



# PECO NUCLEAR

A Unit of PECO Energy

PECO Energy Company  
965 Chesterbrook Boulevard  
Wayne, PA 19087-5691

October 15, 1998

Docket Nos. 50-352  
50-353

License Nos. NPF-39  
NPF-85

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

Subject: Limerick Generating Station, Units 1 and 2  
Technical Specifications Change Request No. 97-04-0  
Addition of Special Test Exception for Inservice Testing  
and Hydrostatic Testing

Dear Sir/Madam:

PECO Energy Company is submitting Technical Specifications (TS) Change Request No. 97-04-0, in accordance with 10CFR50.90, requesting an amendment to the TS (Appendix A) for Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2. This proposed change involves adding a new TS section and TS Bases section to incorporate a special test exception to allow reactor coolant temperatures greater than 200°F (but less than or equal to 212°F) during inservice testing and hydrostatic testing. The proposed TS change will permit performance of inservice testing and hydrostatic testing while in OPERATIONAL CONDITION (OPCON) 4 (i.e., COLD SHUTDOWN) and will preclude entry into OPCON 3 (i.e., HOT SHUTDOWN). 11  
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The purpose of this Special Test Exception is to allow certain reactor coolant pressure tests to be performed in OPCON 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require reactor coolant temperatures greater than 200°F (normally corresponding to OPCON 3). The TS currently requires that a number of systems, including Primary Containment, be operable when the reactor coolant temperature is above 200°F. The proposed changes continue to allow the Primary Containment to be open for frequent unobstructed access to perform inspections during hydrostatic pressure and leakage testing of the reactor coolant system. The proposed changes will also allow outage activities on various systems to continue while remaining consistent with Cold Shutdown condition applicable requirements that are in effect prior to and immediately following inservice leak and hydrostatic testing. The proposed changes improve the ability to achieve required hydrostatic test pressures given the limitations defined by the applicable reactor vessel pressure/temperature curves.

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These proposed TS changes are based on the guidance of NUREG-1433, Revision 1, "Standard Technical Specifications, General Electric Plants, BWR/4," April 1995, except that a temperature limit of 212°F has been specified.

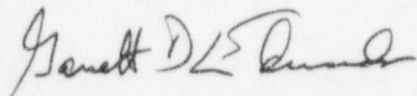
These proposed TS changes are similar to other changes previously approved by the NRC for Hope Creek, Fermi, and Susquehanna.

Information supporting this TS Change Request is contained in Attachment 1 to this letter, and the proposed TS pages (including marked-up pages) showing the proposed changes to the LGS, Units 1 and 2, TS are contained in Attachment 2. This information is being submitted under affirmation, and the required affidavit is enclosed.

We request that, if approved, the amendments to the LGS, Units 1 and 2, TS be issued by March 31, 1999, and become effective within 30 days of issuance in order to support the upcoming LGS, Unit 2, refueling outage (2R05).

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

Very truly yours,



Garrett D. Edwards  
Director - Licensing

Attachments/Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC (w/ attachments/enclosure)  
A. L. Burritt, USNRC Senior Resident Inspector, LGS (w/ attachments/enclosure)  
R. R. Janati, PA Bureau of Radiological Protection (w/ attachments/enclosure)

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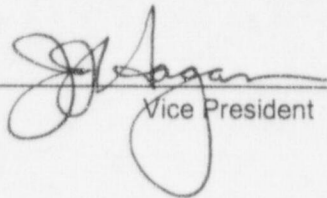
bcc:	G. R. Rainey - 63C-3	w/o attachments/enclosure
	J. D. von Suskil - LGS, SMB1-1	"
	J. J. Hagan - 62C-3	"
	M. P. Gallagher - LGS, GML5-1	"
	J. P. Grimes - LGS, SSB3-1	"
	T. A. Moore - LGS, SSB2-4	w/ attachments/enclosure
	R. J. McCall - 63B-3	"
	R. R. Hess - LGS, SSB3-1	"
	B.D.Dolhanczyk - LGS, SSB2-4	"
	D.P.Helker - 62A-1	"
	PA DEP BRP Inspector - LGS, SSB2-4	"
	Commitment Coordinator - 62A-1	"
	Correspondence Control Desk - 61B-5	"
	DAC - 61B-5	"

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COMMONWEALTH OF PENNSYLVANIA :  
 : ss.  
COUNTY OF CHESTER :

J. J. Hagan, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy, the Applicant herein; that he has read the foregoing application for amendment to Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station, Units 1 and 2, concerning, Technical Specifications Change Request 97-04-0, "Addition of Special Test Exception for Inservice Leak and Hydrostatic Testing," and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

  
Vice President

Subscribed and sworn to  
before me this 15<sup>th</sup> day  
of October 1998.

