. This limit provides an added margin of safety to account for possible increases in the leakage rates of the untested volumes and will help ensure that the maximum pathway leakage limit does not exceed the Technical Specification limit of  $0.6L_a$ .

Attachments to this letter contain the following:

- a) Attachment I provides justification for the exemption in accordance with the guidelines established in 10 CFR 50.12(a).
- b) Attachments II and III identify the volumes for which the exemption is requested, the duration of the exemption required for each volume, and the minimum and maximum pathway leakage history for each volume.
- c) Attachment IV provides justification for not performing local leak rate testing on volumes during reactor operation.
- d) Attachment V lists the volumes which Commonwealth Edison will test during reactor operation to provide a good faith effort of compliance and to reduce the number of volumes requiring exemption.
- e) Attachment VI outlines the testing methodology which will be used if forced outages occur. This attachment also defines the methodology for tracking maximum pathway leakage during the remainder of the fuel cycle.

Dr. Thomas E. Murley

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- f) Attachment VII lists the balance of the volumes which do not require testing since their 24 month critical dates expire after the projected start of the rescheduled outage.

Please direct any questions you may have regarding this matter to this office.

Very truly yours,

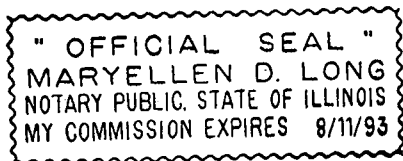


Peter L. Piet  
Nuclear Licensing Administrator

Attachments

cc: A. Bert Davis, Regional Administrator-RIII  
J.F. Stang, Project Manager-NRR  
M.N. Leach, Senior Resident Inspector-Dresden

*Maryellen D. Long* 5/14/93



ATTACHMENT I

JUSTIFICATION FOR SCHEDULAR EXEMPTION FROM

10 CFR 50, APPENDIX J

TYPE B AND C TEST FREQUENCY

EXEMPTION:

Commonwealth Edison Company requests a one time schedular exemption from the 24 month Type B and C local leak rate test interval required by 10 CFR 50, Appendix J, Sections III.D.2(a) and III.D.3. This exemption applies only to Dresden Unit 3 and requires a maximum 190 day extension for the Type B and C testable volumes listed in Attachments II and III.

DISCUSSION:

Commonwealth Edison Company is rescheduling the Dresden Unit 3 Refuel Outage (D3R13) from September, 1993 to February, 1994. Increasing the interval between refueling outages will cause the Station to exceed the 24 month Type B and C leak rate testing surveillance interval required by 10 CFR 50, Appendix J. Therefore, an extension to the 24 month test interval is required for Type B and C leak rate tests which cannot be performed during reactor operation. The exemption requests a maximum extension of 190 days; the additional time provides for any unforeseen minor schedule changes to the unit 3 refuel outage time table. If a separate forced outage was imposed to perform type B and C testing and operation resumed until the scheduled refuel outage, Commonwealth Edison would be subject to "undue hardship or other costs" that result from increased radiological exposure and unit thermal cycling. In addition, Commonwealth Edison has demonstrated good faith efforts to comply with the requirements, and the exemption would provide only temporary relief from the applicable regulation.

BASIS:

As discussed in the following sections, the requested exemption meets the three necessary criteria of 10 CFR 50.12(a)(1). In addition, there are special circumstances present which qualify for consideration for an exemption per the criteria established in 10 CFR 50.12(a)(2).

- A. Criteria for Granting Exemptions are Met per 10 CFR Part 50.12(a)(1):

1. The Requested Exemptions and the Activities Which Would be Allowed Thereunder are Authorized by Law

If the criteria established in 10 CFR 50.12(a) are satisfied, as they are in this case, and if no other prohibition of law exists to preclude the activities which would be authorized by the requested exemption, and there are no such prohibition, the Commission is authorized by law to grant this exemption request. <sup>1</sup>

