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September 23, 1988

10CFR50 App. J
Docket Nos. 50-352
50-353

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555


SUBJECT: Limerick Generating Station, Units 1 and 2
Request for Exemption from Paragraphs II.H.4
and III.C of Appendix J to 10CFR 50

Dear Dr. Murley:

Philadelphia Electric Company requests an exemption from Paragraphs II.H.4 and III.C of 10CFR50, Appendix J for suppression pool inboard containment isolation valves that are on lines that terminate below the minimum suppression pool water level. The attachment to this letter provides Licensee's exemption request on this subject which conforms to the requirements of 10CFR 50.12(a).

If you have any questions, please do not hesitate to contact us.

Very truly yours,



MH/eab06228802

Attachment

Copy to: Addressee
R. J. Clark, USNRC Project Manager
W. T. Russell, Administrator, Region I, USNRC
T. J. Kenny, USNRC Senior Resident Inspector, LGS - 1
R. A. Gramm, USNRC Senior Resident Inspector, LGS - 2

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Request for Exemption from the Requirements of Paragraphs
II.H.4 and III.C OF 10 CFR 50, Appendix J

Exemption Requested:

Philadelphia Electric Company requests an exemption from the requirements of 10 CFR 50, Appendix J, Paragraphs II.H.4 and III.C. Paragraphs II.H.4 and III.C require leak rate testing of all suppression pool piping penetrations. An exemption from Type C testing is requested for the stem packing of suppression pool inboard containment isolation valves that are on lines that terminate below the main suppression pool water level. As a result of the valve stem leak testing program developed at Peach Bottom Atomic Power Station in response to the Notice of Violation contained in Inspection Report Nos. 50-277/85-23 and 50-278/85-23, a similar program is being conducted at Limerick Generating Station. This request for exemption represents part of that effort.

Justification for Requested Exemption:

The requested exemption may be granted by the NRC under 10 CFR 50.12(a) provided that the exemption is: I) authorized by law; II) will not present an undue risk to the public health and safety; III) is consistent with the common defense and security; and IV) justified by the presence of special circumstances of the type identified in Section 50.12(a)(2).

I. 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, and if no other prohibition of law exists to preclude the activities which would be authorized by the requested exemption, then the Commission is authorized by law to grant the exemption request. Since, as demonstrated herein, the requested exemption meets the applicable criteria and there is no legal prohibition to its grant, the Commission is authorized by law to grant the exemption.

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

For the reasons stated in Section IV, Special Circumstances, the requested exemption from local leak rate testing the stem packing of water covered suppression pool inboard containment isolation valves does not present undue risk to the public health and safety because design features exist that will significantly limit the escape of gaseous fission products from containment through the stem packing glands of these valves. In addition, any stem packing leakage would be into the Reactor Enclosure (Secondary Containment) thus facilitating collection and treatment.

III. The Requested Exemption is Consistent with the Common Defense and Security

The common defense and security are not endangered by this exemption request. Only the potential impact on public health and safety is at issue and has been determined to be inconsequential.

IV. Special Circumstances

Two special circumstances of the type described in 10 CFR 50.12(a)(2) are present in the request under consideration in that: (a) the application of the regulation is not necessary to achieve the underlying purpose of the rule; and (b) compliance would result in undue hardship.

The purpose of 10 CFR 50, Appendix J is to provide appropriate containment leakage test requirements for nuclear power reactors. The underlying purpose is to demonstrate by periodic testing that the primary reactor containment will be able to perform its function of providing a leak tight barrier against the uncontrolled release of radioactivity to the environment. The alternative measures in the discussion below, in lieu of the applicable Appendix J, Type C test, will meet the underlying purpose of the regulation.

10 CFR 50, Appendix J, Paragraphs II.H.4 and II.C requires local leak rate testing of all suppression pool piping penetrations. An exemption of Type C (local leak rate) testing is requested for the stem packing of suppression pool inboard containment isolation valves that are on lines that terminate below the minimum suppression pool water level. These valves are currently Type C tested in the reverse post-LOCA flow direction with test pressure tending to unseat the valves. In this orientation, the stem packing on the globe and stop check valves would not be part of the test boundary. The stem packing on the gate valves would only be part of the test boundary if the wedge is pushed off its outboard seat. Thus, there is no assurance that the stem packing on these valves will be exposed to the test medium at test pressure.

This exemption would apply to the following valves:

<u>Pene. #</u>	<u>System Description</u>	<u>Valve Number</u>	<u>Type</u>
203 A-D	RHR Pump Suction	HV-51-1F004A-D	GT
204 A,B	RHR Pump Test Line and Containment Cooling	HV-51-125 A,B	GT
206 A-D	CS Pump Suction	HV-52-1F001 A-D	GT
207A,B	CS Pump Test and Flush	HV-52-1F015 A,B	GB
208 B	CS Pump Min. Recirc.	HV-52-1F031 B	GB
209	HPCI Pump Suction	HV-55-1F042	GT
210	HPCI Turbine Exhaust	HV-55-1F072	GT
212	HPIC Pump Test and Flush	HV-55-1F071	GT
214	RCIC Pump Suction	HV-49-1F031	GT
215	RCIC Turbine Exhaust	HV-49-1F060	GT
216	RCIC Min. Flow	HV-49-1F019	GB
217	RCIC Vacuum Pump Discharge	HV-49-1F002	SCK
226 A,B	RHR Min Recirc.	HV-51-105 A,B	GT
235	CS Pump Min. Recirc.	HV-52-1F031 A	GB
236	HPCI Pump Min. Recirc.	HV-55-1F012	GB
237-1	Suppression Pool Cleanup Pump Suction	HV-52-127	GT
238	RHR Relief Valve Discharge	HV-C51-1F104 B	GB
239	RHR Relief Valve Discharge	HV-C51-1F103 A	GB

LGS Units 1 & 2
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*Unit 1 valve numbers shown. Unit 2 valves are the same except for replacing the "1" with a "2", e.g., HV-51-2F004A-D

Legend

GB-Globe Valve

GT-Gate Valve

SCK-Stop Check Valve

These lines discharge below the minimum suppression pool water level and will thus have a water seal after an accident which would prevent the release of gaseous fission products from the suppression pool air space. Any stem packing leakage would be into the Reactor Enclosure (Secondary Containment) thus facilitating collection and treatment. Additionally, the leak tightness of these valves is assured in the post accident direction at peak accident pressure during the Integrated Leak Rate Test performed every other refueling outage. With the above assurance, literal application of the regulation is not necessary to achieve the underlying purpose of the rule which is to ensure the integrity of the primary containment against the uncontrolled release of fission products.

The minimum necessary hardware modifications required to Type C (local leak rate) test the stem packing would be the installation of test connections at the stem leak off ports of each of the containment isolation valves with the exception of the stop check valve on penetration N-217. This valve would require a block valve and test tap between the isolation valve and the wetwell. These modifications would result in undue hardship as a result of the monetary expenditures with no commensurate increase in safety levels.

Based on the above, there is reasonable assurance against undue leakage of gaseous fission products through suppression pool isolation valve stem packings provided under the exemption and that no increase in the probability or extent of leakage of gaseous fission products through suppression pool isolation valve stem packings is to be expected. Therefore, there is no increase in the probability of higher post accident offsite or onsite doses related to the exemption and therefore no increase in environmental impact beyond that experienced with no exemption.

The discussion above provides assurance that the primary reactor containment is an essentially leak tight barrier against the uncontrolled release of radioactivity to the environment.