PECO ENERGY

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February 3, 1996

Docket Nos. 50-352
License Nos. NPF-39

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

SUBJECT: Limerick Generating Station, Unit 1
Request for Enforcement Discretion for Deferring Completion
of Certain Technical Specifications Surveillance Requirements

Dear Sir:

As discussed with the NRC on February 2, 1996, PECO Energy Company hereby requests Enforcement Discretion (ED) from the requirements of the Limerick Generating Station (LGS), Unit 1, Technical Specifications (TS). LGS, Unit 1, began its Sixth Refueling Outage (1R06) on the morning of February 2, 1996. However, shortly after reducing power and removing the turbine/generator from service on February 2, 1996, the Pennsylvania-Jersey-Maryland Interconnection (PJM) declared a "Cold Weather Alert" due to severe winter weather conditions (i.e., extreme cold) predicted for the Pennsylvania and New Jersey area over the next several days, and forecasted a new all-time winter peak demand for PJM on Monday, February 5, 1996, and Tuesday, February 6, 1996, and requested LGS, Unit 1, remain operational to maintain PJM transmission system reliability and voltage stability on Monday and Tuesday. Several large generating stations, Salem, Hope Creek, and Peach Bottom, Unit 3, all within the PJM network, are currently shutdown and impacting the capacity available to PJM. In addition, the severe cold weather has also affected neighboring power pools which has resulted in inadequate surplus capacity which could have supplemented the PJM network.

This ED is being pursued, in support of PJM's request, to avoid a plant shutdown which would result from forcing compliance with the TS. The requested relief is non-recurring and of short duration. Further, the period for which the relief is being requested is of such short duration that a license amendment cannot be issued. This ED is requested for a maximum of approximately two (2) days, from February 6, at 1051 hours, to February 8, 1996, at 1608 hours. If the PJM network conditions improve earlier than currently expected, LGS, Unit 1, will take appropriate action to come into compliance with the TS.

TS Surveillance Requirements (SRs) require that primary containment leakage rates be determined. Specifically, TS SR 4.6.1.2.d requires that Type B and Type C tests be conducted in accordance with the requirements of 10CFR50, Appendix J. This ED requests relief from performing the required Type C tests for the following containment penetrations at LGS, Unit 1.

A001

- X-212, HPCI Pump Test
- X-214, RCIC Pump Suction
- X-3D, PCIG Supply to ADS Valves E & K
- X-117B, D/W Rad Monitor Supply and Return
- X-228D, HPCI Vacuum
- X-201A, Suppression Pool Purge Supply
- X-25, Drywell Purge Supply
- X-21, Service Air System

In accordance with the guidance contained in NRC Administrative Letter 95-05, "Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion," and Part 9900 of the NRC Inspection Manual, the following information is provided:

1) The TS or other License Conditions that will be violated.

TS Section 4.0.3. will not be complied with since the identified Primary Containment Isolation Valves (PCIVs) will not be declared inoperable when the subject PCIVs are not tested as required by the applicable TS sections. Specifically, TS SR 4.6.1.2.d, 4.6.1.2.g, and 4.6.1.2.h require that the specific penetrations and associated PCIVs be tested on a 24-month surveillance interval. Furthermore, 10CFR50, Appendix J, Section III.D.3(a) will not be met since the subject PCIVs will not be tested within the 24 month testing interval. This ED requests relief from satisfying the requirements of TS SR 4.6.1.2.d, 4.6.1.2.g, and 4.6.1.2.h for performing Local Leak Rate Tests (LLRTs) (i.e., Type C leakage tests) on the specific valves/penetrations listed in Tables 1 and 2 below. These SRs pertain to performing air and hydrostatic LLRTs on containment penetrations. The first valve that reaches the end of its 24-month testing interval is PCIV HV-55-1F071, and its 24-month interval ends on Tuesday, February 6, 1996, at 1051 hours. At that time LGS, Unit 1, would have to be in COLD SHUTDOWN (OPCON 4) in order not to rely on the containment integrity of this valve.

