PECO NUCLEAR
A Unit of PECO Energy

10CFR50.55a

Nuclear Group Headquarters
200 Exelon Way
Kennett Square, PA 19348

January 9, 2001

Docket No. 50-352
50-353

License No. NPF-39
NPF-85

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

Subject: Limerick Generating Station, Units 1 and 2
Submittal of Proposed Alternatives to the Requirements of 10CFR50.55a Concerning the Second, 10-Year Inservice Inspection Programs

Dear Sir/Madam:

As required by 10CFR50.55a(g)(4)(ii), the LGS, Units 1 and 2, Inservice Inspection Program is being updated to the 1989 Edition of the ASME Code, Section XI, which was the Code in effect 12 months prior to the start of the interval. The interval began on January 8, 2000, and is currently scheduled to conclude January 7, 2010. Accordingly, attached are two (2) proposed relief requests and ten (10) proposed alternatives for your review and approval. We request your approval by June 30, 2001.

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

Very truly yours,

D. C. Helfer /for

James A. Hutton
Director - Licensing

Attachment

cc: H. J. Miller, Administrator, USNRC, Region I (w/ attachment)
A. L. Burritt, USNRC Senior Resident Inspector, LGS (w/ attachment)

A047

ATTACHMENT

LIMERICK GENERATING STATION, UNITS 1 AND 2

PROPOSED RELIEF REQUESTS

RR-06
RR-07

PROPOSED ALTERNATIVES

RR-12
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RELIEF REQUEST No. RR-06
Revision 1

I. IDENTIFICATION OF COMPONENTS

Class 2 Residual Heat Removal (RHR) heat exchanger pressure retaining shell circumferential welds; Examination Category C-A, Item Number C1.10.

II. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

ASME Section XI 1989 Edition, Examination Category C-A requires volumetric examination of 100% of the pressure retaining shell circumferential welds at gross structural discontinuities of one (1) heat exchanger (or the equivalent of one heat exchanger) during the inservice inspection interval. Examinations shall be performed in accordance with Figure IWC-2500-1 and the nondestructive examination requirements of ASME Section XI, Appendix I.

Pursuant to 10CFR50.55a(g)(6)(i) PECO Energy requests relief from complete examination of the shell to flange weld due to limited access resulting from component design.

III. BASIS FOR RELIEF

LGS Units 1 and 2, each have two (2) RHR heat exchangers. Code Examination Category C-A requires the volumetric (ultrasonic) examination of the equivalent of the welds of one heat exchange per Unit. Complete ultrasonic examination of the shell to flange weld (on all heat exchangers) is limited due to access restrictions from the flange bolting. Bolting protruding through the vessel flange prohibits completion of the required ultrasonic scanning parallel to the weld. Transverse scans can be performed from the shell side of the weld, thereby providing approximately 87.5% coverage of the Code required volume. The limitations to complete volumetric examinations are also applicable to surface examination techniques. Disassembly of the flange mechanical connection, to facilitate complete examination, is not practical, due to significant radiation exposure and significant man hours required for disassembly/re-assembly as well as the potential for creating a leakage path for reactor coolant.

IV. ALTERNATE PROVISIONS

No alternate examinations are proposed for the subject weld. Ultrasonic examination shall be performed to the maximum extent practical.

RELIEF REQUEST No. RR-07
Revision 1

I. IDENTIFICATION OF COMPONENTS

Class 2 Residual Heat Removal (RHR) pumps, 1(2)A-P202, 1(2)B-P202, 1(2)C-P202 and 1(2)D-P202, pressure retaining pump casing welds, Examination Category C-G, Item Number C6.10.

Class 2 Core Spray pumps, 1(2)A-P206, 1(2)B-P206, 1(2)C-P206, 1(2)D-P206, pressure retaining pump casing welds, Examination Category C-G, Item Number C6.10.

II. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

ASME Section XI, 1989 Edition, Examination Category C-G requires surface examination of 100% of pressure retaining pump casing welds of one (1) pump in each group of multiple pumps (of similar design, size, function, service), during the inservice inspection interval. Examinations shall be performed in accordance with Figure IWC-2500-8 and the nondestructive examination requirements of ASME Section V.

LGS Units 1 and 2 each have four (4) RHR and four (4) Core Spray pumps. Per Code Examination Category C-G, surface examination is required on the equivalent of one (1) RHR pump and one (1) CS pump per Unit. However, welds on each of the four (4) RHR and four (4) Core Spray pumps per Unit are encased in concrete and are inaccessible for surface examination.

Pursuant to 10CFR50.55a(g)(6)(i) PECO Energy requests relief from the examination of inaccessible pressure retaining pump casing welds on the RHR and Core Spray pumps due to plant/component design.

III. BASIS FOR RELIEF

The welds on each of the four (4) RHR and four (4) Core Spray pumps per Unit are encased in concrete and are inaccessible for surface examination. Therefore, it is impractical to perform the surface weld examination without destruction of the concrete resulting in unnecessary cost and radiation exposure without a compensating increase in safety. Additionally, due to the design of the subject pumps, access to the affected welds can only be achieved through disassembly of the pump, removal of the pump internals, and the required surface examinations performed from the inside surface of the welds. This effort, in the absence of any other necessary pump maintenance, represents a significant expenditure of man hours and radiation exposure to plant personnel, without a compensating increase in plant safety.

RELIEF REQUEST No. RR-07
Revision 1, continued

IV. ALTERNATE PROVISIONS

In the event the subject welds become accessible upon disassembly of any one (1) of the pumps, the welds will be surface examined from the inside surface or a VT-1 visual examination will be performed for that particular pump group to the maximum extent practicable. The examination method will be determined based on radiation environment data at the time access is enabled. In addition, all pumps are subject to the visual examination requirements of Examination Category C-H and the functional test requirements of Section IWP, thereby, providing assurance of pump structural integrity.

RELIEF REQUEST No. RR-12
Revision 3

Table RR-12-6
Code Case N-508-1

I. IDENTIFICATION OF COMPONENTS

ASME Class 1, 2, and 3 Snubbers and Relief Valves Subject to Testing.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Code, Section XI, IWA-7000, provides the requirements that must be implemented whenever an item is replaced. IWA-7000 establishes both technical and administrative criteria.

Pursuant to 10CFR50.55a(a)(3)(i), PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-508-1, "Rotation of Serviced Snubbers and Pressure Relief Valves for the Purpose of Testing", which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

Adoption of Code Case N-508-1 will eliminate the burdensome administrative controls and documentation requirements associated with an ASME Section XI replacement incurred solely from satisfying the testing requirements of snubbers and pressure relief valves.

Currently, when a snubber or relief valve is removed for the purposes of testing, the following two options are available:

A. Maintain the system or portion of the system in a degraded condition, while complying with the applicable Limerick Technical Specification, until the removed item is tested, refurbished if required, and reinstalled.

B. Replace the item being tested with a "like" item, and test the removed item at a later date.

Per ASME, Section XI, the rotation of snubbers and relief valves, as addressed in the second option, is required to be treated as a Code replacement that must meet the requirements of IWA-7000. This entails the use of Replacement Programs, Replacement Plans, suitability evaluations, review and concurrence by the ANII, and maintenance of NIS-2 forms or other Section XI documentation to record the replacement. Such controls are appropriate when items are replaced for the purpose of design changes, failures, or expiration of component life, but are excessive for the removal and installation of snubbers and relief valves solely for the purpose of testing. Code Case N-508-1 addresses this inconsistency in the Code. Due to the nine provisions within the Code Case, the alternative criterion eliminates the burdensome administrative controls and documentation requirements associated with an ASME Section replacement. All other aspects of the replacement such as design, manufacture, ASME Section XI pressure testing requirements, operational limits and settings are still maintained. In addition, the implementation of Code Case N-508-1 does not change the testing requirements provided in the Limerick Generating Station Technical Specifications.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-6 continued
Code Case N-508-1

Code Case N-508-1 does not alter any Section XI requirements if a removed item requires any repair or replacement of Code parts. As required by paragraph (i) of the Code Case, repair or replacement of the removed item, when required, shall be performed in accordance with IWA-4000 for repairs and IWA-7000 for replacements. Because of this requirement, if the removed item requires the repair or replacement of a Code item, then this activity will be treated as a Section XI repair or replacement, and the required Section XI documentation will be generated.

