10CFR50.55a(3)(i)
10CFR50.55a(3)(ii)

PECO ENERGY

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September 25, 1995

Docket No. 50-352
50-353

License No. NPF-39
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Limerick Generating Station, Units 1 and 2
Inservice Inspection, Inservice Testing, and Repair
and Replacement Programs - Supplemental Information
Supporting Basis for Continued Use of the 1986 Edition
of the ASME Section XI Code Requirements

Gentlemen:

By letter dated April 27, 1995, PECO Energy Company submitted a request proposing an alternative to updating the Inservice Inspection (ISI), Inservice Testing (IST), and Repair and Replacement Programs to the latest edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code for Limerick Generating Station (LGS), Unit 1, following the completion of the First Ten-Year Inspection Interval as required by 10CFR50.55a(g)(4)(ii). Specifically, we requested an alternative to the requirements of 10CFR50.55a(g)(4)(ii) which stipulates that: "Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (b) of this section 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed in paragraph (b) of this section." Instead, we proposed to begin the Second Ten-Year Inspection Interval for LGS, Unit 1 and Common, as normally scheduled, using the existing Code requirements (i.e., First Ten-Year Interval requirements), as described in Section XI of the 1986 Edition of the Code. The rationale for this proposed alternative for updating the ISI, IST, and Repair and Replacement Programs for LGS, Unit 1, is based on PECO Energy's plans to update both the Unit 1 and Unit 2 programs simultaneously to the same Edition and Addenda of the Section XI Code that will be in effect 12 months prior to the start of the LGS Unit 2 Second Ten-Year Inspection Interval, as required by 10CFR50.55a. The LGS Unit 2 Second Ten-Year Inspection Interval is scheduled to begin in the year 2000.

However, during subsequent conversations with the NRC concerning our request regarding this alternative approach for updating the subject programs as required by 10CFR50.55a(g)(4)(ii), the NRC indicated that additional information was necessary in order to continue its review. Therefore, the following information is being provided as requested by the NRC in order to support the continued review of our request.

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Enclosure 1 - Synopsis of the ASME Section XI Programs Applicable to the Second Inspection Interval.

Attachment 1 - ISI Program Relief Requests Applicable to the Second Inspection Interval.

Attachment 2 - Code Cases Applicable to the LGS Unit 1 ISI and Repair and Replacement Programs Applicable to the Second Inspection Interval.

Attachment 3 - LGS IST Relief Requests Applicable to the Second Inspection Interval.

As previously requested in our letter dated April 27, 1995, we would appreciate the NRC's review and approval of this request by December 1, 1995, in order to facilitate consistency and commonality in upgrading the LGS, Units 1 and 2, ISI, IST, and Repair and Replacement Programs for the Second-Ten Year Inspection Interval.

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

Enclosure
Attachments

cc: T. T. Martin, Administrator, USNRC, Region I (w/ enclosure & attachments)
N. S. Perry, USNRC Senior Resident Inspector, LGS (w/ enclosure & attachments)

ENCLOSURE 1

Synopsis of the ASME Section XI Programs Applicable
to the Second Inspection Interval

ENCLOSURE 1

PECO ENERGY COMPANY
LIMERICK GENERATING STATION, UNIT 1
UPDATE OF ASME SECTION XI PROGRAMS
FOR SUCCESSIVE TEN YEAR INSPECTION INTERVALS

SYNOPSIS OF THE ASME SECTION XI PROGRAMS APPLICABLE TO THE SECOND INSPECTION INTERVAL

The following is a synopsis of how PECO Energy Company plans to satisfy the requirements put forth in Title 10, Code of Federal Regulations, Part 50 (10CFR50), Section 50.55a, "Codes and Standards", paragraphs (f)(4), "Inservice Testing Requirements," and (g)(4), "Inservice Inspection Requirements," for the Limerick Generating Station (LGS), Unit 1, during an interim time period of the second inspection interval.

The first inspection interval of LGS, Unit 1 began on February 1, 1986, which was the date the unit entered commercial service. At that time, the Inservice Inspection (ISI), Inservice Testing (IST) and Repair and Replacement (R&R) Programs were developed to satisfy the requirements of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (B&PVC), Section XI (hereinafter referred to as the Code), 1980 Edition including Addenda through the Winter 1981 Addendum. In December 1990, at the completion of the third refueling outage, these Programs were voluntarily updated to meet the requirements of the 1986 Edition of the Code. This edition of the Code was the latest approved edition at that time, and was the edition required to be used for the ISI, IST, and R&R Programs at LGS, Unit 2. The requirements of the 1986 Edition of the Code, applicable to the first inspection interval, have been implemented since the end of the third refueling outage, and will be completed by the end of the Sixth Refueling Outage (1R06). The end of the first inspection interval for LGS, Unit 1 will coincide with the completion of 1R06, currently scheduled for February 23, 1996. At that time, all first inspection interval requirements will be completed, unless NRC approval of requests for relief from certain Code requirements have been secured or the need for additional relief has been identified. Complete satisfaction of the first interval Code requirements will be pursued by the end of the eleventh year following the date of commercial service, as required by 10CFR50.55a(f)(5)(iv) and (g)(5)(iv).

