Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

June 16, 1994

Mr. William T. Russell, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Zion Nuclear Power Station Unit 2
Request for Schedular Exemption from 10 CFR 50,
Appendix J, Type C, Test Frequency
NRC Docket Nos. 50-295 and 50-304

Reference: T.W. Simpkin letter to W.T. Russell, dated June 10, 1994

Dear Mr. Russell:

Commonwealth Edison Company (CECo), pursuant to 10 CFR 50.12(a), requests an exemption for Zion Unit 1 and 2 from the requirements of Title 10 of the Code of Federal Regulations, Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors". 10 CFR 50, Appendix J, Section III.D.3 specifies that Type C tests be performed during each reactor shutdown for refueling but in no case at intervals greater than two years. This exemption is requested in order to defer the Type C test for one valve on each unit to the next refueling outage.

This schedular exemption will defer the Type C leak rate testing requirements to refueling outage Z1R14 for 1MOV-CC685 and to Z2R13 for 2MOV-CC685. A detailed justification for this exemption request is provided in Attachment 1. Attachment 2 contains an Environmental Assessment pertaining to this exemption request.

This request has been reviewed and approved by the Zion Station On-Site Review Committee in accordance with company procedure.

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To the best of my knowledge and belief, the statements contained herein are true and correct. In some respects these statements are not based on my personal knowledge but upon obtained information received from other CECo and contractor employees. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

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

Respectfully,

Terrence W. Simpkin

T.W. Simpkin
Nuclear Licensing Administrator

Attachments: A) Justification for Exemption
B) Environmental Assessment

cc: J.B. Martin, Regional Administrator - RIII
C.Y. Shiraki, Project Manager - NRR
J.D. Smith, Senior Resident Inspector - Zion
Office of Nuclear Facility Safety - IDNS

ATTACHMENT A

JUSTIFICATION FOR SCHEDULAR EXEMPTION FROM 10CFR50 APPENDIX J

TYPE C LEAK RATE TESTING SCHEDULE

Past local leakage rate test data for Zion units 1 and 2, shown in Tables 1 and 2, has demonstrated acceptable leakage rate test results. The current Maximum Pathway Leakage Rate for Zion Unit 1 is 129.23 SCFH and for Zion Unit 2 is 168.31 SCFH, as determined through Type B and C leak rate testing. This value is approximately 45.4 % of the Technical Specification limit of 285 SCFH ($0.6L_a$) for Zion Unit 1 and 59.1 % of the Technical Specification limit of 285 SCFH ($0.6L_a$) for Zion Unit 2. In addition, the combined total "as-left" Type B and C Minimum Pathway Leakage Rate for Zion Unit 1 was 105.78 SCFH following the Z1R13 refueling outage, and the combined total "as-left" Type B and C Minimum Pathway Leakage Rate for Zion Unit 2 was 130.37 SCFH following the Z2P02 planned outage. These values are approximately 37.1% and 45.7% of the Technical Specification limit for Zion Units 1 and 2, respectively.

By using the minimum pathway methodology, a conservative measurement of actual leakage expected through a pathway under post accident conditions can be determined. In addition, the results of the primary containment Integrated Leakage Rate Test (ILRT) for both units, which obtains the summation of all potential leakage paths including containment welds, valves and fittings, provides further assurance that no undue risk is presented to the health and safety of the public.

The most recent Unit 1 ILRT, completed on March 3, 1992, indicated that the primary containment overall integrated leakage rate was 0.0162 weight percent per day. The most recent Unit 2 ILRT, completed on November 13, 1992, indicated that the containment overall integrated leakage rate was 0.05956 weight percent per day. These values are the sum of the 95% upper confidence limit calculated leak rate plus the leakage rate of all non-vented pathways.

In order to provide an added margin of safety and to account for possible leakage through the subject valves during the period of the exemption, Zion Station will impose an administrative limit for maximum pathway leakage of $0.4L_a$ for the remaining operating cycle for both units (Z1C14 and Z2C13). In addition, periodic visual inspections of the piping from the containment wall to the subject valves will provide further assurance that no external leakage exists from 1(2)MOV-CC685.