The use of ASME Code Case N-508-1 as an alternative to IWA-7000 for the rotation of snubbers and relief valves for the purpose of testing provides a reduction in burdensome administrative requirements and documentation. All technical requirements (e.g., design, fabrication, installation, testing, etc.) are still maintained in a manner that provides an acceptable level of quality and safety that is consistent with the criteria of ASME, Section XI.

IV, ALTERNATIVE PROVISIONS

PECO Energy proposes to use the alternative provisions of Code Case N-508-1, for the rotation of snubbers and relief valves for the purpose of testing, in its entirety.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-7
Code Case N-516-1

I. IDENTIFICATION OF COMPONENTS

ASME Class 1, 2, and 3 Components Subject to Underwater Repair or Replacement Activities.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Code, Section XI, IWA-4000 and IWA-7000, provide the general requirements for performing repairs and replacements. Specific criteria on performing underwater welding are not addressed.

Pursuant to 10CFR50.55a(a)(3)(i), PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-516-1, "Underwater Welding", which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

ASME Section XI, IWA-4000 and IWA-7000, do not address the requirements for welded repair or installation of replacement items by welding on ASME Class 1, 2 and 3 pressure boundary components when welding is performed underwater. To address this issue, ASME Section XI, has issued Code Case N-516-1, "Underwater Welding". Code Case N-516-1 provides welding methods and requirements that may be used when welding for a repair or replacement activity is performed underwater.

Code Case N-516-1 was approved by the ASME Boiler and Pressure Vessel Code Committee on December 31, 1996, but is not yet endorsed in the most recent listing of NRC approved code cases provided in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1". The previous version of the Code Case, N-516, is endorsed in Revision 12 of Regulatory Guide 1.147. However, this version of the subject Code Case is only applicable for use on P-No. 8 and P-No. 4X materials. Revision 1 of the Code Case extends the applicability to underwater repairs and replacements made on components made of P-No.1, carbon steel materials as well. Authorization to utilize the guidance provided in Revision 1 of the subject Code Case will allow PECO Energy to control the performance of underwater welding in accordance with an appropriate industry standard.

PECO Energy considers the requirements for underwater welding provided in Code Case N-516-1 to be an improvement over existing requirements and as such will enhance the performance of repairs, replacements and modifications of the safety related components in its nuclear facilities. The Code Case will provide appropriate controls over the welding processes that are needed to implement such repairs, replacements, and modifications in a safe and effective manner. PECO Energy therefore regards these requirements as providing an acceptable level of quality and safety.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-7 continued
Code Case N-516-1

IV. ALTERNATIVE PROVISIONS

PECO Energy will use Code Case N-516-1 in its entirety with the following added limitation:

When welding is to be performed on high neutron fluence Class 1 material, then a mockup, using material with similar fluence levels, should be welded to verify that adequate crack prevention measures were used.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-8
Code Case N-532

I. IDENTIFICATION OF COMPONENTS

ASME Class 1, 2, and 3 Components Subject to Inservice Inspection, Repair or Replacement.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVEIS REQUESTED

ASME, Section XI, IWA-6200, requires the preparation of Inservice Inspection (ISI) Summary Reports, which contain completed Form NIS-1, "Owner's Report for Inservice Inspection" and Form NIS-2, "Owner's Report for Repair or Replacement". In accordance with IWA-6230, the ISI Summary Report is required to be submitted to the enforcement and regulatory authorities having jurisdiction at the plant within 90 days of the completion of the inservice inspections conducted each refueling outage.

ASME, Section XI, IWA-4800 and IWA-7500, reiterate the requirement of IWA-6000 to complete NIS-2 forms for repairs and replacements.

Pursuant to 10CFR50.55a(a)(3)(i) PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000", including replacement activities per IWA-7000, which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

ASME, Section XI, has recently reevaluated the Code criteria for reporting inservice inspection results, repairs and replacements. To address this issue, ASME Section XI, has issued Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000". Code Case N-532 provides an alternative to the current ASME, Section XI, repair and replacement documentation requirements as well as regulatory reporting requirements relating to inservice inspection. This alternative is intended to reduce the resources required to prepare NIS-2 forms and prepare and submit the ISI Summary Report required by ASME, Section XI, 1989 Edition, after each refueling outage. This is a significant reduction in the administrative burden required by ASME, Section XI, IWA-6000. The use of Code Case N-532 only affects documentation and reporting requirements and does not affect the level of quality or safety provided by the Inservice Inspection Program.

Code Case N-532 was approved by the ASME Boiler and Pressure Vessel Code Committee on December 12, 1994, but is not yet endorsed in the most recent listing of NRC approved code cases provided in Regulatory Guide 1.147.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-8 continued
Code Case N-532

The NRC Staff has made recommendations supporting the development of Code Case N-532 in SECY-94-093, "NRC Staff Assessment of Reporting Requirements for Power Reactor Licensees". The use of Code Case N-532 is consistent with the recommendations of SECY-94-093 and provides more meaningful documentation to the regulatory and enforcement authorities having jurisdiction at the plant.

This request to use Code Case N-532 includes compliance with the Code Case with the following clarification regarding reporting of "corrective measures". ASME, Section XI, uses the term "corrective measures" in two different ways. One use of the term involves Code required activities such as repairs and replacements. The other use of the term, as found in IWX-3000, involves maintenance activities that do not involve repairs or replacements. With this clarification, PECO Energy proposes not to report corrective measures which only include routine maintenance activities such as tightening threaded fittings to eliminate leakage, torquing of fasteners to eliminate leakage at bolted connections, replacing valve packing due to unacceptable packing leakage, tightening loosened mechanical connections on supports, adjusting and realigning supports, cleaning up corrosion on components resulting from leakage, etc.

Including these routine maintenance activities in the Owner's Activity Report Form OAR-1 required by Code Case N-532 would be a significant expansion of current requirements. In addition, it would be an unnecessary reporting and review burden, which provides little benefit. Reporting of these minor maintenance corrective measures has no safety significance and clutters the reporting of meaningful information on repairs, replacements, and evaluations performed to accept flaws and relevant conditions exceeding Section XI acceptance criteria. Corrective measures that refer to Code required activities, such as repairs and replacements, will be reported in compliance with Code Case N-532.

PECO Energy considers the alternative documentation and reporting requirements of Code Case N-532 to be an improvement to existing requirements. Because the use of this alternative only affects documentation and reporting requirements, PECO Energy considers this alternative to provide an acceptable level of quality and safety.

IV. ALTERNATIVE PROVISIONS

PECO Energy will use Code Case N-532 in its entirety with the clarification stated above regarding the provision in paragraph 2(c) of the Code Case for reporting corrective measures.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-9
Code Case N-598

I. IDENTIFICATIN OF COMPONENTS

ASME Class 1, 2, 3 and MC Components and Supports Subject to Inservice Inspection.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVEIS REQUESTED

ASME Section XI, Tables IWB-2412-1, IWC-2412-1, IWD-2412-1, IWE-2412-1 and Code Case N-491-1, Table -2410-2, list the required percentages of examinations that must be performed per period in accordance with Inspection Program B. These tables do not apply to those examinations that may be deferred until the end of the inspection interval as allowed by the Code. Per these tables, the number of examinations to be completed during the first period shall be between 16% and 34%. For the second period, the total number of examinations to be completed shall be between 50% and 67%, and by the end of the third period, 100% of the examinations for the interval shall be completed.