2. The Requested Exemption will Not Present Undue Risk to the Public

As stated in 10 CFR 50, Appendix J, the purpose of primary containment leak rate testing is to ensure that the leakage through primary containment shall not exceed the leakage allowed by the Technical Specifications or associated basis and to ensure that proper maintenance and repair is performed throughout the service life of the containment boundary components. The requested exemption is consistent with this intent in that it represents a one time schedular exemption of short duration for Type B and C volumes which cannot be tested during reactor operation (Attachments II and III). All remaining leak rate tests will still be performed to assess compliance with Technical Specification requirements and to assure that any required maintenance or repair work is performed. To reduce the number of volumes which need an exemption, Commonwealth Edison will test the volumes listed in Attachment V during reactor operation prior to exceeding the 2-year surveillance interval. In addition, volumes listed in Attachment III will be tested should a forced outage of suitable duration occur prior to D3R13 refuel outage. Attachment VI outlines the testing methodology which will be used if forced outages occur. In order to provide an added margin of safety and to account for possible increases in the leakage rates of untested volumes during the relatively short period of the exemption, Dresden Station will impose an administrative limit for maximum pathway leakage of 80% of 0.6L<sub>a</sub> for the remaining Unit 3 fuel cycle (ref. Attachment VI).

Past Unit 3 local leak rate test data, for the volumes shown in Attachments II and III, have in general demonstrated good leak rate test results. The current maximum pathway leakage rate for Dresden Unit 3, as determined through Type B and C leak rate testing, is 275.12 scfh. This value is approximately 56.3% of the

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<sup>1</sup> See U.S. vs. Allegheny-Ludlum Steel Corp., 406 U.S. 742, 755 (1972).

Technical Specification limit of 488.45 scfh (0.6L<sub>a</sub>). In addition, the D3R12 "As Left" total minimum pathway leakage rate for Type B and C testable penetrations was 145.71 scfh. This value is approximately 24% of the Technical specification limit of 610.56 scfh (0.75L<sub>a</sub>). By using the minimum pathway methodology, a conservative measurement of the actual leakage expected through a pathway under post accident conditions can be determined. In addition, the D3R12 "As Left" Integrated Leak Rate Test, completed on March 16, 1992, indicated that the primary containment overall integrated leakage rate, which obtains the summation of all potential leakage paths including containment welds, valves, fittings, and penetrations, was 0.6706 wt%/day. This value is the sum of the 95% upper confidence limit calculated leak rate of 0.5546 wt%/day plus the leakage rate of all nonvented pathways and the leakage compensation for the change in the drywell sump levels. This value is approximately 56% of the limit specified in the Technical Specifications (1.2 wt%/day or 0.75 L<sub>a</sub>).

A station imposed limit for maximum pathway leakage along with the testing of volumes which can be tested during operation, provide a basis for showing that the probability of exceeding the off site dose rates established in 10 CFR 100 will not be increased by extending the current 24 month Type B and C testing interval a maximum of 190 days. Therefore, this exemption will not "present an undue risk to the public health and safety."

3. The Requested Exemptions Will Not Endanger the Common Defense and Security

The common defense and security are not in any way compromised by this exemption request.

B. At least One of the Special Circumstances are Present Per 10 CFR 50.12(a)(2)

1. The Requested Exemptions Will Avoid Undue Hardship or Costs

The requested schedular extension is required to prevent a forced shutdown of Dresden Unit 3. Preparations for a refueling outage are proceeding based on a scheduled shutdown in February, 1994. An earlier forced shutdown would result in an overall increase in the duration of the outage if equipment delivery, preparation, and mobilization of work forces were to occur concurrent with completion of the extended Dresden Unit 2 D2R13 Refuel Outage, which is currently scheduled to be completed by May 21, 1993.

In addition, an earlier forced outage would present undue hardship and costs in the form of an increased radiological exposure. Furthermore, a heatup and cooldown cycle would be eliminated by increasing the Appendix J test interval. Because the requested exemption does not jeopardize the health and safety of the public, as previously discussed, its approval is warranted in order to prevent a shutdown. Commonwealth Edison does not believe that when Appendix J was implemented that extended outages or extended operating cycles, such as those associated with 18 to 24 month fuel cycles or extended coast-downs, were foreseen.