A conservative self-imposed limit for maximum pathway leakage along with the visual inspection of 1(2)MOV-CC685 and its piping, provide a basis for showing that the probability of exceeding off site dose rates established in 10 CFR 100 will not be increased by deferring completion of the Type C leak rate testing of the subject valves to the next refueling outages (Z1R14 and Z2R13). Therefore, this exemption will not present an undue risk to the public health and safety.

For a significant release of radioactive containment atmosphere to occur through the subject pathway, the following combination of events must occur:

a) LOCA, and

b) Rupture of the component cooling water return line from the reactor coolant pump thermal barriers, inside containment, and failure of the operators, using available indications and alarms, to recognize the failure and isolate the process line, and

c) Leakage through 1(2)MOV-CC685 AND 1(2)MOV-CC9438 to the Auxiliary Building atmosphere (via the component cooling system surge tank vent or through a process line break outside containment) OR failure of both valves to automatically close on a Phase B isolation signal, and

d) Manual isolation valve seal water supply not utilized.

The probability of occurrence of this combination of events is very low.

(3) The requested schedular exemption will not endanger the common defense and security.

The common defense and security are in no way compromised by this proposed schedular exemption since deferral of the Type C leak testing of one valve on each unit to the next refueling outage for each unit does not alter the physical plant in any physical manner.

At least one of the special circumstances provided in 10CFR50.12(a)(2) are present.

(1) 10CFR50.12(a)(2)(ii)

Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

The underlying purpose of the rule is to ensure that leakage from the primary containment, and the systems and components that penetrate the primary containment, is maintained below the established limits, during design basis accidents, to ensure that off-site dose is maintained well below the limits of 10CFR100. It is not necessary to perform the Type C leak rate testing of valves 1(2)MOV-CC685 at this time to satisfy the underlying purpose of the rule.

Valves 1(2)MOV-CC685 are wedge type gate valves. Refer to attached Figure 1. The piping associated with penetration P-33 and valves 1(2)MOV-CC685 is seismically supported. Lines between containment and the first outside isolation valve are designed to the same seismic criteria as the containment vessel and are considered to be an extension of the containment. There is a loop seal in the component cooling water return line from the reactor coolant pump thermal barriers inside containment that is missile protected. This loop seal ensures that water will remain in the line in the event of an upstream line break on a section of the piping not missile protected within containment.

Manual seal water injection is provided for the piping between 1(2)MOV-CC685 and 1(2)MOV-CC9438 (see Figure 1). Manual seal water injection is provided for lines which remain in service for a time, or are used periodically, subsequent to an accident. Manual initiation of seal water is initiated during long term recovery from an accident. Guidance is provided in the Emergency Operating Procedures to initiate seal water to the valves. Emergency Procedure E-1, 'Loss of Reactor or Secondary Coolant', Step 20 directs the Technical Support Center to evaluate the need for operation of manual Isolation Valve Seal Water valves. Initiation of seal water is based on the particular event in progress, the potential for leakage through the penetration, and potential radiation exposure to the operator responsible for local operation of the manual valves.

The total leakage from the associated penetrations has been measured and is well within limits for both units. Test results were as follows:

1MOV-CC9438			2MOV-CC9438		
Date	Outage	Leakage Rate	Date	Outage	Leakage Rate
6/27/92	Z1R12	0.28 scfh*	01/29/93	Z2R12	0.35 scfh*
2/15/94	Z1R13	0.65 scfh	10/11/93	Z2P02	0.02 scfh

* Original leakage rate for these valves

Although this request would allow deferral of Type C leak rate testing of valves 1(2)MOV-CC685, testing that has been completed has provided a high degree of confidence that the individual valves would meet the leakage rate acceptance criteria given in 10CFR50 Appendix J.