Code Case N-491-1, Table-2410-2, is being referenced because this Code Case is being implemented for the examination of supports. The percentages stated in Code Case N-491-1, Table -2410-2, are identical to those stated in Tables IWB-2412-1, IWC-2412-1, IWD-2410-2 and IWE-2412-1.

Pursuant to 10CFR50.55a(a)(3)(i) PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-598, "Alternative Requirements to Required Percentages of Examinations" which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

The ASME Code and Code Case N-491-1 tables referenced above were originally established such that approximately one third of the non-deferred examinations would be performed each period. Over the past 10 years, it has become increasingly more difficult to meet these percentages. The emergence of longer fuel cycles increases the likelihood that one of the periods will only have one refueling outage in it. In addition, efforts to shorten refueling outages have limited the amount of time available to perform examinations. These factors have made it difficult to complete the Code required percentages of examinations in the allotted time.

Code Case N-598 was developed to address this issue. It expands the range of examination completion percentages to allow examinations to be distributed more evenly between outages. This minimizes the need to schedule an excessive number of examinations during one outage just to meet the percentages required by ASME, Section XI, Tables IWB-2412-1, IWC-2412-1, IWD-2412-1, IWE-2412-1 and Code Case N-491-1, Table -2410-2. In addition, Code Case N-598 allows for a more uniform distribution between outages that is more conducive to performing quality examinations.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-9 continued
Code Case N-598

During the development of Code Case N-598, two additional factors were considered when evaluating the impact of the Code Case on plant safety. The first was that the existing tables allow up to 50% of the examinations to be performed in the second and third periods, but only 34% can be performed in the first period. Therefore, the Inspection Plan B schedule is biased towards delaying examinations until the end of the interval. The more flexible percentages stated in Code Case N-598 allows for more examinations to be performed earlier in the interval. This should improve safety because any problems, should they exist, would be detected earlier in the interval.

The second factor that was considered when developing Code Case N-598 was that some minimum amount of examinations should be required in each period. To address this consideration, the Code Case, including Note (1), is structured such that examinations will be required during all three periods.

Due to the factors documented above, PECO Energy considers that the alternative criteria of Code Case N-598 provide an acceptable, or improved, level of quality and safety.

IV. ALTERNATIVE PROVISIONS

PECO Energy will use Code Case N-598 for the required percentages of examinations for all Class 1, 2, 3 and MC components and supports.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-10
Code Case N-601

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components Examination Category E-A, Item Numbers E1.12 and E1.20.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVEIS REQUESTED

ASME Section XI, 1992 Edition through 1992 Addenda, requires that a VT-3 visual examination be performed 100% at the end of the interval for Items E1.12 and E1.20.

An alternative is requested to the requirement to perform the VT-3 visual examinations entirely at the end of the interval for Items E1.12 and E1.20.

Pursuant to 10CFR50.55a(a)(3)(i), PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-601, "Extent and Frequency of VT-3 Visual Examination for Inservice Inspection of Metal Containments" which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

Code Case N-601, "Extent and Frequency of VT-3 Visual Examination for Inservice Inspection of Metal Containments" provides an alternative to the Code requirement of performing 100% of the VT-3 examinations on Items E1.12 and E1.20 at the end of the interval. PECO Energy believes it is more important to perform visual examinations on the accessible surfaces of the containment structure and vent system during the course of the interval rather than at the end. This way, the integrity of the containment and vent system at the Limerick Generating Station, Units 1 and 2, can be better monitored between the 10CFR50, Appendix J testing, and the visual examinations required by Table IWE-2500-1. The successive inspection requirements of IWE-2420 will be maintained. Therefore, this alternative will provide an acceptable level of quality and safety as compared to the current requirements.

IV. ALTERNATE PROVISIONS

PECO Energy will perform the VT-3 visual examinations on accessible surface areas of the containment structure and vent system in accordance with Code Case N-601. This code case provides an alternative to perform the visual examinations at any time during the interval, provided the requirements for successive inspections stated in IWE-2420 are met.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-11
Code Case N-605

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components Examination Category E-C, Item Number E4.12

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition through 1992 Addenda, IWE-2500(c)(3) requires one foot square grids be used when ultrasonic thickness measurements are performed on augmented examination surface areas. The number and location of the grids is determined by the Owner. IWE-2500(c)(4) requires that the minimum wall thickness within each grid be determined.

An alternative is requested to the requirement to use one foot square grids for augmented examination areas, and the requirement to determine the minimum wall thickness within each grid.

Pursuant to 10CFR50.55a(a)(3)(i), PECO Energy proposes to implement the provisions of ASME Section XI Code Case N-605, "Alternative to the Requirements of IWE-2500(c) for Augmented Examination of Surface Areas" which is not yet approved by reference in Regulatory Guide 1.147.

III. BASIS FOR ALTERNATIVE

IWE-2500(c)(3) and IWE-2500(c)(4) of the 1992 Edition, 1992 Addenda of ASME Section XI, require that the minimum thickness within each one foot square grid of surface areas requiring augmented examination be marked such that periodic reexamination of the location can be performed. Thickness readings are point readings. Numerous readings are necessary to identify the minimum thickness within each grid. This only identifies the thinnest area. Periodic examination of the minimum thickness point only monitors that point. It may not be the area that is the most susceptible to accelerated degradation.

In Code Case N-605, Table -2500-2, "Ultrasonic Thickness Measurements for Augmented Examinations", provides the proposed alternative to the one foot square grid area required by IWE-2500(c)(3). Table -2500-2 requires examination at the grid intersections. The grid line intersections may not exceed 12 inches, and may be as small as 2 inches.

For a sample area of 50 square feet, Code Case N-605, Table -2500-2 requires a minimum of 100 locations to be monitored. In this instance, utilizing Table -2500-2 monitors more locations than required by IWE-2500(c)(3).

For sample areas greater than 100 square feet, Code Case N-605, Table -2500-2 requires that sufficient points be monitored to ensure at least a 95% confidence level that the thickness of the base metal is reduced by no more than 10% of the nominal plate thickness at 95% of the grid line intersections. Table -2500-2 also requires additional examinations when any measurement reveals that the wall thickness is reduced by more than 10% of the nominal plate thickness.

RELIEF REQUEST No. RR-12
Revision 3, continued

Table RR-12-11 continued
Code Case N-605

For all examination areas, should the measurements at a grid line intersection reveal that the base material is reduced by more than 10% of the nominal plate thickness, Code Case N-605, Table -2500-2 requires that the minimum wall thickness within each adjoining grid be determined. This is similar to the examination requirements of IWE-2500(c)(4) except that Table -2500-2 focuses resources on areas which have exhibited degradation rather than areas which have not exhibited degradation. Therefore, this proposed alternative will provide an acceptable level of quality and safety.

IV. ALTERNATE PROVISIONS

PECO Energy will use Code Case N-605 to determine examination requirements for ultrasonic thickness measurements on areas requiring augmented examination.

RELIEF REQUEST No. RR-13
Revision 3

I. IDENTIFICATION OF COMPONENTS

Class 2 (exempt and non-exempt) pressure retaining components within the pressure retaining boundary of pressure vessels, piping, pumps, and valves, Examination Category C-H, Item Numbers C7.10 through C7.80 inclusive.

Class 3 (exempt and non-exempt) pressure retaining components within the pressure retaining boundary, Examination Categories D-A, D-B, and D-C, Item Number D1.10, D2.10, and D3.10, respectively.

The specific Class 2 and 3 components covered by this relief request are detailed in Tables RR-13-1 through RR-13-8.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI 1989 Edition, Examination Category C-H requires the pressure retaining components within each system boundary be subjected to the system pressure tests of IWC-5000 and visually (VT-2) examined.