The Dresden Unit 3 situation therefore represents a special circumstance per item (v) of 10 CFR 50.12(a)(2) i.e., "Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated." Exemptions to Appendix J requirements have subsequently been granted in such cases.<sup>2</sup>

2. The Requested Exemptions Provide Only Temporary Relief and the Licensee Has Made Good Faith Efforts to Comply

As discussed above, the exemption request is for a short duration relative to the 24 month requirement. All volumes that can be safely tested during reactor operation will be tested (Attachment V). Volumes which cannot be tested during operation but can be tested during cold shutdown (Attachment III) will be tested per the following criteria should forced outages of suitable duration occur. Testing of the volumes listed in Attachment III will begin within 96 hours after the plant reaches cold shutdown condition. This testing will continue until all volumes have been tested or the unit is ready for startup. The volumes selected for

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- <sup>2</sup>
- (a) Docket No. 50-219, Oyster Creek Nuclear Generating Station, Exemption of 10 CFR Part 50, Appendix J - Extension of the Type B and C leak rate test period (Tac No. 76137).
  - (b) Docket No. 50-245, B13770, Millstone Nuclear Generating Station, Unit No. 1, 10 CFR Part 50, Appendix J schedule exemption from Type B and C leak rate test requirements (Tac No. 79700).
  - (c) Docket No. 50237, Dresden Nuclear Power Station, Unit No. 2, 10 CFR Part 50, Appendix J Schedule exemption from type B and C leak rate test requirements (Tac No. M83535).

testing will be based upon the expected duration of the shutdown and the time required to prepare the volumes for testing. Volumes not tested during a cold shutdown shall be tested during any subsequent cold shutdowns that may occur prior to the D3R13 refueling outage. This meets an additional criterion for a special circumstance per item (v) of 50.12(a)(2), i.e., "The exemption would provide only temporary relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation." Dresden Station has shown good faith by testing volumes during the Unit 3 D3F15 forced turbine outage in the spring of 1993, and other previous short outages.



ATTACHMENT II  
 VOLUMES WHICH MUST BE TESTED DURING A REFUEL OUTAGE

Maximum # of Days For Exemption	Test Volume	D3R12 Max Pathway As Found/ As Left (scfh)	D3R12 Min Pathway As Found/ As Left (scfh)	D3R12 Valves Repaired	D3R11 Max Pathway As Found/ As Left (scfh)	D3R11 Min Pathway As Found/ As Left (scfh)	D3R11 Valves Repaired
190	BELLOWS PENETRATION X-128	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-116A	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-116B	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-123	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-124	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-105B	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-105C	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-126	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
190	BELLOWS PENETRATION X-149A	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
185	205-2-4 & FLANGE	12.72/12.72	NOTE 2		62.71/11.71	NOTE 2	205-2-4
185	205-2-7 & FLANGE	NOTE 1	0.10/0.10		NOTE 1	11.48/10.23	205-2-7
174	1101-1 & 16	NOTE 1	1.98/1.98		8.61/12.51	NOTE 2	1101-16
167	DW HEAD MANWAY DOUBLE GASKET SEAL	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
154	1101-1 & 15	39.3/6.92	NOTE 2	1101-15	NOTE 1	8.17/5.24	1101-15
149	BELLOWS PENETRATION X-106	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
149	BELLOWS PENETRATION X-111A	2.76/2.89	1.38/1.45		1.73/1.73	0.865/0.865	
149	BELLOWS PENETRATION X-111B	0.17/0.19	0.09/0.10		0.10/0.10	0.05/0.05	
149	BELLOWS PENETRATION X-125	0.82/0.80	0.40/0.40		0.22/0.22	0.11/0.11	
149	BELLOWS PENETRATION X-138	0.78/0.83	0.39/0.42		0.30/0.30	0.15/0.15	
149	BELLOWS PENETRATION X-147	0.10/0.18	0.05/0.09		0.10/0.10	0.05/0.05	
149	BELLOWS PENETRATION X-149B	7.10/6.80	3.55/3.40		1.08/1.08	0.54/0.54	

**ATTACHMENT II**  
**VOLUMES WHICH MUST BE TESTED DURING A REFUEL OUTAGE**

Maximum # of Days For Exemption	Test Volume	D3R12 Max Pathway As Found/ As Left (scfh)	D3R12 Min Pathway As Found/ As Left (scfh)	D3R12 Valves Repaired	D3R11 Max Pathway As Found/ As Left (scfh)	D3R11 Min Pathway As Found/ As Left (scfh)	D3R11 Valves Repaired
148	BELLOWS PENETRATION X-107A	0.10/0.10	0.05/0.05		0.65/0.65	0.325/0.325	
148	BELLOWS PENETRATION X-108A	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
148	BELLOWS PENETRATION X-109A	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
148	BELLOWS PENETRATION X-113	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
96	1501-22A, 26A & 1001-5A	1.50/2.50	NOTE 2	1501-22A, 1001-5A	8.51/8.51	NOTE 2	
90	1001-1A, 1B, 2A, 2B & 2C	312.73/.29	156.37/.145	1001-1A, 1B, 2A, 2B	107.54/107.54	53.77/53.77	
85	1501-22B, 26B & 1001-5B	NOTE 1/29.10	18.80/NOTE 2	1501-22B, 1001-5B	12.62/12.62	NOTE 2	
25	3703 & 3706	110.9/19.30	28.0/9.65	3703, 3706	62.39/9.84	9.84/0	3703
7	Drywell Head Double Gsk Seal	0.10/0.10	0.05/0.05		0.46/0	0.23/0	