The end of the sixth refueling outage will also mark the beginning of the second inspection interval for LGS, Unit 1. As required by 10CFR50.55a(f)(4)(ii) and (g)(4)(ii), the ISI, and IST Programs must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (b) of 10CFR50.55a, 12 months prior to the start of the inspection interval, subject to the limitations and modifications listed in paragraph (b) of 10CFR50.55a.

For the second inspection interval of LGS, Unit 1, the latest edition and addenda of the Code incorporated by reference in 10CFR50.55a is the 1989 Edition, no addenda. Therefore, the ASME Section XI Programs would need to be updated to satisfy the requirements put forth in this edition of the Code.

As indicated in the PECO Energy Company letter, dated April 27, 1995, PECO Energy Company proposed an alternative approach to the above for an interim time period during the second inspection interval. This alternative approach to updating the ASME Programs to the 1989 Edition of the ASME Section XI Code is to continue to use the existing Program Documents (i.e. ISI, IST, and Repair/Replacement Programs) to satisfy the examination, testing, and repair/replacement requirements for an interim time period of the second inspection interval.

Use of this alternative approach is planned until LGS, Unit 2 completes it's first ten year inspection interval and it's ASME Section XI Programs must be updated for the second inspection interval. This is currently scheduled for January 8, 2000. At that time, both Units will be simultaneously updated to the edition of Section XI Code mandated by 10CFR50.55a 12 months prior to the start of the LGS, Unit 2 second inspection interval. Therefore, the time period for use of the alternative approach for the LGS, Unit 1 ASME Section XI Programs will encompass approximately four (4) years and one refueling outage (Seventh Refueling Outage, 1R07), currently scheduled to begin April 4, 1998. The Eighth Refueling Outage (1R08) of LGS, Unit 1, currently scheduled for April 1, 2000, will utilize ASME Programs updated to satisfy the latest regulatory requirements, at that time.

Since few significant changes have been made to the Code between the 1986 Edition and the 1989 Edition, implementation of the existing Programs, while written to satisfy the 1986 Edition of the Code, will yield results equivalent to programs written to satisfy the requirements of the 1989 Edition of the Code, as identified below.

ISI Program (Specification NE-42)

With respect to the ISI Program implementation, the examinations of Class 1, 2, and 3 components, performed during the first refueling outage of LGS, Unit 1 will be repeated, to the extent applicable, during the seventh refueling outage (i.e., first outage of the second inspection interval), using all currently applicable procedures and guidelines. This approach will satisfy the Section XI Code requirement of IWB-, IWC-, and IWF-2420 for successive examinations to be performed in the same sequence as that established during the first inspection interval, to the extent practical.

A review of the 1986 and 1989 Code Editions indicates that the only significant differences between the ISI requirements of these two versions of the Code are as follows:

The addition of Mandatory Appendix VII, Qualification for Nondestructive Examination Personnel for Ultrasonic Examination:

PECO Energy's current written practice, and that of it's NDE contractors, is equivalent to the requirements of IWA-2300 and Appendix VII for all cases of qualification, training and certification except Level I and II practical examinations for UT performance demonstrations for examination of carbon steel piping welds using "flawed" specimens. Bolting examinations meet IWA-2300 and Mandatory Appendix VI. Reactor Pressure Vessel examinations meet IWA-2300. In addition, the qualification, training, and certification for personnel and procedures are sufficient to demonstrate compliance with Regulatory Guide 1.150 and NUREG-0619. Austenitic piping weld examinations meet IWA-2300, Mandatory Appendix III, and Generic Letter 88-01.

Compliance with the above Code requirements and Regulatory Positions is sufficient to ensure that examination personnel have the training and qualifications necessary to detect flaws before they exceed the standards of IWA-3500.

Additionally, PECO Energy Company's NDE contractor (General Electric Co.), qualifies it's examination personnel to the latest Code requirements, for performance of Code examinations at other utility stations which are required to meet Mandatory Appendix VII. While these personnel are not required to meet this Appendix under the current LGS 1 ISI Program, their qualification and certification to the latest Code requirements are inherently brought forth.