Note: See Tables 1 and 2 in response to Question 3 below for details on the specific containment penetrations/valve designations.

2) The circumstances surrounding the situation including root causes, the need for prompt action, and identification of any relevant historical events.

On February 2, 1996, at 1122 hours, PJM issued a Cold Weather Alert for Monday and Tuesday, February 5 and 6, 1996. Simultaneously, PJM issued a Maximum Emergency Generation Alert and called for Maximum Emergency Generation to be called into the PJM capacity for the same period. (These actions are in accordance with PJM Operation Instructions.) The events leading to these actions were: 1) the weather forecast for the period which predicts low temperatures of 0°-10°F and high temperatures of 14°-19°F; 2) the forecasted unavailability of approximately 4000 MW; 3) a load forecast of approximately 42,000 MW for the PJM; and 4) the potential for import restrictions from neighboring control areas due to the fact that the extreme temperatures will extend over a wide area.

Cold weather impacts the operation of the transmission system in two (2) ways. First, it causes the load (demand) to rise. (At the forecasted temperature range, each 1°F of temperature drop causes load to increase by 500-800 MW.) The forecasted peak load of 42,000 MW would eclipse the PJM all-time winter peak load of 41,351 MW (set on January 18, 1994, at 1900 hours). Secondly, it has the ability to cause disruptions in the fuel supply to fossil generation stations. During the Cold Emergency of January 19, 1994, PJM experienced a forced outage rate of 28% (vs. 14% average forced outage rate).

Declaration of a Maximum Emergency Generation Alert is to provide an alert that system conditions may require the use of emergency procedures. Maximum Emergency Generation is the use of all available generation that is available to run, regardless of size, economics, or fuel type. If Maximum Emergency Generation is called for, but is unable to cope with system conditions, further measures would be undertaken, including, interruption of Interruptable Load (expected to be approximately 2000 MW), Voltage Reduction, and Load Shedding. (This series of Emergency Actions was invoked by PJM on January 19, 1994, when a series of rotating curtailments was implemented within PJM during similar weather conditions). Customers with Interruptable Loads have been notified that they may be interrupted on Monday and Tuesday, February 5 and 6, 1996.

Based on these potential situations, PJM requested that PECO Energy allow LGS, Unit 1, which began a planned shutdown for refueling, to operate through the Cold Weather Alert period. In addition to its obvious capacity benefit in bolstering the PJM ability to meet forecasted load (demand), LGS, Unit 1, significantly strengthens the transmission system because of its electrical position in the network. PJM is a constrained transmission system for west-to-east transfers. PJM system operators use three (3) interfaces to monitor west-to-east flows across PJM. LGS is on the eastern side of the eastern most interface. LGS strengthens eastern PJM voltage profiles when operating. In addition, having this generation on in eastern PJM increases the import capability from the west. Seasonal studies are conducted with PJM's neighboring control areas (ECAR, VACAR, and NPCC) to confirm interface flow limits, and PJM monitors the flow limits in real time to assure the security of the network and to maximize import capability.

Further actions taken by PJM have been to arrange for import from neighboring control areas as follows:

- 4000 MW Systems to the west of PJM
- 600 MW NY Power Pool (NYPP) (Supplemental Energy)
- 800 MW Other NYPP transfers

Whether these imports can be implemented on the system will depend on the system configuration at the time of the transfers. Certainly, the availability of LGS, Unit 1, would greatly increase the probability of implementing those transfers, due to the reasons given in the preceding discussion. The magnitude of the transfers from the west will push the west-to-east limit. If the limit is expected to be exceeded in real time operations, interregional operating procedures would be invoked.

The difficulty in predicting the need for this variance is that the transmission network is a highly dynamic system. The availability (or unavailability) of single elements (transmission lines, generating plants, capacitors, etc.) can have significant impacts on the transmission system. Therefore, the most appropriate time to make the decision is

in-close to real time. However, the startup time for a large nuclear unit such as LGS, Unit 1, prevents that possibility. What can be said with certainty is that LGS, Unit 1, is a very important element in the PJM transmission system and would be necessary to have in operation, in any emergency situation, due to its size and strategic location in the transmission system.