Note 1: A maximum pathway value cannot be assigned because the other valve in series exhibited a higher leakage rate. Therefore, the maximum pathway value for this volume was assigned to the other valve in series.

Note 2: A minimum pathway value cannot be assigned because the other valve in series exhibited a lower leakage rate. Therefore, the minimum pathway value for this volume was assigned to the other valve in series.

ATTACHMENT III  
VOLUMES WHICH MUST BE TESTED DURING COLD SHUTDOWN

Maximum # of Days For Exemption	Test Volume	D3R12 Max Pathway As Found/ As Left (scfh)	D3R12 Min Pathway As Found/ As Left (scfh)	D3R12 Valves Repaired	D3R11 Max Pathway As Found/ As Left (scfh)	D3R11 Min Pathway As Found/ As Left (scfh)	D3R11 Valves Repaired
173	1501-25A & 26A	NOTE 1	0.10/0.10		NOTE 1	4.23/4.05	1501-25A
171	220-57B & 62B	NOTE 1/11.86	11.86/NOTE 2		NOTE 1/23.27	23.27/NOTE 2	
163	SHEAR LUG INSP HATCH SEAL #1	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #2	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #3	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #4	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #5	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #6	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #7	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
163	SHEAR LUG INSP HATCH SEAL #8	0.10/0.10	0.05/0.05		0.10/0.10	0.05/0.05	
137	1402-24A & 25A	0.10/0.30	0.05/0.15		1.65/1.65	0.825/0.825	
126	220-57B & 58B	UND/NOTE 1	NOTE 2/4.45	220-58B	1348.6/NOTE 1	NOTE 2/13.33	220-58B
96	3702 & 3799-126	12.08/NOTE 1	NOTE 2/1.51	3702	0.60/0.60	0.30/0.30	
90	3769-500	NOTE 1/7.57	10.33/NOTE 2	3796-500	NOTE 3	NOTE 3	
87	1501-27B & 28B	0.21/2.41	0.11/1.21	1501-28B FLANGE	0.75/7.80	0.37/3.90	1501-28B FLANGE
67	1501-18B & 19B	0.18/0.20	0.09/0.10	1501-19B	0.92/0.92	0.46/0.46	
50	SERVICE AIR ISOLATION VALVE	2.80/2.80	2.80/2.80		NOTE 3	NOTE 3	
27	CLEAN DEMIN ISOLATION VALVE	5.49/5.49	2.75/2.75		4.99/4.99	4.99/4.99	
25	0399-506, 220-112A, 112B, 113A & 113B	0.10/0.10	0.05/0.05	0399-506	NOTE 3	NOTE 3	
19	220-44 & 45	0.10/0.10	0.05/0.05	220-44 220-45	0/0	0/0	

ATTACHMENT III  
 VOLUMES WHICH MUST BE TESTED DURING COLD SHUTDOWN

Maximum # of Days For Exemption	Test Volume	D3212 Max Pathway As Found/ As Left (scfh)	D3R12 Min Pathway As Found/ As Left (scfh)	D3R12 Valves Repaired	D3R11 Max Pathway As Found/ As Left (scfh)	D3R11 Min Pathway As Found/ As Left (scfh)	D3R11 Valves Repaired
16	1601-23, 24, 60, 61, 62 & 63	UND/4.78	2.35/2.39	1601-24, 61, 63	8.49/8.49	4.25/4.25	
16	2301-45 & 74	UND/0.14	UND/0.14	2301-45	100.5/0	100.5/0	2301-45
16	1301-1 & 2	0.10/0.10	0.05/0.05	1301-1 1301-2	0/0	0/0	
10	2301-4 & 5	3.86/1.42	1.93/0.71		5.43/5.43	2.72/2.72	
5	2001-5 & 6	20.85/6.78	10.43/3.39	2001-5 2001-6	0.06/0.06	0.03/0.03	
4	1402-24B & 25B	0.10/1.80	0.05/0.90	1402-24B	0.60/0.60	0.30/0.30	
2	2001-105 & 106	0.60/0.10	0.30/0.05	2001-105	0.20/0.20	0.10/0.10	
2	DRYWELL EQUIP. HATCH DOUBLE GASKET SEAL	0.10/0.10	0.05/0.05		0.04/0	0.02/0	

Note 1: A maximum pathway value cannot be assigned because the other valve in series exhibited a higher leakage rate. Therefore, the maximum pathway value for this volume was assigned to the other valve in series.