  
Notary Public

NOTARIAL SEAL  
CAROL A. WALTON, Notary Public  
City of Philadelphia, Phila. County  
My Commission Expires May 28, 2001

## ATTACHMENT 1

Limerick Generating Station

Units 1 and 2

Docket Nos. 50-352  
50-353

License Nos. NPF-39  
NPF-85

Technical Specifications Change Request  
No. 97-04-0

**"Addition of Special Test Exception for  
Inservice Leak and Hydrostatic Testing"**

Supporting Information for Change - 5 Pages

**Limerick Generating Station, Units 1 and 2  
Technical Specifications Change Request No. 97-04-0  
Addition of Special Test Exception for Inservice Leak and Hydrostatic Testing**

**Subject**

PECO Energy Company, licensee under Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, requests that the Technical Specifications (TS) contained in Appendix A to the Operating Licenses be amended as proposed herein to add a new TS section and Bases section associated with inservice leak and hydrostatic testing. This proposed TS Change Request involves adding new Section 3/4.10.8 and an associated TS Bases Section B 3/4.10.8 for Unit 1, and TS 3/4.10.8 and associated TS Bases Section B 3/4.10.8 for Unit 2. These added TS sections include a new Special Test Exception Limiting Condition for Operation (LCO) to allow inservice leak and hydrostatic testing to be performed in OPERATIONAL CONDITION (OPCON) 4 (i.e., COLD SHUTDOWN) when the average reactor coolant temperature exceeds 200°F and is less than or equal to 212°F, which normally corresponds to OPCON 3 (i.e., HOT SHUTDOWN). The proposed TS changes are based on the requirements/guidance of Section 3.10.1 of the Improved Standard TS (i.e., NUREG-1433, Revision 1, "Standard Technical Specifications, General Electric Plants, BWR/4," April 1995) except that a 212°F temperature limit has been specified.

The proposed changes to the LGS, Units 1 and 2, TS are shown by vertical bars in the margins, as applicable, on the affected TS pages, and are contained in Attachment 2. Marked-up pages indicating the changes are also contained in Attachment 2.

We request that, if approved, the TS changes proposed herein be issued by March 31, 1999, and become effective within 30 days of issuance in order to support the upcoming LGS, Unit 2, refueling outage (2R05).

This TS Change Request provides a discussion and description of the proposed TS changes, a safety assessment of the proposed TS changes, information supporting a finding of No Significant Hazards Consideration, and information supporting an Environmental Assessment.

**Discussion and Description of the Proposed Changes**

The purpose of this Special Test Exception is to allow certain reactor coolant pressure tests to be performed in OPCON 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require reactor coolant temperatures greater than 200°F (normally corresponding to OPCON 3). The TS currently requires that a number of systems, including Primary Containment, be operable when the reactor coolant temperature is above 200°F. The proposed changes continue to allow the Primary Containment to be open for frequent unobstructed access to perform inspections during hydrostatic pressure and leakage testing of the reactor coolant system. The proposed changes will also allow outage activities on various systems to continue while remaining consistent with Cold Shutdown condition applicable requirements that are in effect prior to and immediately following inservice leak and hydrostatic testing. The proposed changes improve the ability to achieve required hydrostatic test pressures given the limitations defined by the applicable reactor vessel pressure/temperature curves.