The Pennsylvania Emergency Management Agency (PEMA) was notified of this situation on Saturday, February 3, 1996.

3) The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action.

Extending the surveillance intervals for Type C tests for the penetrations listed in Tables 1 and 2 below will not alter any safety limits which ensure the integrity of fuel barriers, and will not increase the primary containment leakage limits. The total containment leakage will continue to be maintained below 0.6 L_a; only certain test intervals will extended on a one-time basis. Furthermore, the effect of increasing containment leakage rate testing intervals has been evaluated by the Nuclear Energy Institute (NEI) using the methodology described in NUREG-1493, "Performance Based Containment Leak Test Program," and historical representative industry rate testing data period. The results of this evaluation, as published in NEI 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10CFR50, Appendix J," are that the increased risk corresponding to extended test intervals is small (i.e., less than 0.1% of total risk) and compares well to the guidance of the NRC's safety goal. It is important to note that the NRC has endorsed NEI 94-01, Revision 0, and that the extended test intervals analyzed for increased risk are up to five (5) year intervals for Type C tests. Based on the performance indicated below in Tables 1 and 2 increasing the surveillance by only 54 hours will not result in any increase to onsite or offsite dose. Additionally, the penetrations discussed in this ED are single failure proof which ensure that sufficient redundancy exists in the event that one (1) barrier (i.e., PCIV) fails.

Review of the past two cycles of test data for these penetrations does not indicate any adverse trends. The penetrations/valves of concern are identified in Tables 1 and 2 (attached). Included in the tables are the Appendix J leakage test results. Six of the penetrations have met their PECO administrative leakage limits and would be candidates for extended frequency and 25% grace under Appendix J Option B. Additionally, Penetrations X-212 and X-214 are under a closed system water seal post accident and would not contribute to Primary Containment leakage. These penetrations are currently being reviewed by the NRC for deletion from the TS under License Change Request 95-13-0.

Two of the penetrations/valves have not met their administrative leakage limits for two consecutive tests and would not be candidates for extended frequency under 10CFR50, Appendix J, Option B. In each case one valve of the 2 valve test configuration did not meet its administrative leakage limit while the second valve did. This occurred on one test for each penetration. These two penetrations would not be candidates for extended frequency under Appendix J, Option B but would be subject to 25% grace under Appendix J Option B.

TABLE 1

1R06 Surveillance Tests - Expiration on 02-06-96

TEST #	PENE. #	PENETRATION DESCRIPTION	EXPIRATION DATE	TIME	VALVE #	LEAKAGE	LAST DATE
ST-4-LLR-761-1	X-212	HPCI Pump Test	02-06-96	1051	HV-55-1FO71	0.01 gpm 0.00 gpm	02-05-94 03-23-92
ST-4-LLR-771-1	X-214	RCIC Pump Suction	02-06-96	2015	HV-49-1F031	0.0 gpm 0.1 gpm	02-05-94 03-27-92
ST-4-LLR-021-1	X-3D	PCIG Supply to ADS Valves E&K	02-06-96	2338	59-1112 HV-59-151B	20 sccm 29 sccm 20 sccm 20 sccm	02-05-94 03-23-92 02-05-94 03-23-92
ST-4-LLR-561-1	X-117B	D/W Rad Monitor Supply and Return	02-06-96	1156	SV-26-190A SV-26-190B SV-26-190C SV-26-190D	20 sccm 20 sccm 20 sccm 20 sccm 20 sccm 36 sccm 20 sccm 35 sccm	02-05-94 04-01-92 02-05-94 04-01-92 02-05-94 04-01-92 02-05-94 04-01-92
ST-4-LLR-891-1	X-228D	HPCI Vacuum Relief	02-06-96	1158	HV-55-1F093 HV-55-1F095 HV-55-1F093 HV-55-1F095	105 sccm 3315 sccm*	02-05-94 06-05-92 02-05-94 06-05-92

* - Did not meet Administrative Leakage Requirement.