Examination Category B-A Examination requirements for successive intervals:

While the examination requirements for Reactor Pressure Vessel (RPV) welds was changed by the 1989 Edition of the Code, from examination of one weld each, in the shell, head, and repair areas; to examination of all welds in the shell, head, and repair areas, this change will not be impacted by the alternative ISI Program planned for use during a portion of the second inspection interval. This is due to the fact that the first interval RPV shell weld examinations were initially performed during the second refueling outage of LGS, Unit 1. Accordingly, these examinations are required to be repeated beginning with the Eighth Refueling Outage. Since the Eighth Refueling Outage is not scheduled to begin until April 1, 2000, the LGS, Unit 1 ISI Program will be updated to the latest approved Code edition by that time, and the latest Code requirements will be applied to the examination of the RPV welds.

Articles IWB-3000 and IWC-3000, Acceptance Standards:

While changes have been made to the Acceptance Criteria Articles of the Code (Articles IWB- and IWC-3000), generic use of the 1989 version of these Articles is not planned. Any changes which may have taken place between the 1986 Edition and the 1989 Edition will be considered for significance, at the time the criteria is applied to the specific examination result.

No other significant differences have been identified between the current LGS, Unit 1 ISI Program and the requirements of the 1989 Edition of the Code.

All ISI Program Relief Requests, approved for use during the first inspection interval are being resubmitted with this correspondence for approval for use during the second inspection interval. The relief request identification number, Code requirement applicability, date of original submittal and date of NRC approval are tabulated on Attachment 1. Use of these Relief Requests will apply during the interim time period described. When the LGS, Unit 1 Programs are updated to the latest edition of the Code, the need for these and other Relief Requests will be reconciled.

All Code Cases which have been used during the first inspection interval of LGS, Unit 1 are planned for use during the second inspection interval. Attachment 2 lists the Code Cases which are planned for use during the second interval, along with an identification of the generic NRC approval status of each case. Use of these Code Cases will apply during the interim time period described. When the LGS, Unit 1 Programs are updated to the latest edition of the Code, the need for these and other Code Cases will be reconciled.

IST Program (Specification ML-008)

The IST Program will continue to implement the testing requirements of Subsections IWP and IWV of the 1986 Code edition, as modified by approved relief requests for pump and valve testing of LGS, Unit 1. Additionally, portions of the 1989 Code requirements have been voluntarily adopted, as explained below. Further, the following actions are planned:

The LGS, Unit 1 IST Program is planned for revision as a result of completion of an LGS IST Basis Document Project. This project is underway to identify any necessary revisions to the IST Program as a result of issuance of NUREG-1482 - Guidelines for Inservice Testing at Nuclear Power Plants (APRIL 1995), and to verify compliance with the 1986 Code component and testing scope requirements. The LGS IST Basis Document will provide a component level justification for the content of, as well as exclusions of components from, the IST Program.

A review of the 1986 and 1989 Code Editions indicates that the only significant differences between the IST requirements of these two versions of the Code are as follows:

Changes in vibration measurement methods for vertical line shaft and centrifugal pumps: (OMa-1988 Addendum, Subparagraph 4.6.4)

The LGS Vibration Monitoring Program complies with the above vibration monitoring requirements of the OM-6, 1989 Code Edition. Therefore, these requirements of the 1989 Edition of the Section XI Code will be satisfied by this Program.

Changes in frequency response calibration range for vibration transducers: (OMa-1988 Addendum, Subparagraph 4.6.1.6)

The LGS Vibration Monitoring Program complies with the above vibration monitoring requirement of the OM-6, 1989 Code Edition. Therefore, these requirements of the 1989 Edition of the Section XI Code will be satisfied by this Program.

Position indication testing for Category B passive valves: (OMa-1988 Addendum, Paragraph 4.1 and Table 1)

The LGS IST Program presently performs position indication testing on all manual injection line isolation valves for ECCS systems as well as other selected Category B passive valves.

All IST Relief Requests, approved for use during the first inspection interval are being resubmitted with this correspondence for approval for use during the second inspection interval. The relief request identification number, Code requirement applicability, date of original submittal and date of NRC approval are tabulated on Attachment 3. Use of these Relief Requests will apply during the interim time period described. When the LGS, Unit 1 Programs are updated to the latest edition of the Code, the need for these and other Relief Requests will be reconciled.

There are no Code Cases currently utilized for implementation of the IST Program during the first inspection interval of LGS, Unit 1. At this time, no Code Cases are planned for use during the second inspection interval.