Zion Station Technical Specifications limit the maximum allowable combined Type B and C leakage rate to 0.60 L_a (285 SCFH). In the request for NRR enforcement discretion, Zion Station committed to reduce the administrative limit on total combined Type B and C leakage rate to 0.40 L_a (190 SCFH) until such time as Type C leak rate tests can be performed on valves 1(2)MOV-CC685, in accordance with 10CFR50 Appendix J. With an administrative limit of 0.40 L_a, a margin of 95 SCFH exists to compensate for potential leakage through valves 1(2)MOV-CC685.

Despite the deferral of Type C leak testing of the subject valves to the next refueling outage for each unit, substantial barriers to fission product release are provided by the intact system piping and associated valves. With the conservative administrative limit on combined Type B and C leakage, the ability to maintain off-site dose within the limits of 10CFR100 during and following design basis accidents is assured. Therefore, based on the discussion above, the requested schedular exemption will not defeat the underlying purpose of the rule.

(2) 10CFR50.12(a)(2)(iii)

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.

Compliance with the rule would result in undue hardship. In order to perform Type C leak rate testing of valves 1(2)MOV-CC685 in strict compliance with 10CFR50 Appendix J, both units currently in operation would have to be placed in Cold Shutdown. In addition, all reactor coolant pumps (RCPs) would have to be removed from service and taken out of service. Component Cooling water to the RCPs would have to be secured and the component cooling water return line from the RCP thermal barriers would be drained. A flange at the component cooling water outlet from the RCP thermal barrier would have to be uncoupled to provide a means to pressurize the line upstream of valves 1(2)MOV-CC685. Test valves would then be opened to provide the bleed path. The scope of this work would be significant. In addition to the undesirable thermal cycle each units would experience, downtime is estimated to be three weeks, planning and maintenance support would be significant, and radiation dose received by maintenance personnel would be significant. The safety significance of deferring Type C leak rate testing of the two valves to the next refueling outage for each unit does not justify the extensive amount of work that would be required to complete the Type C testing.

In addition, the current status of the electrical grid is critical in that insufficient reserve capacity exists. This condition is anticipated to continue into the near future. Shutdown of Zion Units 1 and 2 in order to perform Type C leak rate testing of the valves would further jeopardize the stability of the grid.

(3) 10CFR50.12(a)(2)(v)

The exemption would provide only temporary relief from the applicable regulation and the licensee has made good faith efforts to comply with the regulation.

The requested exemption is temporary and schedular in nature. Type C leak rate testing of valves 1(2)MOV-CC685 will only be deferred until the next refueling outages for each unit. This amounts to a delay of approximately 15 months for Type C testing of Unit 1 valve 1MOV-CC685 and a delay of approximately 6 months for Type C testing of Unit 2 valve 2MOV-CC685. After completion of Type C leak rate testing of valves 1(2)MOV-CC685 during refueling outages Z1R14 and Z2R13, additional Type C testing of those valves will be performed in accordance with the schedule prescribed by 10CFR50 Appendix J.

Zion Station has made a good faith effort to comply with the regulation. The need to Type C leak test valves 1(2)MOV-CC685 in accordance with 10CFR50 Appendix J was identified through a self assessment completed in 1991. Steps were taken at that time to complete Type C leak testing of the subject valves. Root cause investigation is ongoing to determine what systematic breakdowns contributed to the valves not being properly tested. It is felt that a good faith effort, while unsuccessful, was put forth to correct the deficiencies identified in the 1991 self assessment.