TABLE 2

1R06 Surveillance Tests - Expiration on 02-07-96

TEST #	PENE. #	PENETRATION DESCRIPTION	EXPIRATION DATE	TIME	VALVE #	LEAKAGE	TEST DATE
ST-4-LLR-571-1	X-201A	Suppression Pool Purge Supply	02-07-96	1326	HV-57-147	850 sccm 630 sccm	02-06-94 05-27-92
					HV-57-124	850 sccm 630 sccm	02-06-94 05-27-92
					57-1022	20 sccm 20 sccm	02-06-94 05-27-92
					57-1093	20 sccm 20 sccm	02-06-94 05-27-92
ST-4-LLR-222-1	X-25	Drywell Purge Supply	02-07-96	0810	HV-57-123	94 sccm 64 sccm	02-06-94 04-10-92
					HV-57-135	94 sccm 64 sccm	02-06-94 04-10-92
ST-4-LLR-191-1	X-21	Service Air System	02-07-96	0150	15-1139	3190 sccm* 363 sccm	02-06-94 05-30-92
					15-1140	99 sccm 20 sccm	02-06-94 05-30-92

* - Did not meet Administrative Leakage Requirement.

In addition, the proposed actions discussed in this ED have no impact on the LGS Probabilistic Safety Assessment (PSA) assessed Core Damage Frequency (CDF). The PSA assessment of large early release frequency is insensitive to containment leakage changes given that containment pressure boundary integrity is maintained. It is therefore concluded that the proposed action has no impact on plant risk as assessed by the LGS PSA. Maintaining PJM transmission system is also important in preventing any risk increase to nuclear plants within PJM.

4) The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that neither an Unreviewed Safety Question nor a Significant Hazards Consideration is involved.

The proposed ED does not involve an Unreviewed Safety Question, as concluded 10CFR50.59 Evaluation performed in support of this ED, nor does it involve a Significant Hazards Consideration because operation LGS, Unit 1, with this change does not:

1) **Involve a significant increase in the probability or consequences of an accident previously analyzed.**

This ED requests a one-time extension to the surveillance intervals for performing Type C tests for certain containment penetrations. There is no permanent Technical Specification change required. No structures, systems, or components (SSC) are being changed as a result of this change. Implementation of the activity will affect the manner in which these SSC are tested; however, the one-time surveillance interval extension is not an initiator of any analyzed event.

Extending the surveillance interval for primary containment penetrations described in Tables 1 and 2 does not increase the probability of occurrence of an accident previously evaluated in the SAR. The containment structure itself is passive. Passive failures resulting in significant containment structural leakage are extremely unlikely to develop between Type A tests. No such failures have ever occurred at LGS. All other penetrations will continue to be maintained in surveillance, and in their current design configuration. There is no correlation between the testing frequencies and accident probability.

The consequences of the postulated accident (LOCA inside primary containment) do not change as a result of this activity. The current postulated accident analysis remains valid even if certain Type C tests are extended several days on a one-time basis.

The total containment leakage will continue to be maintained below 0.6 L_a. Only certain test intervals will be extended on a one-time basis. Furthermore, the effect of increasing containment leakage rate testing intervals has been evaluated by the NEI using the methodology described in NUREG-1493. The increased risk corresponding to extended test intervals is small (i.e., less than 0.1% of total risk) and compares well to the guidance of the NRC's safety goal. It is important to note here that NEI 94-01 is endorsed by the NRC and that the extended test intervals analyzed for increased risk are up to five year intervals for Type C tests. This change discussed in this ED only requests an extension of the surveillance intervals for 54 hours.

Extending the surveillance intervals for the Type C tests does not increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAR. As discussed in NEI 94-01, the estimated increase in risk as a result of extending Type C test intervals (based on performance) up to five years is very small.

Extending the surveillance intervals for Type C tests for the penetrations listed in Tables 1 and 2 above will not alter any safety limits which ensure the integrity of fuel barriers, and will not increase the primary containment leakage limits.