Note 2: A minimum pathway value cannot be assigned because the other valve in series exhibited a lower leakage rate. Therefore, the minimum pathway value for this volume was assigned to the other valve in series.

Note 3: Volume was not in the program during this refuel outage.

ATTACHMENT IV  
JUSTIFICATION FOR NOT TESTING VOLUMES DURING OPERATION

VOLUME	BASIS
220-44 & 45	Inboard Isolation Valve exposed to reactor pressure during operation.
1301-1 & 2	Inboard Isolation Valve exposed to reactor pressure during operation.
Shear Lug Insp. Hatch Seal #1 through #8	Drywell access required to test.
1402-24A & 25A	Drywell access required to position valves for testing.
1402-24B & 25B	Drywell access required to position valves for testing.
3702 & 3799-126	Drywell access required to test. Must drain RBCCW in drywell.
220-57B & 58B	Drywell access required to test.
Service Air to Drywell	Drywell access required to test.
Clean Demin Isolation Valves	Drywell access required to test.
399-506, 112A, 112B, 113A & 113B	Drywell access required to position valves for testing.
220-57B & 62B	Drywell access required to position valves for testing.
2301-45 & 74	Testing this volume during operation requires the HPCI system to be inoperable, which would be contrary to safe operating philosophy.
2301-4 & 5	Testing this volume during operation requires the HPCI system to be inoperable, which would be contrary to safe operating philosophy. In addition, the Inboard Isolation Valve is exposed to reactor pressure during operation.
1501-18B & 19B	Testing this volume during operation requires one loop of the LPCI system to be inoperable, which would be contrary to safe operating philosophy.
1501-27B & 28B	Testing this volume during operation requires one loop of the LPCI system to be inoperable, which would be contrary to safe operating philosophy.
1501-25A, 26A	Requires Drywell access for valve testing, also 1501-26A is exposed to reactor pressure.
3769-500	Drywell access required to test. Must drain RBCCW in drywell.
2001-5 & 6	Drywell access required to test.
2001-105 & 106	Drywell access required to test.
Drywell Equipment Hatch Double Gasket Seal	Drywell access required to test.

ATTACHMENT IV  
JUSTIFICATION FOR NOT TESTING VOLUMES DURING OPERATION

VOLUME	BASIS
1601-23, 24, 60, 61, 62, & 63	Testing the volume during operation requires drywell vent and purge to become inoperable, and could cause difficulty with adherence to drywell/torus differential pressure Technical Specification requirements.
. . . . . (Refuel Outage Only) . . . . .	
1501-22A, 26A & 1001-5A	Fuel must be removed from the reactor in order to isolate and drain the shutdown cooling loop. Also, valve 1501-26A is exposed to reactor pressure.
1501-22B, 26B & 1001-5B	Fuel must be removed from the reactor in order to isolate and drain the shutdown cooling loop. Also, valve 1501-26b is exposed to reactor pressure.
1101-1 & 15	Fuel must be removed from the reactor in order to take the Standby Liquid Control system out of service.
1101-1 & 16	Fuel must be removed from the reactor in order to take the Standby Liquid Control System out of service.
205-2-4 & Blind Flange	The flanged spool piece from the vessel head must be removed and a blind flange installed in order to perform the test.
Drywell Head Manway Seal	The reactor vessel shield blocks must be removed in order to perform the test.
205-2-7 & Blind Flange	The flanged spool piece from the vessel head must be removed and a blind flange installed in order to perform the test.
1001-1A, 1B, 2A, 2B & 2C	Fuel must be removed from the reactor in order to isolate and drain the shutdown cooling loop. Also, Valves 1001-1A & 1001-1B are exposed to reactor pressure
Bellows Penetrations: X-105B, X105C, X-106, X-107A, X-108A, X-109A, X-111A, X-111B, X-113, X-116A, X116B, X-123, X-124, X-125, X-126, X-128, X-138, X-147, X-149A, X-149B	A refueling outage is required to implement the bellows testing program approved under the Dresden Station Units 2 and 3 and Quad Cities Station Units 1 and 2 Request for Exemption from 10 CFR 50, Appendix J Type B Testing Requirement for Two-Ply Containment Penetration Bellows. Reference: J.L. Schrage to Dr. T.E. Murley Letter, dated 11/12/91.
3703 & 3706	Repairing valve 3703 requires isolating cooling water to shutdown cooling pumps. Testing would required isolating cooling water to drywell cooler and recirculation pump seals.
Drywell Head Double Gasket Seal	The reactor vessel shield blocks must be removed in order to perform the test.