Repair and Replacement Program (Specification M-679)

The Repair and Replacement Program will continue to be implemented in accordance with the requirements of the 1986 Edition of the Section XI Code, as it has been during the first inspection interval. There are no significant differences between the 1986 Edition and the 1989 Edition of the Section XI Code regarding the requirements for conducted ASME Section XI Repairs or Replacements.

All R&R Program Relief Requests, approved for use during the first inspection interval are being resubmitted with this correspondence for approval for use during the second inspection interval. These relief requests are included in the listing identified for the ISI Program above.

All Code Cases which have been used during the first inspection interval of LGS, Unit 1 are planned for use during the second inspection interval. Attachment 2 lists the Code Cases which are planned for use during the second interval, along with an identification of the generic NRC approval status of each case.

Conclusion

Therefore, the use of the current ASME Section XI Programs, written to the 1986 Edition of the Code, along with the NRC approved Code Cases and Relief Requests applicable, yields an examination, testing, and repair and replacement effort which is inherently equivalent to a program written to directly satisfy the 1989 Edition of the Section XI Code.

ATTACHMENT 1

Inservice Inspection (ISI)
Program Relief Requests
Applicable to the Second Inspection Interval

ATTACHMENT 1

ISI PROGRAM RELIEF REQUESTS APPLICABLE TO THE SECOND INSPECTION INTERVAL

RELIEF REQUEST NO.	EXAMINATION CATEGORY		ITEM NO.		APPROVAL DATE
RR-01	B-A	Pressure retaining welds in reactor vessel	B1.22	Head welds (Meridional)	Rev. 1 3/1/94
RR-02	B-L-2	Pump casings	B12.20	Pump casing (Internal Surfaces)	3/4/88
RR-03	B-M-2	Valve bodies	B12.50	Valve body, exceeding NPS 4 (Internal Surfaces)	3/4/88
RR-04	F-C	Component standard supports	F3.50	Spring type supports, constant load type supports, shock absorbers, hydraulic and mechanical type snubbers.	3/4/88
RR-05	C-C	Integral attachments for vessels, piping, pumps, and valves	C3.10	Integrally welded attachments (Pressure Vessels)	3/4/88
			C3.20	Integrally welded attachments (Piping)	
			C3.30	Integrally welded attachments (Pumps)	
RR-06	C-A	Pressure retaining welds in pressure vessels	C1.10	Shell circumferential welds	3/4/88
RR-07	C-G	Pressure retaining welds in pumps and valves	C6.10	Pump casing welds	3/4/88
RR-08	B-D	Full penetration welds of nozzles in vessels (Inspection program B)	B3.90	Nozzle to vessel welds (Reactor Vessel)	3/4/88

ATTACHMENT 1 (Cont)

RELIEF REQUEST NO.	EXAMINATION CATEGORY		ITEM NO.		APPROVAL DATE
RR-09	F-A	Plate and shell type supports	F1.10	Mechanical connections to pressure retaining components and building structure	3/1/94
			F1.20	Weld connections to building structure	
			F1.30	Weld and mechanical connections at intermediate joints in multiconnected integral and non-integral supports.	
			F1.40	Component displacement settings of guides and stops, misalignment of supports, assembly of support items.	
	F-B	Linear type supports	F2.10	Mechanical connections to pressure retaining components and building structure	
			F2.20	Weld connections to building structure	
			F2.30	Weld and mechanical connections at intermediate joints in multiconnected integral and non-integral supports.	
			F2.40	Component displacement settings of guides and stops, misalignment of supports, assembly of support items.	
	F-C	Component standard supports	F3.10	Mechanical connections to pressure retaining components and building structure	
			F3.20	Weld connections to building structure	
			F3.30	Weld and mechanical connections at intermediate joints in multiconnected integral and non-integral supports.	
			F3.40	Component displacement settings of guides and stops, misalignment of supports, assembly of support items.	
			F3.50	Spring type supports, constant load type supports, shock absorbers, hydraulic and mechanical type snubbers.	

ATTACHMENT 1 (Cont)

RELIEF REQUEST NO.	EXAMINATION CATEGORY		ITEM NO.		APPROVAL DATE
RR-10	B-F	Pressure retaining dissimilar metal welds	B5.130	NPS 4 or larger dissimilar metal butt welds (Piping)	3/4/88
RR-12		ASME Code Case(s) Authorization Request			Rev. 1 6/29/95
RR-13	C-H	All Pressure Retaining Components		Pressure Vessels	Rev. 2 Pending
			C7.10	Pressure Retaining Components	
			C7.20	Pressure Retaining Components	
				Piping	
			C7.30	Pressure Retaining Components	
			C7.40	Pressure Retaining Components	
				Pumps	
			C7.50	Pressure Retaining Components	
			C7.60	Pressure Retaining Components	
				Valves	
			C7.70	Pressure Retaining Components	
			C7.80	Pressure Retaining Components	
	D-A,	Systems in Support of Reactor Shutdown Function	D1.10	Pressure Retaining Components	
	D-B,	Systems in Support of Emergency Core Cooling, Containment Heat Removal, Atmosphere Cleanup, and Reactor Residual Heat Removal	D2.10	Pressure Retaining Components	
	D-C,	Systems in Support of Residual Heat Removal From Spent Fuel Storage Pool	D3.10	Pressure Retaining Components	