The Containment Combined Leakage Rate TS requirement is 0.6 L_a. The LGS, Unit 1, current running total is 0.34 L_a. The hydrostatically tested valve TS requirement is 51 gpm. The LGS current combined hydrostatic leakage rate is approximately 5 gpm. These represent sizeable margins to the TS limits.

Review of the past two cycles of test data for these penetrations does not indicate any adverse trends. The penetrations/valves of concern are identified in Tables 1 and 2 above. Included in the tables are the Appendix J leakage test results. Six of the penetrations have met their PECO administrative leakage limits and would be candidates for extended frequency and 25% grace under Appendix J Option B. Additionally, Penetrations X-212 and X-214 are under a closed system water seal post accident and would not contribute to Primary Containment leakage. These penetrations are currently being reviewed by the NRC for deletion from the TS under License Change Request 95-13-0.

Two of the penetrations/valves have not met their administrative leakage limits for two consecutive tests and would not be candidates for extended frequency under 10CFR50, Appendix J, Option B. In each case one valve of the 2 valve test configuration did not meet its administrative leakage limit while the second valve did. This occurred on one test for each penetration. These two penetrations would not be candidates for extended frequency under Appendix J, Option B but would be subject to 25% grace under Appendix J Option B.

Since Appendix J, Option B, industry experience, and LGS experience have shown that these penetrations are reliable, leak rate testing can be justified to be extended beyond the 24-month frequency. Since these penetrations are reliable, extending the test interval by a few days results in no discernable increase in the probability of the occurrence of a malfunction of the valves associated with the penetrations.

Based on the above, the potential for time-based and activity-based failure mechanisms which could lead to excessive containment leakage are so small that it is concluded that there is no discernable increase in the probability of occurrence of a malfunction to the valves associated with the eight penetrations.

This change will not result in any increase to onsite or offsite dose. Additionally, penetrations are single failure proof which ensure that sufficient redundancy exists in the event that one barrier fails.

The proposed actions discussed in this ED have no impact on the LGS Probabilistic Safety Assessment (PSA) assessed Core Damage Frequency (CDF). The PSA assessment of large early release frequency is insensitive to containment leakage changes given that containment pressure boundary integrity is maintained. It is therefore concluded that the proposed action has no impact on plant risk as assessed by the LGS PSA.

Therefore, a one-time surveillance interval extension for the penetrations discussed in this ED does not involve any increase in the probability or the consequences of an accident previously evaluated in the SAR.

2) **Create the possibility of a new or different type of accident from any accident previously evaluated.**

Extending the surveillance intervals for certain Type C tests will not create the possibility of a different type of malfunction of equipment important to safety than previously evaluated in the SAR. No new failure modes of plant equipment previously evaluated will be introduced. Additionally, the increase in test intervals does not introduce any hardware changes, and will not alter the intended operation of plant structures, systems, or components utilized in the mitigation of accidents or transients.

No new or different type of accident than previously evaluated in the SAR will be created. This change will not alter the operation of equipment assumed to be available for the mitigation of accidents or transients. The safety objective of the primary containment is stated in 10CFR50, Appendix A, "General Design Criteria for Nuclear Power Plants." The safety function of the primary containment will be met since the containment will continue to provide "an essentially leak tight barrier against the uncontrolled release of radioactivity to the environment ..... " for postulated accidents.

Therefore, the change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) **Involve a significant reduction in a margin of safety.**

No margins of safety are reduced as a result of a one-time increase in test intervals for certain Type C leak tests. As stated above, the effect of increasing containment leakage rate testing intervals was published in NEI 94-01. The results of this evaluation are that the increased safety risk corresponding to extended test intervals is small (less than 0.1% of total risk).

The Technical Specifications will continue to maintain the allowable leak rate of 0.6 L_a as the combined Type C tests performance criterion.

Therefore, extending the surveillance intervals for certain Type C tests does not involve a reduction in the margin of safety and will continue to ensure the Appendix J regulatory goal of an essentially leak tight containment boundary.