ATTACHMENT V  
 VOLUMES WHICH CAN BE TESTED DURING OPERATION

CRITICAL DATE	TEST VOLUME
09-11-93	ELECTRICAL PENETRATION X-204E
09-11-93	ELECTRICAL PENETRATION X-204H
09-11-93	ELECTRICAL PENETRATION X-202BB
09-12-93	ELECTRICAL PENETRATION X-204A
09-12-93	ELECTRICAL PENETRATION X-202D
09-12-93	ELECTRICAL PENETRATION X-202J
09-12-93	ELECTRICAL PENETRATION X-202B
09-12-93	ELECTRICAL PENETRATION X-202N
09-12-93	ELECTRICAL PENETRATION X-202W
09-15-93	2499-1A & 2A
09-17-93	2599-3B & 24B
09-17-93	2499-3B & 4B
09-17-93	2599-4B & 5B
09-17-93	2499-3A & 4A
09-18-93	ELECTRICAL PENETRATION X-200C
09-18-93	ELECTRICAL PENETRATION X-203B
09-18-93	ELECTRICAL PENETRATION X-205B
09-18-93	ELECTRICAL PENETRATION X-201B
09-19-93	ELECTRICAL PENETRATION X-204S
09-19-93	4720 & 4721
09-19-93	ELECTRICAL PENETRATION X-204M
09-20-93	DW AIR SAMPLE VALVES
09-24-93	9206A & END
09-24-93	9205B & END
09-24-93	9205A & END
09-24-93	9206B & END
09-25-93	8501-1B & END
09-25-93	9208A & END
09-25-93	9207B & END
09-25-93	9207A & END
09-25-93	9208B & END
09-25-93	8501-1A & END
09-25-93	8501-5A & END
09-29-93	DOUBLE GASKET SEAL FOR 1601-32B

ATTACHMENT V  
 VOLUMES WHICH CAN BE TESTED DURING OPERATION

CRITICAL DATE	TEST VOLUME
09-29-93	DOUBLE GASKET SEAL FOR 1601-32C
09-29-93	DOUBLE GASKET SEAL FOR 1601-32D
09-29-93	DOUBLE GASKET SEAL FOR 1601-32A
09-29-93	DOUBLE GASKET SEAL FOR 1601-33B
09-29-93	DOUBLE GASKET SEAL FOR 1601-33C
09-29-93	DOUBLE GASKET SEAL FOR 1601-33A
09-29-93	DOUBLE GASKET SEAL FOR 1601-32F
09-29-93	DOUBLE GASKET SEAL FOR 1601-32E
09-29-93	DOUBLE GASKET SEAL FOR 1601-33D
09-29-93	DOUBLE GASKET SEAL FOR 1601-33E
09-29-93	DOUBLE GASKET SEAL FOR 1601-33F
10-01-93	8501-3A & 3B
10-03-93	TIP MONITOR FLANGE SEAL FOR X-136C
10-03-93	TIP MONITOR FLANGE SEAL FOR X-136D
10-03-93	TIP MONITOR FLANGE SEAL FOR X-136A
10-03-93	TIP MONITOR FLANGE SEAL FOR X-136F
11-13-93	2599-2B & 23B
11-14-93	2599-2A & 23A
11-25-93	2599-4A & 5A
12-03-93	2599-3A & 24A
12-07-93	2499-1B & 2B
12-12-93	BELLOWS PENETRATION X-105A
02-14-94	E. TORUS HATCH DOUBLE GASKET SEAL
02-18-94	ELECTRICAL PENETRATION X-202Q
02-18-94	1699-63A 7 FLANGE
02-28-94	2499-28A & 29A
02-28-94	2499-28B & 29B
02-29-94	1601-20A & 31A
02-29-94	1699-63B & FLANGE
03-02-94	1601-20B & 31B
03-14-94	ELECTRICAL PENETRATION X-202F



ATTACHMENT VI  
Methodology for Leak Rate Testing

Testing of the volumes listed in Attachment III will commence within 96 hours after the plant reaches a cold shutdown condition. This testing will continue until all volumes have been tested or the unit is ready for startup. The volumes selected for testing will be based upon the expected duration of the shutdown and the time required to prepare the volumes for testing.