ATTACHMENT 1 (Cont)

RELIEF REQUEST NO.	EXAMINATION CATEGORY		ITEM NO.		APPROVAL DATE
RR-14		Augmented Examination Programs			3/1/94
RR-15	B-P,	All Class 1 Pressure Retaining Components	B15.10 thru B15.71	Pressure Retaining Boundary	4/14/93
RR-22		Repair / Replacement Hydrostatic Pressure Test (Code Case N-416-1)			6/29/95
RR-23		Code Case N-498-1		4 hour hold time.	Pending

ATTACHMENT 2

Code Cases Applicable to the LGS, Unit 1
ISI and Repair and Replacement Programs
Applicable to the Second Inspection Interval

ATTACHMENT 2

Code Cases Applicable to the LGS, Unit 1
ISI and Repair/Replacement Programs

Code Case Number	Title	Approved by USNRC Reg. Guide 1.147
N-236-1	Repair and Replacement of Class MC Vessels	Yes (See Note 1)
N-307-1	Revised Ultrasonic Examination Volume for Class 1 Bolting, Table IWB-2500-1, Examination Category B-G-1, when the examinations are conducted from the center-drilled hole	Yes
N-389	Alternative Rules for Repairs, Replacements, or Modifications	Yes
N-406	Alternate Rules for Replacement	Yes (Rev 8)
N-416-1	Alternative Presssure Test Requirement for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3	No (See Note 3)
N-427	Code Cases in Inspection Plans	Yes
N-435-1	Alternative Examination Requirements for Vessels with Wall Thickness 2 in. or less	Yes
N-460	Alternative Examination Coverage for Class 1 and Class 2 Welds	Yes
N-461	Alternate Rules for Piping Calibration Block Thickness	Yes
N-479-1	Boiling Water Reactor (BWR) Main Steam Hydrostatic Test	Yes
N-495	Hydrostatic Testing of Relief Valves	Yes
N-498-1	Alternative Rules for 10-Year Hydrostatic Pressure Testing	No (See Note 2)

NOTES: (1) Limited to Article 2000 for Leakage Test following repairs, modifications, or replacements.

(2) This Code Case has not been endorsed for use by the NRC in Reg. Guide 1.147. See Relief Request RR-12 for justification of its use in this program.

(3) This Code Case has not been endorsed for use by the NRC in Reg. Guide 1.147. See Relief Request RR-22 for justification of its use in this program.

ATTACHMENT 3

Inservice Testing (IST)
Program Relief Requests
Applicable to the Second Inspection Interval

ATTACHMENT 3

LGS IST RELIEF REQUEST

GPRR-1	Approved: 3/5/91
GPRR-2	Approved: 2/17/93
GPRR-3	Approved: 2/17/93
GPRR-4	Approved: 2/20/92
GVRR-1	Approved: 3/5/91
GVRR-2	Approved: 3/5/91
GVRR-3	Approved: 3/5/91
GVRR-4	Approved: 3/5/91 - 2/17/93
GVRR-5	Approved: 3/5/91 - 2/17/93
GVRR-6	Approved: 3/5/91 - 2/17/93
20-VRR-1	Approved: 3/5/91
41-VRR-1	Approved: 3/5/91
41-VRR-2	Approved: 3/5/91
41-VRR-3	Approved: 3/5/91
41-VRR-4	Approved: 3/5/91
41-VRR-5	Approved: 3/5/91
43-VRR-1	Approved: 2/17/93
46-VRR-1	Approved: 3/5/91
47-VRR-1	Apporved: 3/5/91
48-VRR-1	Approved: 3/5/91
49-VRR-1	Approved: 3/5/91
51-VRR-1	Approved: 3/5/91
51-VRR-2	Approved: 9/27/93
52-VRR-1	Approved: 2/17/93
55-VRR-1	Approved: 3/5/91 - 2/17/93
55-VRR-2	Approved: 3/5/91 - 2/17/93
59-VRR-1	Approved: 3/5/91
90-VRR-1	Approved: 3/5/91