P-33 CURRENT CONFIGURATION

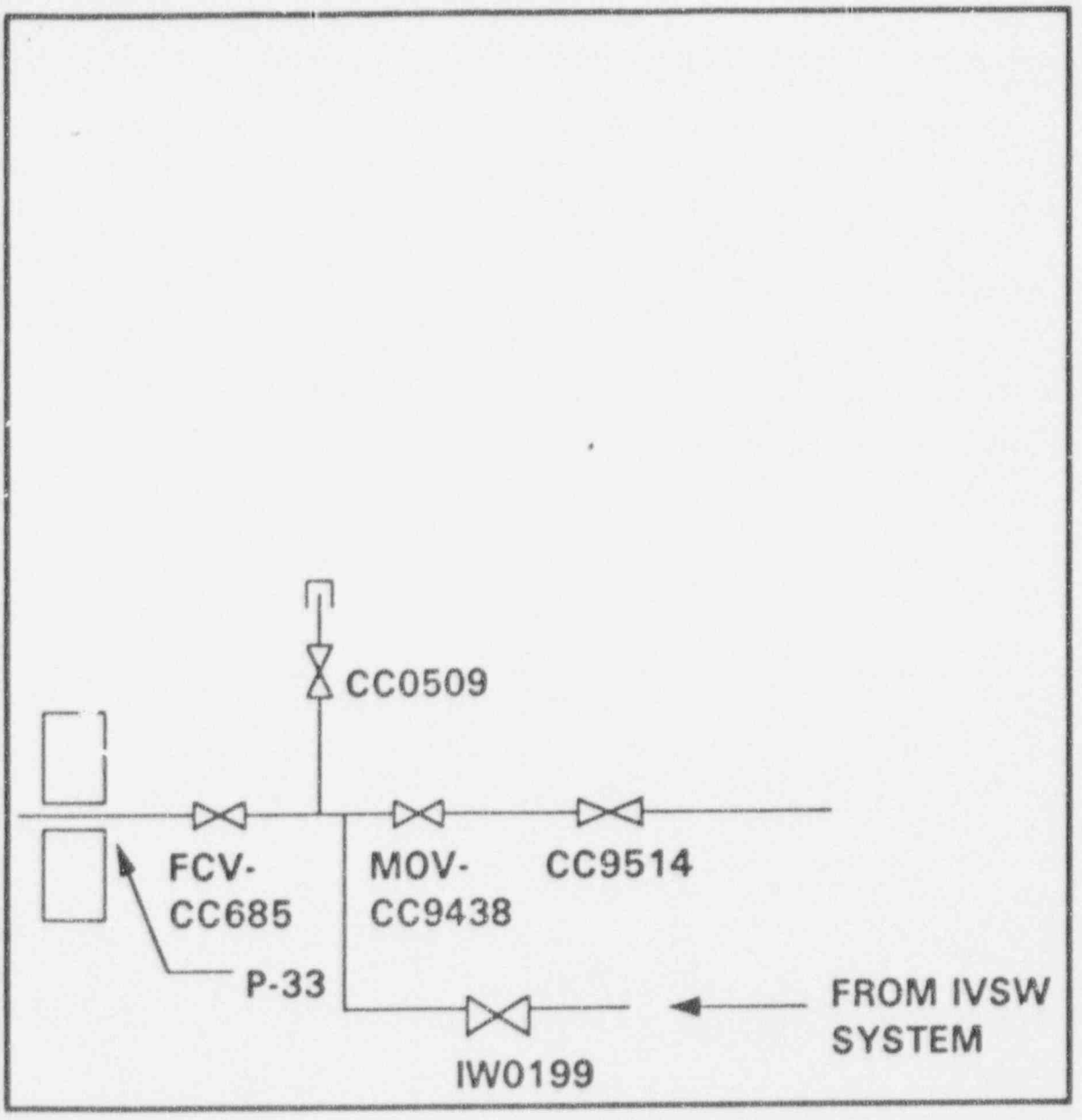

FIGURE 1

TABLE 1: UNIT 1 "AS-LEFT" MXPLR SUMMARY

EQUIPMENT	Z1R13 RESULTS DATE	CORECTED (SCFH)	Z1R12 RESULTS DATE	CORECTED (SCFH)
CS TRN A	3/9/94	4.89	7/5/92	7.97
CS TRN B	10/25/93	0.35	7/13/92	1.31
CS TRN C	10/25/93	3.92	7/12/92	1.95
PR0030	10/23/93	1.37	3/12/92	4.00
PR0029	10/23/93	11.79	3/12/92	5.05
1RV0001/2	3/12/94	2.94	3/13/92	5.56
1RV0003/4	10/25/93	0.02	3/13/92	7.09
RC8033	2/28/94	0.43	3/13/92	0.02
RC8047	2/17/94	0.02	6/19/92	14.89
DT9157	11/1/93	0.35	3/13/92	0.02
DT9158	12/29/93	10.25	5/20/92	1.59
PR25A	2/21/94	0.02	3/13/92	0.12
PR26A	2/21/94	0.02	3/13/92	0.02
PR25B	3/10/94	0.02	3/13/92	0.02
PR26B	3/10/94	0.02	3/13/92	0.02
PR25C	3/10/94	0.02	3/13/92	0.02
PR26C	3/10/94	0.02	3/13/92	0.02
PR25D	3/10/94	0.02	3/13/92	0.02
PR26D	3/10/94	0.02	3/13/92	0.02
PR24A	10/23/93	0.02	5/19/92	0.28