ASME Section XI 1989 Edition, Examination Categories D-A, D-B, and D-C require the pressure retaining components within each system boundary be subjected to the system pressure tests of IWD-5000 and visually (VT-2) examined.

The required system pressure tests shall be performed during the inservice inspection interval in accordance with Table IWC-2500-1 or Table IWD-2500-1, as applicable.

Pursuant to 10CFR50.55a(a)(3)(ii) PECO Energy request relief from meeting the subject pressure test requirements for the specific components listed in Tables RR-13-1 through RR-13-8 due to hardship imposed by plant design and/or redundant testing. Individual test requirements requiring relief are as detailed in the Tables.

III. BASIS FOR ALTERNATIVE

Pressure testing in accordance with some or all of the requirements of IWC-5000 or IWD-5000, as applicable, for the affected components is impractical due to plant/system design and/or redundant test requirements as detailed in Table(s) RR-13-1 through RR-13-8.

In all cases, plant modification to facilitate the required testing represents undue hardship and/or alternate testing provides adequate assurance of pressure boundary integrity.

RELIEF REQUEST No. RR-13
Revision 3, continued

IV. ALTERNATE PROVISIONS

Any alternate test provisions, where practical, are as proposed in Table(s) RR-13-1 through RR-13-8.

PECO Energy shall perform the required leakage tests at the peak calculated containment pressure using a test procedure that provides for the detection and location of through-wall leakage in the pipe segments being tested. CM-7

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-1

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 3 Nuclear Boiler Vessel instrumentation tubing to drywell pressure instrumentation outboard of HV-42-147A, B, C, and D. (Reference P&ID: ISI-M-42, Sheet 1, ISI-M-57, Sheet 1, ISI-M-59, Sheet 1)

LGS Unit 2:
Class 3 Nuclear Boiler Vessel instrumentation tubing to drywell pressure instrumentation outboard of HV-42-247A, B, C, and D. (Reference P&ID: ISI-M-42, Sheet 3, ISI-M-57, Sheet 4, ISI-M-59, Sheet 3)

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWD-5221, System Inservice Test and
IWD-5223, System Hydrostatic Test

III. BASIS FOR ALTERNATIVE

Normal Drywell pressure is less than 1 psig. The pressurizing fluid is nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than 1 psig driving pressure would be inconclusive.

LGS Technical Specifications require channel checks every 12 hours to verify drywell pressure instrumentation operability. This is performed by verifying proper pressure readings. A significant tubing leak will cause an improper reading, and will be corrected and retested. The tubing and components are also included in the Integrated Leak Rate Test (ILRT) boundary.

IV. ALTERNATE PROVISIONS

LGS Technical Specification operability checks and Integrated Leak Rate Testing provide assurance of component integrity and will be utilized to satisfy ASME Section XI requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-2

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 2 RCIC Turbine Exhaust Vacuum Breaker lines HBB-101 and HBB-145 between and including valves HV-49-1F084, HV-49-1F080, HV-49-1F060 and 49-1F001.
(Reference P&ID: ISI-M-49, Sheet 1)

Class 2 RCIC Vacuum Pump Exhaust to Suppression Pool, HBB-150 between 49-1F028 and HV-49-1F002, 49-1038 and 49-1F055. (Reference P&ID: ISI -M-49, Sheet 1)

LGS Unit 2:
Class 2 RCIC Turbine Exhaust Vacuum Breaker lines HBB-201 and HBB-245 between and including valves HV-49-2F084, HV-49-2F080, HV-49-2F060 and 49-2F001.
(Reference P&ID: ISI-M-49, Sheet 2)

Class 2 RCIC Vacuum Pump Exhaust to Suppression Pool, HBB-250 between 49-2F028 and HV-49-2F002, 49-2038 and 49-2F055. (Reference P&ID: ISI -M-49, Sheet 2)

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Functional/Inservice Tests and,
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

Normal Drywell pressure is less than one (1) psig. The pressurizing fluid is nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than one (1) psig driving pressure would be inconclusive.

Appendix J Local Leak Rate Tests (LLRTs) are performed once per Refuel Outage. During LLRTs, the subject piping is pressurized to 44 psig, a substantially higher pressure than that developed during a periodic system functional test. As such, the LLRT offers the following advantages over system pressure tests:

A. LLRTs are performed more frequently than periodic system functional tests and the ten year hydrostatic test.

B. LLRTs have the ability to quantify leakage that is not feasible with VT-2 inspections on this essentially gas-filled piping.

C. LLRTs conservatively include through valve leakage that would not be identified in a VT-2 inspection.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-2 continued

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the LLRT fails to meet its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance, and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-3

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 2 HPCI Turbine Exhaust Vacuum Breaker lines HBB-108 and HBB-144 between and including valves HV-55-1F095, HV-55-1F093, HV-55-1F072, and 55-1F021. (Reference P&ID: ISI-M-55, Sheet 1)

LGS Unit 2:
Class 2 HPCI Turbine Exhaust Vacuum Breaker lines HBB-208 and HBB-244 between and including valves HV-55-2F095, HV-55-2F093, HV-55-2F072, and 55-2F021. (Reference P&ID: ISI-M-55, Sheet 2)

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Function/Inservice Tests and,
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

Normal Drywell pressure is less than one (1) psig. The pressurizing fluid is nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than one (1) psig driving pressure would be inconclusive.

Appendix J Local Leak Rate Tests (LLRTs) are performed once per Refuel Outage. During LLRTs, the subject piping is pressurized to 44 psig, a substantially higher pressure than that developed during a periodic system functional test. As such, the LLRT offers the following advantages over system pressure tests:

A. LLRTs are performed more frequently than periodic system functional tests and the ten year hydrostatic test.

B. LLRTs have the ability to quantify leakage that is not feasible with VT-2 inspections on this essentially gas-filled piping.

C. LLRTs conservatively include through valve leakage that would not be identified in a VT-2 inspection.

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the LLRT fails to meet its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance, and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-4

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 3 Containment Atmospheric Control tubing to suppression pool pressure and level instrumentation outboard of SV-57-101. (Reference P&ID: ISI-M-57, Sheet 1, ISI-M-52, Sheet 1)

LGS Unit 2:
Class 3 Containment Atmospheric Control tubing to suppression pool pressure and level instrumentation outboard of SV-57-201. (Reference P&ID: ISI-M-57, Sheet 4, ISI-M-52, Sheet 3)

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWD-5221, System Inservice Tests and,
IWD-5223, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

Normal suppression pool pressure is less than one (1) psig. The pressurizing fluid is nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than one (1) psig driving pressure would be inconclusive.

LGS Technical Specifications require monitoring suppression pool pressure every 12 hours to verify proper pressure. Additionally, Technical Specifications require channel checks every 24 hours to verify operability of the suppression pool level indicators. This is performed by verifying proper level readings. A significant tubing leak will give an improper reading, and will be corrected and retested. Also, the tubing and components are included in the Integrated Leak Rate Test (ILRT) boundary.

IV. ALTERNATE PROVISIONS

LGS Technical Specification suppression pool instrumentation operability checks and Integrated Leak Rate Test (ILRT) provide assurance of component integrity and will be utilized to satisfy ASME Section XI requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-5

I. Identification of Components

LGS Unit 1:
Class 2 Post-LOCA Recombiner piping HBB-128 and HBB-127 between and including "A" Recombiner and valves HV-57-161 and HV-57-162. HBB-126 and HBB-124 between and including "B" Recombiner and valves HV-57-163 and HV-57-164. (Reference P&ID: ISI-M-57, Sheets 1, 2)

Class 2 hydrogen/oxygen sampling lines HCB-116 and HCB-117, between connections on the Combustible Gas Analyzer Package 10-S205, and valves SV-57-159, SV-57-141, SV-57-142 and SV-57-147B, SV-57-143, SV-57-144 and SV-57-146B, and SV-57-145 (HCB-117). HCB-116 and HCB-117, between connections on the Combustible Gas Analyzer Package 10-S206, and valves SV-57-184 and SV-57-146A, SV-57-186 and SV-57-147A, SV-57-195, SV-57-190 and 57-1090, and SV-57-185 (HCB-117). (Reference P&ID: ISI-M- 57, Sheets 1, 2, 3).