5) <u>The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.</u>

The requested ED would not significantly increase the probability of exceeding the maximum allowable value of expected primary containment leakage (i.e., L_a, established by 10CFR50, Appendix J), during a hypothetical Design Basis Accident (DBA); therefore, the primary containment integrity would be maintained. The requirements in 10CFR50, Appendix J, require that Type C tests be performed during each reactor shutdown for refueling, but in no case at intervals greater than two-years. We have concluded that performing the Type C tests for the specified penetrations no more than 54 hours beyond the 24-month surveillance interval would continue to meet the underlying purpose of the regulation, that is, any primary containment leakage during a hypothetical DBA will remain less than the maximum allowable leakage rate value (i.e., L_a established

by 10CFR50, Appendix J). The proposed ED will not affect plant radiological effluents. Accordingly, the consequences of an accident would not be increased, that is, the post accident radiological releases would not be greater that previously determined.

Therefore, there are no significant radiological-environmental impacts associated with this ED. With regard to potential non-radiological impacts, the requested ED involves a one-time schedular change to surveillance and testing requirement intervals (i.e., an extension of 54 hours. The ED does not affect non-radiological plant effluents and has no other environmental impact.

6) Any proposed compensatory measures.

The period of non-compliance will be for 54 hours or less in support of the "Maximum Emergency Generation Condition." Minimizing the duration of the non-compliance limits the amount of possible containment degradation.

All other required TS systems will be in surveillance. Having these systems operable would mitigate the consequences of containment breach should one occur. If any other containment operability issue arises, the applicable TS Actions will be taken.

7) A justification for the duration of the noncompliance.

This ED is requested in support of the PJM Cold Weather Alert Condition, which is expected to be of short duration (i.e., approximately 2 days) and the PJM transmission system condition will be continually monitored by PJM and PECO Energy. The critical portion of the these two (2) days is Monday and Tuesday morning and evening peak periods. These are the times when load will be highest and the probability of invoking emergency procedures greatest.

8) A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).

The LGS Plant Operations Review Committee (PORC) and the Plant Manager have reviewed and approved the contents of this ED.

9) The request must specifically address how one of the NOED criteria for appropriate plant conditions specified in Section B is satisfied.

The plant conditions associated with this request satisfy Part 9900, Section B, "Criteria," of NRC Inspection Manual which stipulate that for other unusual situations, natural events may result in a government entity or regional power distribution system declaring an emergency on the basis of need for power for overall public safety. In such circumstances, Part 9900 states that the NRC may balance the overall public health and safety implications of not operating with the potential radiological or other hazards associated with continued operation of the facility while in nonconformance with a particular requirement.

10) If a follow-up license amendment is required, the NOED request must include marked-up TS pages showing the proposed TS changes. The actual license amendment request must follow within 48 hours.

A follow-up license amendment is not required. The period for which this ED is requested is of such short duration that a license amendment can not be processed and issued.

11) A statement that prior adoption of approved line-item improvements to the TS or the ITS would not have obviated the need for the NOED request.

LGS has not converted to ITS. ITS still requires containment leakage testing to be performed in accordance with 10CFR50, Appendix J, requirements. Therefore, conversion to ITS would not have obviated the need for this ED.

12) Any other information the NRC staff deems necessary before making a decision to exercise enforcement discretion.

From 1000 hours on Friday, February 2, 1996, when LGS, Unit 1, was requested by PJM to return to service, to 0600 hours on Monday, February 5, 1996, when the load demand on the PJM transmission system will increase, is 68 hours. The estimated time for LGS, Unit 1, to shutdown, perform the necessary testing and return to power, assuming no additional problems were encountered, is approximately 80 hours. Therefore, the unit would not be available to supply power Monday morning, February 5, 1996.

If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

G. A. Hunger, Jr.

G. A. Hunger, Jr.
Director - Licensing

cc: T. T. Martin, Administrator, Region I, USNRC
N. S. Perry, USNRC Senior Resident Inspector, LGS