The proposed TS changes involve adding a new TS section and supporting Bases to the LGS, Units 1 and 2, TS to include provisions for a Special Test Exception. New Limiting Condition for Operation (LCO) requirements will be established for Unit 1 (i.e., TS Section 3/4.10.8) and Unit 2 (i.e., TS Section 3/4.10.8) which specify that the average reactor coolant water temperature in TS Table 1.2 for OPCON 4 may be increased to 212°F, and that operation is not considered to be in OPCON 3, in order to allow performance of inservice leak and hydrostatic testing, provided the following OPCON 3 LCOs are met:

1. LCO 3.3.2 Isolation Actuation Instrumentation, Table 3.3.2-1, Functions 7.a, 7.c.1, 7.c.2, and 7.d;
2. LCO 3.6.5.1.1 Reactor Enclosure Secondary Containment Integrity;
3. LCO 3.6.5.1.2 Refueling Area Secondary Containment Integrity;
4. LCO 3.6.5.2.1 Reactor Enclosure Secondary Containment Automatic Isolation Valves;
5. LCO 3.6.5.2.2 Refueling Area Secondary Containment Automatic Isolation Valves; and
6. LCO 3.6.5.3 Standby Gas Treatment System.

The Applicability of the proposed LCO is OPCON 4 with average reactor coolant water temperature greater than 200°F and less than or equal to 212°F.

New TS Bases Sections B 3/4.10.8 (Unit 1) and B 3/4.10.8 (Unit 2) will also be added in support of the new Special Test Exception TS requirements.

In addition, a new TS section and Bases section reference (i.e., 3/4.10.7 and B 3/4.10.7) will also be added to the Unit 1 TS only. These TS and Bases sections were added to the Unit 1 TS in order to maintain consistency in the numbering sequence of the TS sections for Units 1 and 2. These sections contain no information and will be designated as "reserved."

The purpose of the proposed Special Test Exception is to allow reactor coolant pressure tests to be performed in OPCON 4 with the reactor coolant water temperature greater than 200°F that would normally correspond to OPCON 3. This Special Test Exception will not require primary containment integrity, thereby allowing unrestricted access to the primary containment for the performance of required inspections. It will also allow outage activities on other systems to continue while maintaining the applicable OPCON 4 requirements that are in effect immediately prior to and immediately following inservice leak or hydrostatic testing.

### **Safety Assessment**

The proposed TS changes involve revising TS Section 3/4.10 to include a new Special Test Exception allowing the reactor to be considered in OPCON 4 during inservice leak or hydrostatic testing with a reactor coolant water temperature greater than 200°F and less than or equal to 212°F. This is an exception to certain OPCON 3 requirements, including primary containment. The proposed TS changes will permit unrestricted access to the primary containment for the performance of required inspections. The inservice leak or hydrostatic test is performed water solid, or near water solid, when the stored energy in the reactor core is very low and the potential for failed fuel and a subsequent increase in coolant activity above Specification 3/4.4.5 limits are minimal. In addition, the Secondary Containment, which includes automatic isolation dampers and the Standby Gas Treatment System (SGTS), will be operable and capable of handling airborne radioactive material from leaks that could occur during the performance of inservice leak or hydrostatic testing. Airborne radioactive material would not be significant in the event of a leak since there will be little or no flashing (i.e., conversion to steam) of reactor coolant. Requiring the Secondary Containment to be operable will assure that potential airborne radioactive material from leaks will be filtered through the SGTS to limit any radiation releases to the environment.

In the event of a large primary coolant system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems, i.e., Low Pressure Coolant Injection (LPCI) and Core Spray (CS), to operate. The capability of the LPCI and CS systems, as required in OPCI 4 by LCO 3.5.2, "ECCS-Shutdown," would be more than adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For purposes of this test, the protection provided by the normally required OPCI 4 applicable TS requirements, in addition to the secondary containment operability requirements of this Special Test Exception Specification, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions.

### **Information Supporting a Finding of No Significant Hazards Consideration**

We have concluded that the proposed changes to the Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TS) which will revise TS Section 3/4.10 and the associated TS Bases to include a new TS Section (i.e., Section 3/4.10.8 for Unit 1 and Section 3/4.10.8 for Unit 2) to incorporate a Special Test Exception for Inservice Leak and Hydrostatic Testing, does not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

1. *The proposed Technical Specifications (TS) changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.*