LGS Unit 2:
Class 2 Post-LOCA Recombiner piping HBB-228 and HBB-227 between and including "A" Recombiner and valves HV-57-261 and HV-57-262. HBB-226 and HBB-224 between and including "B" Recombiner and valves HV-57-263 and HV-57-264. (Reference P&ID: ISI-M-57, Sheets 4, 5)

Class 2 hydrogen/oxygen sampling lines HCB-216 and HCB-217, between connections on the Combustible Gas Analyzer Package 20-S205, and valves SV-57-259, SV-57-241, SV-57-242 and SV-57-247B, SV-57-243, SV-57-244 and SV-57-246B, and SV-57-245 (HCB-217). HCB-216 and HCB-217, between connections on the Combustible Gas Analyzer Package 20-S206, and valves SV-57-284 and SV-57-246A, SV-57-286 and SV-57-247A, SV-57-295, SV-57-290 and 57-2090, and SV-57-285 (HCB-217). (Reference P&ID: ISI-M- 57, Sheets 4, 5, 6).

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Functional/Inservice Tests, and
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

During normal plant operation, this piping is either isolated or less than one (1) psig (normal containment pressure). The pressurizing fluid is essentially nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than one (1) psig driving pressure would be inconclusive.

System Contaminated Pipe Inspection (CPI) is performed once per Refuel Outage on post-LOCA Recombiner piping. During CPI testing associated with the Leak Reduction Program (UFSAR 6.2.8), this piping is pressurized to 44 psig. CPIs for this system are performed similar to 10CFR50 Appendix J Local Leak Rate Testing (LLRT) and, as such, offer the following advantages over system pressure tests:

A. CPIs are performed more frequently than periodic system functional tests and the ten year hydrostatic tests.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-5, continued

B. CPIs have the ability to quantify leakage that is not feasible with a VT-2 inspection on this air filled piping.

C. CPIs conservatively include through valve leakage that would not be identified in a VT-2 inspection.

In addition, for the hydrogen/oxygen sampling lines the combustible gas analyzer continuously samples containment. A tubing leak will cause improper (high) readings that would be corrected and retested.

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the CPI fails to meet its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance, and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

System Contaminated Pipe Inspection (CPI) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-6

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 2 Primary Containment Atmospheric Control piping, as follows:

Hydrogen/oxygen sample lines HBC-116, between and including containment penetrations X-28A and X-28B and valves SV-57-142, SV-57-143, SV-57-144 and SV-57-195. Reference P&ID ISI-M-57, Sheets 1 and 2.

Drywell low flow nitrogen makeup line HBC-116, between and including containment penetration X-62 and valves HV-57-116 and SV-57-159. Reference P&ID ISI-M-57, Sheet 1.

Hydrogen/oxygen sample lines HBC-116, between and including containment penetrations X-221A and valves SV-57-141 and SV-57-184. Reference P&ID ISI-M-57, Sheets 1 and 2.

Nitrogen purge line HBB-125, between and including Valves HV-57-109, HV-57-121 and HV-57-131. Reference P&ID ISI-M-57, Sheet 1.

Drywell air purge line HBB-124, between and including valves HV-57-123 and HV-57-135. Reference P&ID ISI-M-57, Sheet 1.

Suppression pool air purge line HBB-126, between and including valves HV-57-124 and HV-57-147. Reference P&ID ISI-M-57, Sheet 1.

Drywell purge to standby gas treatment line HBB-127, between and including valves HV-57-114 and HV-57-115, and line HCB-117, between and including connection to line HBB-127 and valve SV-57-145. Reference P&ID ISI-M-57, Sheets 1 and 2.

Suppression pool low flow nitrogen makeup line HBC-116, between and including containment penetration X-220A, valve SV-57-190 and connection to drywell low flow nitrogen makeup line HBC-116. Reference P&ID ISI-M-57, Sheets 1 and 2.

Hydrogen/oxygen sample line HCB-116, between and including containment penetration X221B and valves SV-57-186 and HV-55-126. Reference P&ID's ISI-M-57, Sheet 2, and ISI-M-55, Sheet 1.

Drywell purge exhaust bypass line HBB-127, between and including valves 57-1807 and HV-57-117. Reference P&ID ISI-M-57, Sheet 2.

Suppression pool purge exhaust bypass line HBB-128, between and including valves 57-1810 and HV-57-118. Reference P&ID ISI-M-57, Sheet 2.

Suppression pool purge air exhaust lines HBB-128 and HCB-117, between and including valves HV-57-104, HV-57-112 and SV-57-185. Reference P&ID ISI-M-57, Sheet 2.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-6, continued

LGS Unit 2
Class 2 Primary Containment Atmospheric Control piping, as follows:

Hydrogen/oxygen sample lines HBC-216, between and including containment penetrations X-28A and X-28B and valves SV-57-242, SV-57-243, SV-57-244 and SV-57-295. Reference P&ID ISI-M-57, Sheets 4 and 5.

Drywell low flow nitrogen makeup line HBC-216, between and including containment penetration X-62 and valves HV-57-216 and SV-57-259. Reference P&ID ISI-M-57, Sheet 4.

Hydrogen/oxygen sample lines HBC-216, between and including containment penetrations X-221A and valves SV-57-241 and SV-57-284. Reference P&ID ISI-M-57, Sheets 4 and 5.

Nitrogen purge line HBB-225, between and including Valves HV-57-209, HV-57-221 and HV-57-231. Reference P&ID ISI-M-57, Sheet 4.

Drywell air purge line HBB-224, between and including valves HV-57-223 and HV-57-235. Reference P&ID ISI-M-57, Sheet 4.

Suppression pool air purge line HBB-226, between and including valves HV-57-224 and HV-57-247. Reference P&ID ISI-M-57, Sheet 4.

Drywell purge to standby gas treatment line HBB-227, between and including valves HV-57-214 and HV-57-215, and line HCB-217, between and including connection to line HBB-227 and valve SV-57-245. Reference P&ID ISI-M-57, Sheets 4 and 5.

Suppression pool low flow nitrogen makeup line HBC-216, between and including containment penetration X-220A, valve SV-57-290 and connection to drywell low flow nitrogen makeup line HBC-216. Reference P&ID ISI-M-57, Sheets 4 and 5.

Hydrogen/oxygen sample line HCB-216, between and including containment penetration X221B and valve SV-57-286. Reference P&ID ISI-M-57, Sheet 5.

Drywell purge exhaust bypass line HBB-227, between and including valves 57-2815 and HV-57-217. Reference P&ID ISI-M-57, Sheet 5.

Suppression pool purge exhaust bypass line HBB-228, between and including valves 57-1818 and HV-57-218. Reference P&ID ISI-M-57, Sheet 5.

Suppression pool purge air exhaust lines HBB-228 and HCB-217, between and including valves HV-57-204, HV-57-212 and SV-57-285. Reference P&ID ISI-M-57, Sheet 5.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-6, continued

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Functional/Inservice Tests and,
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

During normal plant operation, this piping is either isolated or less than one (1) psig (normal containment pressure). The pressurizing fluid is essentially nitrogen gas. A VT-2 inspection looking for a nitrogen gas leak with less than one (1) psig driving pressure would be inconclusive.