PR24B	10/23/93	2.10	3/13/92	0.75
IA01A	12/17/93	1.59	3/12/92	0.85
IA01B	12/17/93	1.69	3/12/92	1.17
SI8880	3/1/94	1.37	5/19/92	1.38
SI8933	3/1/94	1.17	5/19/92	19.2
SI0245	10/25/93	2.44	5/23/92	0.12
SI8961	10/25/93	2.45	5/23/92	0.02
CC9414	11/1/93	0.02	6/26/92	0.14
CC9438	2/15/94	0.02	6/27/92	0.28
RC8079	12/2/93	0.65	5/22/92	1.69
P-77	10/29/93	63.00	7/3/92	41
ZONE 1 STA J	N/A	N/A	3/19/92	0.02
ZONE 2 STA J	N/A	N/A	3/19/92	0.02
ZONE 3 STA D	N/A	N/A	3/19/92	0.02
ZONE 3 STA K	N/A	N/A	3/19/92	1.57
ZONE 4 SAT B	N/A	N/A	3/19/92	2.92
ZONE 4 STA H	N/A	N/A	3/19/92	1.06
ZONE 1 STA B	3/17/94	0.02	7/8/92	0.02
EQUIP. SEALS	3/12/94	0.12	7/8/92	0.02
ELEC. PEN Z-1	10/27/93	0.0225	6/30/92	0.02
ELEC. PEN Z-2	10/27/93	0	6/30/92	0.02
ELEC. PEN Z-3	10/27/93	0	6/30/92	0.08
ELEC. PEN Z-4	10/27/93	0	7/2/92	0.02
PERSONNEL VOLUME	5/27/94	19.21	6/15/92	1.88
ESCAPE VOLUME	3/1/94	3.56	7/16/92	26.44