The proposed TS changes do not make any physical alterations or modifications to plant systems or equipment. The proposed TS changes will permit the performance of inservice leak or hydrostatic testing, with the reactor in OPERATIONAL CONDITION (OPCON) 4 (COLD SHUTDOWN) and the average reactor coolant temperature greater than 200°F and less than or equal to 212°F. The probability of a leak in the reactor coolant pressure boundary during inservice leak or hydrostatic testing is not increased by considering the reactor in OPCON 4 with reactor coolant temperatures greater than 200°F and less than or equal to 212°F. The inservice leak and hydrostatic testing is performed water solid or near water solid. The stored energy in the reactor core will be very low and the potential for failed fuel and a subsequent increase in reactor coolant activity above TS limits is minimal. In addition, Secondary Containment will be operable and capable of handling airborne radioactivity from leaks that could occur during the performance of inservice leak or hydrostatic testing. Requiring the Secondary Containment to be operable will ensure that potential airborne radioactivity from leaks will be filtered through the Standby Gas Treatment System (SGTS), thereby limiting any radioactivity releases to the environment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize allowing the low pressure Emergency Core Cooling System (ECCS) subsystems to operate. The capability of the systems that are required for OPCON 4 would be adequate to keep the core flooded under this condition. Small system leaks would be detected by leakage inspections before significant inventory loss has occurred. This is an integral part of the hydrostatic testing program.

Therefore, the proposed TS changes will not significantly increase the probability or consequences of an accident previously evaluated.



2. The proposed TS changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed TS changes do not make any physical alterations or modifications to plant systems or equipment. The proposed TS changes do not adversely impact the operation of any plant equipment. Allowing the reactor to be considered in OPCON 4 during hydrostatic or inservice leak testing, with a reactor coolant temperature greater than 200°F and less than or equal to 212°F, is an exception to certain OPCON 3 (HOT SHUTDOWN) requirements, including primary containment integrity. The hydrostatic or inservice testing is performed water solid, or near water solid. The stored energy in the reactor core will be very low and the potential for failed fuel and a subsequent increase in coolant activity above TS limits is minimal. In addition, the Secondary Containment will be operable and capable of handling airborne radioactivity from leaks that could occur during the performance of hydrostatic or inservice leakage testing.

The inservice leak or hydrostatic test conditions remain unchanged. The potential for a system leak remains unchanged since the reactor coolant system is designed for temperatures exceeding 500°F with similar pressures. There are no alterations of any plant systems or components that cope with the spectrum of accidents.

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

3. The proposed TS changes do not involve a significant reduction in a margin of safety.

The proposed TS changes do not make any physical alterations or modifications to plant systems or equipment. The proposed changes will permit the performance of inservice leak and hydrostatic testing with a reactor coolant temperature greater than 200°F and less than or equal to 212°F and the reactor in OPCON 4. Since the reactor vessel head will be in place, Secondary Containment integrity will be maintained, and all systems required in OPCON 4 will be operable in accordance with the applicable TS requirements. The proposed TS changes will not have any significant impact on any design basis accident or safety limit. The hydrostatic or inservice leak testing is performed water solid, or near water solid. The stored energy in the reactor core is very low and the potential for failed fuel and a subsequent increase in coolant activity would be minimal. In the event of a large primary system leak, the reactor pressure vessel would rapidly depressurize and the low pressure ECCS subsystems would function as designed to maintain adequate reactor core coverage. This would ensure that the fuel would not exceed peak clad temperature limits.

Also, requiring Secondary Containment integrity will assure that potential airborne radioactive material can be filtered through the SGTS. This will assure that any offsite doses remain well within the limits of 10CFR100 guidelines. Small system leaks would be detected by inspections before significant inventory loss could occur.

Therefore, this proposed TS change will not involve a significant reduction in a margin of safety.

### **Information Supporting an Environmental Assessment**

An environmental assessment is not required for the changes proposed by this TS Change Request because the requested changes to the Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TS) conform to the criteria for "actions eligible for categorical exclusion," as specified in 10CFR51.22(c)(9). The proposed changes will have no impact on the environment. The proposed changes do not involve a significant hazards consideration as discussed in the preceding section. The proposed changes do not involve a significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

### **Conclusion**

The Plant Operations Review Committee and the Nuclear Review Board have reviewed the proposed changes to the Limerick Generating Station (LGS), Units 1 and 2, TS and have concluded that they do not involve an unreviewed safety question, and will not endanger the health and safety of the public.

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