Appendix J Local Leak Rate Testing (LLRTs) are performed once per Refuel Outage. During LLRTs, the subject piping is pressurized to 44 psig, a substantially higher pressure than that developed during a periodic system functional test. As such, the LLRT offers the following advantages over system pressure tests:

A. LLRTs are performed more frequently than periodic system functional tests.

B. LLRTs have the ability to quantify leakage that is not feasible with VT-2 inspection on this essentially gas-filled piping.

C. LLRTs conservatively include through valve leakage that would not be identified in a VT-2 inspection.

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the LLRT fails to meets its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-7

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 2 Plant Process Radiation Monitoring System piping HCB-128, between and including valves 26-1009, 26-1011, SV-26-190A & B, and 26-1010, 26-1012, SV-26-190C & D. (Reference P&ID: ISI-M-26, Sheets 1, 2)

LGS Unit 2:
Class 2 Plant Process Radiation Monitoring System piping HCB-228, between and including valves 26-2009, 26-2011, SV-26-290A & B, and 26-2010, 26-2012, SV-26-290C & D. (Reference P&ID: ISI-M-26, Sheets 7, 8)

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Functional/Inservice Tests and,
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

During Local Leak Rate Tests (LLRTs), the subject piping is pressurized to 44 psig, a substantially higher pressure than that developed during a system pressure test. As such, the LLRT offers the following advantages over system pressure tests:

A. LLRTs are performed more frequently than periodic system pressure tests and the ten year hydrostatic test.

B. LLRTs have the ability to quantify leakage that is not feasible with VT-2 inspections on air systems.

C. LLRTs conservatively test some unclassified piping and includes through valve leakage that would not be identified in a VT-2 inspection.

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the LLRT fails to meet its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance would be performed, and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-8

I. IDENTIFICATION OF COMPONENTS

LGS Unit 1:
Class 2 Primary Containment Instrument Gas System piping, as follows:

HCB-124 piping and components at penetration X-3D, between and including valves HV-59-151B and 59-1111.

HCB-124 piping and components at penetration X-27A, between and including valves HV-59-151A and 59-1129.

HCB-110 piping and components at penetration X-3B, between and including valves HV-59-129B and 59-1005B.

HCB-110 piping and components at penetration X-40H, between and including valves HV-59-129A and 59-1005A.

Tubing and components from and including valves XV-59-141A, B, C, D, & E; to penetrations X-35C, D, E, F, & G respectively.

HCB-110 piping and components at penetration X-35B, between and including valves HV-59-131 and 59-1056.

HCB-109 piping and components at penetration X-40F, between and including valves HV-59-102 and HV-59-101.

HCB-110 piping and components at penetration X-218, between and including valves HV-59-135 and 59-1001. (Reference P&ID: ISI-M-59, Sheet 1).

LGS Unit 2:
Class 2 Primary Containment Instrument Gas System piping, as follows:

HCB-224 piping and components at penetration X-3D, between and including valves HV-59-251B and 59-2111.

HCB-224 piping and components at penetration X-27A, between and including valves HV-59-251A and 59-2129.

HCB-210 piping and components at penetration X-3B, between and including valves HV-59-229B and 59-2005B.

HCB-210 piping and components at penetration X-40H, between and including valves HV-59-229A and 59-2005A.

Tubing and components from and including valves XV-59-241A, B, C, D, & E; to penetrations X-35C, D, E, F, & G respectively.

HCB-210 piping and components at penetration X-35B, between and including valves HV-59-231 and 59-2056.

RELIEF REQUEST No. RR-13
Revision 3, continued

Table RR-13-8, continued

HCB-209 piping and components at penetration X-40F, between and including valves HV-59-202 and HV-59-201.

HCB-210 piping and components at penetration X-218, between and including valves HV-59-235 and 59-2001. (Reference P&ID: ISI-M-59, Sheet 3).

II. CODE REQUIREMENT FROM WHICH AN ALTERNATIVE IS REQUESTED

IWC-5221, System Pressure Test During System Functional/Inservice Tests and,
IWC-5222, System Hydrostatic Test.

III. BASIS FOR ALTERNATIVE

10CFR50 Appendix J Local Leak Rate Testing (LLRT) meets the intent of the ASME requirement.

Although Local Leak Rate tests use a lower pressure (44 psig) than normal Containment Instrument Gas pressure, they offer the following advantages over system pressure tests:

A. LLRTs are performed more frequently than periodic system pressure tests and the ten year hydrostatic test.

B. LLRTs have the ability to quantify leakage that is not feasible with VT-2 inspections on air systems.

C. LLRTs conservatively test some unclassified piping and includes through valve leakage that would not be identified in a VT-2 inspection.

IWC-5210(b) allows for air tests which permit location and detection of through-wall leakage. In the event the LLRT fails to meet its acceptance criteria, further testing would be performed to determine the location of the leaks, appropriate corrective maintenance would be performed, and an appropriate retest would be performed.

IV. ALTERNATE PROVISIONS

10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements.

RELIEF REQUEST No. RR-24
Revision 0
Alternative Criteria for VT-3 Visual Examination of Seals and Gaskets

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Category E-D, Seals, Gaskets and Moisture Barriers, Item Numbers E5.10, Seals, and E5.20, Gaskets.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Table IWE-2500-1, Examination Category E-D requires a visual examination, VT-3, of seals and gaskets on airlocks, hatches, and other devices that are required to assure containment leak-tight integrity. Examination of 100% of each components is required once each inspection interval.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from performing the code-required visual examination(VT-3) of containment seals and gaskets.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. Seals and gaskets receive a 10CFR50 Appendix J test. As noted in 10CFR50 Appendix J, the purpose is to measure leakage of containment or penetrations whose design incorporates resilient seals, gaskets, sealant compounds, and electrical penetrations fitted with flexible metal seal assemblies. Although not required by the Code, practical examination considerations of seals and gaskets require the joints, which are proven adequate through Appendix J testing, to be disassembled. For electrical penetrations, this would involve a pre-maintenance Appendix J test, determination of cables at electrical penetrations if enough cable slack is not available, disassembly of the joint, removal and examination of the seals and gaskets, reassembly of the joint, re-termination of the cables if necessary, post maintenance testing of the cables, and a post maintenance Appendix J test of the penetration. The work required for the Containment Hatches would be similar except for the de-termination, re-termination, and testing of cables. This imposes the risk that equipment could be damaged. The 1992 Edition, 1993 Addenda, of Section XI recognizes that disassembly of joints to perform these examinations is not warranted. Note 1 in Examination Category E-D was modified in the 1995 Edition of Section XI to state that sealed or gasket connections need not be disassembled solely for performance of examinations. However, without disassembly, most of the surface of the seals and gaskets would be inaccessible.

For those penetrations that are routinely disassembled, a Type B test is required upon final assembly and prior to start-up. Since the Type B test will assure the leak tight integrity of primary containment, the performance of the visual examination would not increase the level of safety or quality.

RELIEF REQUEST No. RR-24
Revision 0, continued

Seals and gaskets are not part of the containment pressure boundary under current Code rules (NE-1220 (b)). When the airlocks and hatches containing these materials are tested in accordance with 10CFR50, Appendix J, degradation of the seal or gasket material would be revealed by an increase in the leakage rate. Corrective measures would be applied and the component retested. Repair or replacement of seals and gaskets is not subject to Code (1992 Edition, 1992 Addenda) rules in accordance with Paragraph IWA-4111(b)(5) of ASME Section XI.

The visual examination of seals and gaskets in accordance with IWE-2500, Table IWE-2500-1 is a burden without any compensating increase in the level of safety or quality. This requirement was removed in the 1997 Addenda of ASME Section XI, and is not included in the 1998 Edition. Relief is requested in accordance with 10CFR50.55a(a)(3)(i). Compliance with the specified requirements of this section will provide an acceptable level of quality and safety. Testing the seals and gaskets in accordance with 10CFR50, Appendix J will provide adequate assurance of the leak-tight integrity of the seals and gaskets.