TABLE 2: UNIT 2 "AS-LEFT" MXPLR SUMMARY

EQUIPMENT	Z2P02 RESULTS		Z2R12 RESULTS	
	DATE	CORECTED (SCFH)	DATE	CORECTED (SCFH)
CS TRN A	11/22/93	1.67	1/20/93	1.03
CS TRN B	10/13/93	0.35	1/27/93	9.74
CS TRN C	10/13/93	0.35	1/27/93	1.80
PR0030	10/15/93	9.67	11/22/92	0.02
PR0029	2/14/94	0.13	11/22/92	0.13
2RV0001/2	10/15/93	1.78	11/22/92	2.44
2RV0003/4	10/15/93	1.82	11/22/92	2.43
RC8033	2/16/94	0.02	11/22/92	2.46
RC8047	2/16/94	0.12	1/16/93	5.59
DT9157	10/11/93	1.40	11/23/92	0.33
DT9158	12/9/93	18.04	11/23/92	21.37
PR25A	10/15/93	0.02	11/22/92	0.02
PR26A	10/15/93	0.02	11/22/92	0.02
PR25B	10/15/93	0.02	11/22/92	0.02
PR26B	10/15/93	0.02	11/22/92	0.02
PR25C	10/15/93	0.02	11/22/92	0.02
PR26C	10/15/93	0.02	11/22/92	0.02
PR25D	10/15/93	0.02	11/22/92	0.02
PR26D	10/15/93	0.02	11/22/92	0.02
PR24A	10/13/93	5.53	11/22/92	0.35
PR24B	10/13/93	1.06	11/22/92	0.35
IA01A	10/9/93	0.02	11/20/92	0.34
IA01B	10/9/93	0.02	11/20/92	0.81
SI8880	10/9/93	1.27	11/24/92	2.45
SI8933	10/9/93	9.70	1/27/93	10.78
SI0245	10/11/93	0.35	1/6/93	0.35
SI8961	10/11/93	0.35	1/6/93	0.35
CC9414	11/2/93	0.02	1/29/93	0.26
CC9438	10/11/93	0.02	1/29/93	0.35
RC8079	11/8/93	30.98	1/2/93	17.13
P-77	10/13/93	64.00	11/13/92	24
ZONE 1 STA J	N/A	N/A	1/8/93	2.46
ZONE 2 STA J	N/A	N/A	1/8/93	0.35
ZONE 3 STA D	N/A	N/A	1/8/93	5.54
ZONE 3 STA K	N/A	N/A	1/8/93	2.46
ZONE 4 SAT B	N/A	N/A	1/8/93	1.4
ZONE 4 STA H	N/A	N/A	1/8/93	3.46
ZONE 1 STA B	2/24/94	1.90	1/21/93	0.35
EQUIP. SEALS	3/28/94	0.12	1/30/93	0.02
ELEC. PEN Z-1	10/9/93	0.023	2/4/93	0
ELEC. PEN Z-2	10/9/93	0.034	2/4/93	0
ELEC. PEN Z-3	10/9/93	0	2/4/93	0
ELEC. PEN Z-4	10/9/93	0.09	2/4/93	0.07
PERSONNEL HATCH	4/12/94	15.97	2/8/93	26.52
ESCAPE HATCH	2/25/94	6.9	1/30/93	0.35
FLANGE/2SI0003	6/10/94	0.02	2/12/93	0.02

ATTACHMENT B

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

10CFR50 Appendix J, requires that a program consisting of a schedule for conducting Type A, B, and C tests be developed for leak testing the primary reactor containment, and related systems and components penetrating the primary containment pressure boundary. In addition, prior to any reactor operating period, periodic leak rate tests are required to be conducted according to the applicable section of 10CFR50 Appendix J. The purposes of the tests, as stated in 10CFR50 Appendix J, are:

(a) to assure that leakage through the primary reactor containment, and systems and components penetrating primary containment, do not exceed allowable leak rate values as specified in the Technical Specifications or associated Bases, and

(b) to assure that proper maintenance and repairs are made during the service life of the containment, and systems and components penetrating the primary containment.

Type C tests are tests intended to measure containment isolation valve leakage rates. The containment isolation valves included are those that:

1) Provide a direct connection between the inside and outside atmospheres of the primary reactor containment under normal operation, such as purge and ventilation, vacuum relief, and instrument valves, or

2) Are required to close automatically upon receipt of a containment isolation signal in response to controls intended to effect containment isolation, or

3) Are required to operate intermittently under post accident conditions, or

4) Are in main steam and feedwater piping and other systems which penetrate containment of direct-cycle boiling water power reactors.

Type C tests are performed by local pressurization. The pressure is applied in the accident direction, unless it can be determined that pressurization in a different direction provides equivalent, or more conservative results. Valves, unless pressurized with fluid from a seal water system, are pressurized with air or nitrogen at a pressure of P_a for the test. The acceptance criteria for the tests is that the combined leakage rate for all penetrations and valves subject to Type B and C tests shall be less that 0.60 L_a. According to 10CFR50 Appendix J, III.D.3, Type C tests are required to be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years.