Volumes not tested during a cold shutdown shall be tested during any subsequent cold shutdowns that may occur prior to the D3R13 refueling outage. If no other cold shutdowns occur, the volumes will be tested during the D3R13 refueling outage.

In order to ensure that the Technical Specification maximum pathway leakage limit, 0.6 L<sub>a</sub> is not exceeded during the course of the exemption, an administrative limit of 80% of 0.6 L<sub>a</sub> has been established for the remainder of the cycle. This limit provides a margin of safety to account for any possible increases in the leakage rates of volumes that cannot be tested. This will help ensure that the maximum pathway leakage does not exceed the Technical Specification limit. However, Dresden Station will perform the action requirements of Technical Specifications should the administrative limit be exceeded.

The current maximum pathway leakage for Unit 3 is 275.12 scfh, which is 56.3% of the Technical Specification maximum pathway leakage limit. This number is based on the sum of the as-left maximum pathway leakage rates obtained from all Type B and Type C tests. The ongoing changes to the maximum path leakage will be tracked as described below.

As each volume is tested throughout the course of the exemption, the current as-found maximum pathway leakage rate for a volume will be subtracted from the as-left maximum pathway leakage rate for that volume. This difference will then be subtracted from the as left maximum pathway sum of all Type B and Type C tests to obtain the current maximum pathway sum of leakage rates. This methodology is represented in the following equation:

$$\text{max} = x - ( y - z )$$

Where:

- max = Current maximum pathway sum of leakage rates for Type B and Type C tests
- x = As-left maximum pathway sum of leakage rates for Type B and Type C tests
- y = Previous as-left maximum pathway leakage rate for the volume tested

z = Current as-found maximum pathway leakage rate  
for the volume tested

Testing will continue in this manner until all volumes listed in Attachment III have been tested. If at any time the current maximum path leakage rate is found to exceed the administrative limit, corrective actions will be taken to bring the leakage rate back below the limit.

ATTACHMENT VII  
BALANCE OF VOLUMES

CRITICAL DATE	TEST VOLUME
03-20-94	W. TORUS HATCH DOUBLE GASKET SEAL
03-20-94	1201-1, 1A, 2 & 3
03-20-94	CRD HATCH DOUBLE GASKET SEAL
03-23-94	BELLOWS PENETRATION X-107B
03-24-94	BELLOWS PENETRATION X-105D
03-28-94	ELECTRICAL PENETRATION X-204L
03-28-94	203-1C & 203-2C
03-28-94	203-1D & 203-2D
03-28-94	203-1B & 203-2B
03-28-94	203-1A & 203-2A
03-30-94	ELECTRICAL PENETRATION X-204N
03-30-94	ELECTRICAL PENETRATION X-204Q
04-01-94	8501-5B & END
04-03-94	ELECTRICAL PENETRATION X-202S
04-05-94	1501-27A & 28A
10-15-94	LT 1626
10-18-94	1501-25B & 26B
03-04-95	1301-17 & 20
03-05-95	1601-57, 58, & 59
03-08-95	2301-34 & 71
03-09-95	4722 & 4799-530
03-13-95	220-57A & 62A
03-22-95	TIP VALVE D
03-22-95	TIP VALVE A
03-22-95	TIP VALVE C
04-06-95	1501-18A & 19A
04-16-95	220-57A & 58A
04-19-95	TIP PURGE CHECK VALVE
04-22-95	1301-3 & 4
04-23-95	1601-21, 22, 55, 56 & 8502-500
04-23-95	TIP VALVE B
04-23-95	TIP MONITOR FLANGE SEAL FOR X-136E
04-23-95	TIP VALVE E
04-23-95	220-1 & 2
04-23-95	TIP MONITOR FLANGE SEAL FOR X-136B