IV. ALTERNATE PROVISIONS

The leak-tightness of seals and gaskets will be tested in accordance with 10CFR50, Appendix J. No additional alternatives to the visual examination, VT-3, of the seals and gaskets will be performed.

RELIEF REQUEST No. RR-25
Revision 0
Alternative Requirements for Qualification and Certification of Nondestructive Examination Personnel

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components and Class CC Concrete Components, Examination Categories E-A, E-C, E-D, E-G, E-P and L-A, all Item Numbers.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Subarticle IWA-2300 requires NDE personnel to be qualified and certified using a written practice in accordance with CP-189, Standard for Qualification and Certification of Nondestructive Testing Personnel, as amended by ASME Section XI.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from the provisions of Subarticle IWA-2300, requiring qualification and certification to a written practice in accordance with CP-189 as amended by the requirements of this Division.

III. BASIS FOR RELIEF

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. A written practice based on the requirements of CP-189, as amended by the requirements of the Subarticle IWA-2300, to implement Subsections IWE and IWL duplicates efforts already in place for all other subsections. The LGS Units 1 and 2 ISI Programs are required by 10CFR50.55a to be in accordance with the 1989 Edition of ASME Section XI for all other subsections. Subarticle IWA-2300 of the 1989 Edition requires a written practice based on SNT-TC-1A, as amended by the requirements of Subarticle IWA-2300. Further, Subarticle IWA-2300 of the 1992 Edition, 1992 Addenda, states, "Certification based on SNT-TC-1A are valid until recertification is required." Visual examination is the primary nondestructive examination method required by Subsections IWE and IWL. Neither CP-189 nor SNT-TC-1A specifically includes visual examination; thus, the Code requires qualification and certification to comparable levels as defined in CP-189 or SNT-TC-1A, as applicable, and the Employer's written practice. Development and administration of a second program would not enhance safety or quality and would constitute a burden, particularly in developing a second written practice, tracking of certifications, and duplication of paperwork. This duplication would also apply to NDE vendor programs. Updating to CP-189 as referenced in the 1992 Edition, 1992 Addenda, for Subsections IWB, IWC, etc., would require a similar request for relief. Therefore, an alternative is requested in accordance with 10CFR50.55a(a)(3)(i). The alternative will provide an acceptable level of quality and safety.

IV. ALTERNATE PROVISIONS

Examinations required by Subsection IWE and IWL shall be conducted by personnel qualified and certified to a written practice based on SNT-TC-1A in accordance with the 1989 Edition of ASME Section XI, which is the Code of record for Subsections IWB, IWC, IWD and IWF at LGS for the current (i.e., second) interval.

RELIEF REQUEST No. RR-26
Revision 0
Alternative Requirements for Remote Visual Examinations

I. IDENTIFICATION OF COMPONENTS

Class CC Concrete Components, Examination Category L-A, Concrete, Item Number L1.11, Concrete Surface All Areas, and Item Number L1.12, Concrete Surface Suspect Areas.

II. CODE REQUIREMENTS FROM AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Table IWL-2500-1 requires visual examination, VT-3C, of all containment concrete surface areas and visual examination, VT-1C, of selected containment concrete surfaces with suspected indications of damage or degradation. The VT-1C and VT-3C methods of examinations shall be performed in accordance with paragraphs IWL-2310, Visual Examination and Personnel Qualification and IWA-2210, Visual Examinations. Paragraph IWA-2210 requires specific minimum illumination and maximum direct examination distance for performing the visual examinations.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from the requirements of paragraph IWA-2210, Visual Examinations, for minimum illumination and maximum direct examination distance when examining Class CC components under Paragraph IWL-2310.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. In addition to the requirements of Subsection IWL, the rulemaking also imposes the requirements of Subsection IWA of the 1992 Edition, 1992 Addendum, of ASME Section XI for minimum illumination and maximum direct examination distance of Class CC components, specifically for the examination of concrete under Paragraph IWL-2510.

Accessibility to portions of the containment structure make it a hardship to obtain the maximum direct examination distance and minimum illumination requirements. The installation of extensive temporary scaffold systems or a climbing scaffold system to access these portions of the containment would be necessary. These scaffolds would provide limited access due to containment geometry restrictions as well as structural and equipment interferences. The installation and removal of these scaffolds would increase both worker radiation exposure and challenge personnel safety in order to meet Paragraph IWA-2210 requirements.

The NRC staff received seven comments that were consolidated into Public Comment # 2.3 in Part III of Attachment 6 to SECY-96-080. The Staff response to these concerns is as follows, "Comments received from ASME members on the containment committees indicate that the newer, more stringent requirements of IWA-2210 were not intended to be used for the examination of containments and were inadvertently included in Subsection IWL. The NRC agrees that remote examinations are the only practical method for inspecting much of the containment surface area. § 50.55a(b)(2)(x)(B) has been added to the final rule which contains alternative lighting and resolution requirements which may be used in lieu of the requirements contained in IWA-2210-1."

RELIEF REQUEST No. RR-26
Revision 0, continued

However, as specified in 50.55a(b)(2)(x)(B) of the final rule, this alternative for lighting and resolution requirements applies only to Subsection IWE. An alternative is requested in accordance with 10CFR 50.55a(a)(3)(i) for Subsection IWL. The use of the alternative lighting and resolution requirements allowed for IWE remote visual examinations per 10CFR50.55a(b)(2)(B) for the IWL remote visual examinations will provide an acceptable level of quality and safety.

IV. ALTERNATE PROVISIONS

When performing remotely the visual examinations required by Subsection IWL, Paragraph IWL-2510, the maximum direct examination distance specified in Table IWA-2210-1 may be extended, and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased provided that the conditions or indications for which the visual examination is performed can be detected at the chosen distance and illumination.

RELIEF REQUEST No. RR-27
Revision 0
Alternative Criteria for Preservice Inspection of Reapplied Paint and Coatings

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Category E-A, Containment Surfaces, Item Number E1.10, Containment Vessel Pressure Retaining Boundary.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNAITVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Subarticle IWE-2200(g) requires that when paint or coatings are reapplied, the condition of the new paint or coating shall be documented in the preservice examination records.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from the requirement to perform a preservice inspection of new paint or coatings.

III. BASIS FOR ALTERNATIVE

Paint and coatings are not part of the containment pressure boundary under current Code rules because they are not associated with the pressure retaining function of the component (Paragraph NE-2110(b) of ASME Section III). Neither paint nor coatings contribute to the structural integrity or leak tightness of the containment. Furthermore the paint and coatings on the containment pressure boundary were not subject to Code rules when they were originally applied and are not subject to ASME XI rules for repair or replacement. The adequacy of applied coatings is verified through the PECO Energy Coatings Program for Nuclear Facilities. Recording the condition of reapplied coating in the preservice record does not substantiate the containment structural integrity. Should deterioration of the coating in the reapplied area occur, the area will require additional evaluation regardless of the preservice record. Recording the condition of new paint or coating in the preservice records does not increase the level of quality and safety of the containment.

SECY 96-080, response to Comment 3.2 about IWE-2200(g) states, "In the NRC's opinion, this does not mean that a visual examination must be performed with every application of paint or coating. A visual examination of the topcoat to determine the soundness and the condition of the topcoat should be sufficient." This is currently accomplished through the PECO Energy Coatings Program for Nuclear Facilities. Recording the condition of new paint or coatings in the preservice record is redundant to the requirements of the PECO Energy Coatings Program for Nuclear Facilities, and as such is an administrative burden without a compensating increase in safety.

The PECO Energy Coatings Program for Nuclear Facilities provides an adequate level of quality and safety. The PECO Energy Coatings Program for Nuclear Facilities limits the quantity of unqualified coatings and degraded qualified coatings not removed/repaired/replaced in locations requiring Service Level 1 coating systems to below licensing basis limits and prevents the impairment due to detached coatings obstructing the flow paths of any fluid system, required to operate if needed to mitigate a design basis accident.

