UNITED STATES NUCLEAR REGULATORY COMMISSION

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. 50-353

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of exemptions to Philadelphia Electric Company, for operation of the Limerick Generating Station, Unit 2, located in Montgomery and Chester Counties, Pennsylvania.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

A. Containment Airlock Testing

Identification of Proposed Action:

The proposed exemption would eliminate the full pressure test required by Paragraph III.D.2(b)(ii) of Appendix J each time the air lock is opened during periods when containment integrity is not required and substitute a seal leakage test to be conducted at a pressure specified in the Technical Specifications. The proposed exemption is in accordance with the licensee's request dated September 14, 1984.

The Need for the Proposed Action:

The proposed exemption is required to provide the licensee with greater plant availability over the lifetime of the plant.

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Environmental Impact of the Proposed Action:

The proposed exemption would allow the substitution of an airlock seal test for an airlock pressure test while the reactor is in a shutdown or refueling mode. With respect to this proposed exemption from Appendix J, the increment of environmental impact is related solely to the potential increased probability and the magnitude of containment leakage during an accident which could lead to potentially greater offsite radiological consequences. However, the potential increase due to this proposed exemption is small and would result, from the potential leakage path through the door mechanism which will not be measured by this modified test. Other tests every six months or when maintenance is performed on the airlock, will measure the leakage through the door mechanism. Accordingly, the Commission concludes that this proposed action would result in no significant radiological impact. Additionally, it does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts acsociated with the proposed exemption.

Alternative to the Proposed Action:

Since the Complexicon concluded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested exemption. This would not reduce the environmental impacts of the plant operations and would result in reduced operational flexibility.

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B. Leak Rate Testing of Main Steam Isolation Valves

Identification of Proposed Action:

The proposed exemption would (1) allow testing of the main steam isolation valves (MSIV) to be conducted at a differential pressure less than that required by Paragraphs II.H.4 and III.C.2 of Appendix J, and (2) allow exclusion of the measured MSIV leakage rates from the summation for the local leak rate tests as otherwise required by Paragraph III.C.3 of Appendix J. The proposed exemption is in accordance with the licensee's request dated September 14, 1984.

The Need for the Proposed Action:

The proposed exemption from Paragraphs II.H.4 and III.C.2 is required because, due to the design of the main steam isolation system, a testing of the MSIVs at the calculated peak internal containment design basis pressure, Pa, would lift the disc of the inboard MSIV and result in a meaningless test. In lieu of testing at pressure Pa the licensee proposes to test at one-half of Pa. The proposed exemption from Paragraph III.C.3 is requested because leakage that is to be collected by the MSIV leakage control system and processed by the standby gas treatment system need not be included in the determination of direct containment leakage to the environs.

Environmental Impact of the Proposed Action

The proposed exemption would allow the Appendix J Type C testing of the main steam isolation values to be conducted at a differential pressure less than that required by Appendix J and would allow exclusion of the measured leakage from the combined local leak rate test results. With respect to this proposed exemption from Appendix J, the increment of environmental impact is related to the potential increased probability and the magnitude of leakage

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during an accident which could lead to potentially higher offsite radiological consequences. However, the potential increase due to the proposed exemption granted for the reduced differential pressure testing and exclusion of the measured MSIV leakage from combined local leak rate test results will not result in an increase in doses beyond those already accounted for and determined in the Chapter 15 Accident Analysis of the Final Safety Analysis report. Accordingly, the Commission concludes that this proposed action would result in no significant radiological impact. Additionally, it does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed exemptions.

Alternative to the Proposed Action:

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested exemptions. This would not reduce the environmental impact of plant operations.

C. Leak Rate Testing of Traversing Incore Probe Shear Valves

Identification of the Proposed Action:

The proposed exemption would allow substitution of alternate provisions to ensure isolation capability of the traversing incore probe (TIP) guide tubes. These provisions are in lieu of the leak rate testing otherwise required by Paragraphs II.H.1 and III.C.2 of Appendix J for the guide tube explosively actuated shear valves. The proposed exemption is in accordance with the licensee's request dated September 14, 1984.

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The Need for the Proposed Action:

The proposed exemption is required because it is impractical to leak rate test the shear valves since their destruction would be required.

Environmental Impacts of the Proposed Action:

The proposed exemption would allow substitution of other isolation provisions for the TIP guide tube shear valves in lieu of leakage rate testing otherwise required by Appendix J. With respect to this proposed exemption from Appendix J, the increment of environmental impact is related to the potential increased probability and magnitude of containment leakage during an accident which could lead to potentially higher radiological consequences. However, there is no potential increase due to the exemption since leakage rate testing of a once actuated explosive shear valve would not provide any practical information about the leak-tight integrity of the valve used to replace the actuated valve. Instead alternate provisions are included in the Technical Specifications which periodically (a) verify the continuity of the valves' explosive charge, (b) initiate an explosive charge and (c) replace all explosive charges in accordance with a recommended lifetime.

Alternative to the Proposed Action:

Since the Commission concluded that there is no significant environmental effect that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested exemption. This would not reduce the environmental impacts of plant operations and would provide no greater assurance of TIP shear valve leak-tight integrity.

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Alternative Use of Resources:

These actions do not involve the use of any resources not previously considered in the Final Environmental Statements for the Limerick Generating Station, Unit 2, dated April 1984.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

Based upon the foregoing environmental assessment, we conclude that the proposed exemptions will not have a significant effect on the quality of the human environment.

For further details with respect to these actions, see the application for amendment dated September 14, 1934, which is available for public inspection at the Commission's Fublic Document Room, 2120 L Street, N.W., Washington, D.C. and at the Pottstown Public Library, 500 High Street, Pottstown, Pennsylvania 19464.

Dated at Rockville, Maryland, this 31st day of May 1989.

FOR THE NUCLEAR REGULATORY COMMISSION

Walter Butler, Director Project Directorate 1-2 Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

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