The requested one time exemption would allow Type C testing of valves 1(2)MOV-CC685 to be deferred until the next refueling outage for each unit. Specifically, valve 1MOV-CC685 would be Type C tested in accordance with 10 CFR 50 Appendix J during refueling outage Z1R14, which is scheduled to begin September 9, 1995, and valve 2MOV-CC685 would be Type C tested in accordance with 10 CFR 50 Appendix J during refueling outage Z2R13, which is scheduled to begin on January 5, 1995.

Valves 1(2)MOV-CC685 are the first isolation valves outside containment in the component cooling water return line from the reactor coolant pump thermal barriers. The valves throttle closed upon receipt of a controlling signal from flow detector/controller 1(2)FICA-685 to maintain return flow at less than or equal to 190 gpm. During most accidents considered in the accident analyses, the valves remain open. During the Large Break LOCA or Steamline Break inside containment, the valve automatically close upon receipt of a Phase B isolation Signal. Valves 1(2)MOV-CC685 are wedge type gate valves.

Manual seal water isolation is provided to the piping between 1(2)MOV-CC685 and the next downstream valve, 1(2)MOV-CC9438. Manual seal water injection is provided for long term recovery from an accident. The piping and valves associated with penetration P-33 are seismically supported and there is a missile protected loop seal in the line inside containment.

The Need for the Proposed Action

The proposed schedular exemption is needed because valves 1(2)MOV-CC685 have not been previously tested per the requirements of 10 CFR 50, Appendix J, D.3, and because without the exemption, both units would have to be placed in Cold Shutdown to perform the testing.

Compliance with the rule would result in undue hardship. In order to perform Type C leak rate testing of valves 1(2)MOV-CC685 in strict compliance with 10CFR50 Appendix J, both units, which are currently operating, would have to be placed in Cold Shutdown. In addition, all reactor coolant pumps (RCPs) would have to be removed from service and taken out of service. Component Cooling water to the RCPs would have to be secured and the component cooling water return line from the RCP thermal barriers would be drained. A flange at the component cooling water outlet from the RCP thermal barrier would have to be uncoupled to provide a means to pressurize the line upstream of valves 1(2)MOV-CC685. Test valves would then be opened to provide the bleed path. The scope of this work would be significant. In addition to the undesirable thermal cycle each unit would experience, downtime is estimated to be three weeks, planning and maintenance support would be significant, and radiation dose received by maintenance personnel would be significant. The safety significance of deferring Type C leak rate testing of the two valves to the next refueling outage for each unit does not justify the extensive amount of work that would be required to complete the Type C testing.

In addition, the current status of the electrical grid is critical in that insufficient reserve capacity exists. This condition is anticipated to continue into the near future. Shutdown of Zion Units 1 and 2 in order to perform Type C leak rate testing of the valves would further jeopardize the stability of the grid.

Environmental Impacts of the Proposed Action

Commonwealth Edison has determined that granting of the proposed exemption would not significantly increase the probability or amount of expected primary containment leakage and that the containment integrity would thus be maintained. Although the schedular requirements in section D.3 of Appendix J for Type C leak rate testing of valves 1(2)MOV-CC685, substantial barriers to fission product release are provided by the intact system piping and associated valves. In particular it should be considered that valves 1(2)MOV-CC9438, which are immediately downstream of the respective valves in question, have been satisfactorily tested in accordance with the applicable requirements of Appendix J. In addition,

As stated in 10 CFR 50, Appendix J, the purpose of leak rate testing is (1) to ensure that the leakage through the primary containment, and systems and components that penetrate the primary containment, does not exceed the leakage rate allowed by the Technical Specifications and associated basis, and (2) to ensure that the proper maintenance and repair is performed throughout the service life of the containment boundary components.

The requested schedular exemption is consistent with this intent in that it represents a one time schedular exemption of short duration for valves 1(2)MOV-CC685. All remaining leak rate tests have been performed in full compliance with Technical Specification requirements and 10CFR50 Appendix J.

In order to provide an added margin of safety and to account for possible leakage through the subject valves during the period of the exemption, Zion Station will impose an administrative limit for maximum pathway leakage of $0.4L_a$ for the remaining operating cycle for both units (Z1C14 and Z2C13). In addition, periodic visual inspections of the piping from the containment wall to the subject valves will provide further assurance that no external leakage exists from 1(2)MOV-CC685.

Past local leakage rate test data for Zion units 1 and 2, shown in Tables 1 and 2, has demonstrated acceptable leakage rate test results. The current Maximum Pathway Leakage Rate for Zion Unit 1 is 129.23 SCFH and for Zion Unit 2 is 168.31 SCFH, as determined through Type B and C leak rate testing. This value is approximately 45.4 % of the Technical Specification limit of 285 SCFH ($0.6L_a$) for Zion Unit 1 and 59.1 % of the Technical Specification limit of 285 SCFH ($0.6L_a$) for Zion Unit 2. In addition, the combined total "As-Left" Type B and C Minimum Pathway Leakage Rate for Zion Unit 1 was 105.78 SCFH following the Z1R13 refueling outage, and the combined total "As-Left" Type B and C Minimum Pathway Leakage Rate for Zion Unit 2 was 130.37 SCFH following the Z2P02 planned outage. These values are approximately 37.1% and 45.7% of the Technical Specification limit for Zion Units 1 and 2, respectively.

By using the minimum pathway methodology, a conservative measurement of actual leakage expected through a pathway under post accident conditions can be determined. In addition, the results of the primary containment Integrated Leakage Rate Test (ILRT) for both units, which obtains the summation of all potential leakage paths including containment welds, valves and fittings, provides further assurance that no undue risk is presented to the health and safety of the public.

The most recent Unit 1 ILRT, completed on March 3, 1992, indicated that the primary containment overall integrated leakage rate was 0.0162 weight percent per day. The most recent Unit 2 ILRT, completed on November 13, 1992, indicated that the containment overall integrated leakage rate was 0.05956 weight percent per day. These values are the sum of the 95% upper confidence limit calculated leak rate plus the leakage rate of all non-vented pathways.

A conservative self-imposed limit for maximum pathway leakage along with the visual inspection of 1(2)MOV-CC685 and its associated piping, provide a basis for showing that the probability of exceeding off site dose rates established in 10 CFR 100 will not be increased by deferring completion of the Type C leak rate testing of the subject valves to the next refueling outages (Z1R14 and Z2R13). Therefore, this exemption will not present an undue risk to the public health and safety.

For a significant release of radioactive containment atmosphere to occur through the subject pathway, the following combination of events must occur:

a) LOCA, and

b) Rupture of the component cooling water return line from the reactor coolant pump thermal barriers, inside containment, and failure of the operators, using available indications and alarms, to recognize the failure and isolate the process line, and

c) Leakage through valves 1(2)MOV-CC685 and 1(2)MOV-CC9438 to the Auxiliary Building atmosphere (via the component cooling system surge tank vent or through a process line break outside containment) OR failure of both valves to automatically close on a Phase B isolation signal, and

d) Manual isolation valve seal water supply not utilized.

The low probability of occurrence of this combination of events adds further confidence to the belief that the public health and safety will not be adversely impacted.

With regard to potential radiological impacts, the proposed exemption involves a change to surveillance and testing requirements. It does not affect nonradiological plant effluents and has no other environmental impacts. Therefore Commonwealth Edison concludes that there are no significant nonradiological impacts associated with the proposed exemption.

Alternatives to the Proposed Action

Since no significant environmental impacts are associated with the proposed action, any alternatives would have either no or greater environmental impact.

The principal alternative would be denial of the requested exemption. This would not reduce the environmental impacts attributed to the facility, and as has been shown in Attachment 1 section is not necessary to satisfy the underlying purpose of the rule.

Alternative Use of Resources

The proposed action does not involve the use of any resources not previously considered in connection with the Nuclear Regulatory Commission's Final Environmental Statement, dated December 1972, related to the operation of Zion Nuclear Power Station, Units 1 and 2.