RELIEF REQUEST No. RR-27
Revision 0, continued

IV. ALTERNATE PROVISIONS

The paint and coatings in the containment are considered safety-related and as such they will be applied and inspected in accordance with the PECO Energy Coatings Program for Nuclear Facilities. The PECO Energy Coatings Program for Nuclear Facilities is subject to the requirements of the Limerick Generating Station (LGS), Units 1 and 2, 10CFR50, Appendix B Quality Assurance Program. The LGS QA Program is described in Section 17.2 of the LGS, Units 1 and 2 Updated Safety Analysis Report (USFAR). Appendix 17.2.II of the Appendix B Quality Assurance Program endorses ASTM D3843-93, "Standard Practice for Quality Assurance for Protective Coatings Applied to Nuclear Facilities". ASTM D3843-93 replaces Regulatory Guide 1.54, "Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants," and ANSI Standard N101.4-1972, "Quality Assurance for Protective Coatings Applied to Nuclear Facilities." Accordingly, the PECO Energy Coatings Program for Nuclear Facilities shall control those essential coating program elements that are necessary to ensure the quality application and inspection of Service Level 1 coating systems.

While performing Service Level 1 coating work, PECO Energy shall use one or more procedures as necessary to ensure satisfactory application of the coating systems, including surface preparation, inspection and documentation of the coating work.

PECO Energy shall comply with ASTM D3843-93, Standard Practice for Quality Assurance for Protective Coatings applied to Nuclear Facilities, for safety-related protective coating work in Service Level 1 areas, to fulfill 10CFR50, Appendix B requirements with the following additional clarifications:

1. For coating formulations developed prior to issuance of ASTM D3843-93, Service Level 1 qualification based on ANSI N5.9 (Revised as ANSI N512-1974) and ANSI N101.2 remains valid.

2. The quality assurance requirements of Sections 6 and 7 of ASTM D3843-93, applicable to the coating manufacturer, are imposed on the coating manufacturer through the procurement process.

3. Coating application procedures are developed based on the manufacturer's recommendations for application of the selected coating systems.

4. Coating applicators are qualified to demonstrate their ability to satisfactorily apply the coatings in accordance with the manufacturer's recommendations.

5. Quality Verification (QV) personnel qualified in accordance with ANSI N45.2.6-1978 and ASTM D 4537-91 perform inspections to verify conformance to the coating application procedures and perform examinations of previously applied coatings. Section 10 of ASTM D3843-93 is used as a guideline in the establishment of the inspection program.

6. Alternatively, personnel qualified in accordance with ASNT SNT-TC-1A (8/84) supplemented with appropriate coatings training, perform examinations of previously applied coatings.

RELIEF REQUEST No. RR-27
Revision 0, continued

7. Section 10.1 of ASTM D3843-93, last sentence, instead of references to ANSI 45.2 and NQA-1, inspections will be documented for record purposes as required by 10CFR50, Appendix B, and LGS QA Program. Documentation demonstrating conformance to the above is maintained.

8. Limitations on use of coatings and cleaning materials that contain elements, which could contribute to corrosion, intergranular cracking, or stress corrosion cracking of safety-related stainless steel, will be followed as described in Section C.4 of Regulatory Guide 1.54, June 1973.

A visual coatings examination of accessible and immersed surfaces of the drywell and suppression pool is performed at least every four (4) to six (6) years in accordance with 10CFR50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These periodic examinations will identify evidence of flaking, blistering, peeling, discoloration, or other signs of coating distress which might be indicative of degradation of the containment structural integrity.

If degradation of the coating is identified, additional measures will be applied to determine if the containment pressure boundary is affected. Although repairs to paint or coatings are not subject to the repair/replacement rules of ASME XI (Inquiry 97-22), repairs to the primary containment boundary, not including coatings, if required, would be conducted in accordance with ASME Section XI Code rules.

RELIEF REQUEST No. RR-28
Revision 0
Alternative Criteria for Visual Examination of Paint or Coating Prior to Removal

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Category E-A, Containment Surfaces, Item Number E1.10, Containment Vessel Pressure Retaining Boundary.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Subarticle IWE-2500(b) requires that when paint or coatings are to be removed, the paint or coatings shall be visually examined in accordance with Table IWE-2500-1 prior to removal.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from the requirement to visually examine paint or coatings on containment surfaces prior to removal.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. Paint and coatings are not part of the containment pressure boundary under current Code rules because they are not associated with the pressure retaining function of the component (Paragraph NE-2110(b) of ASME Section III). The interiors of containments are painted to prevent rusting. Neither paint nor coatings contribute to the structural integrity or leak tightness of the containment. Furthermore the paint and coatings on the containment pressure boundary were not subject to Code rules when they were originally applied and are not subject to ASME XI rules for repair or replacement. Degradation or discoloration of the paint or coating materials on containment could be an indicator of potential degradation of the containment pressure boundary. Additional measures would have to be employed to determine the nature and extent of any degradation, if present. The application of ASME XI rules for removal of paint or coatings when unrelated to a Section XI repair or replacement activity, is a burden without a compensating increase in quality or safety.[1]

The PECO Energy Coatings Program for Nuclear Facilities currently provides an acceptable level of quality and safety. The PECO Energy Coatings Program for Nuclear Facilities limits the quantity of unqualified coatings and degraded qualified coatings not removed/repaired/replaced in locations requiring Service Level 1 coating systems to below licensing basis limits and prevents the impairment due to detached coatings obstructing the flow paths of any fluid system, required to operate if needed to mitigate a design basis accident.

RELIEF REQUEST No. RR-28
Revision 0, continued

IV. ALTERNATE PROVISIONS

The paint and coatings in the containment are considered safety-related and as such they will be applied and inspected in accordance with the PECO Energy Coatings Program for Nuclear Facilities. The PECO Energy Coatings Program for Nuclear Facilities is subject to the requirements of the Limerick Generating Station (LGS), Units 1 and 2, 10CFR50, Appendix B Quality Assurance Program. The LGS QA Program is described in Section 17.2 of the LGS, Units 1 and 2 Updated Safety Analysis Report (USFAR). Appendix 17.2.II of the Appendix B Quality Assurance Program endorses ASTM D3843-93, "Standard Practice for Quality Assurance for Protective Coatings Applied to Nuclear Facilities". ASTM D3843-93 replaces Regulatory Guide 1.54, "Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants," and ANSI Standard N101.4-1972, "Quality Assurance for Protective Coatings Applied to Nuclear Facilities." Accordingly, the PECO Energy Coatings Program for Nuclear Facilities shall control those essential coating program elements that are necessary to ensure the quality application and inspection of Service Level 1 coating systems.

While performing Service Level 1 coating work, PECO Energy shall use one or more procedures as necessary to ensure satisfactory application of the coating systems, including surface preparation, inspection and documentation of the coating work.

PECO Energy shall comply with ASTM D3843-93, Standard Practice for Quality Assurance for Protective Coatings applied to Nuclear Facilities, for safety-related protective coating work in Service Level 1 areas, to fulfill 10CFR50, Appendix B requirements with the following additional clarifications:

1. For coating formulations developed prior to issuance of ASTM D3843-93, Service Level 1 qualification based on ANSI N5.9 (Revised as ANSI N512-1974) and ANSI N101.2 remains valid.

2. The quality assurance requirements of Sections 6 and 7 of ASTM D3843-93, applicable to the coating manufacturer, are imposed on the coating manufacturer through the procurement process.

3. Coating application procedures are developed based on the manufacturer's recommendations for application of the selected coating systems.

4. Coating applicators are qualified to demonstrate their ability to satisfactorily apply the coatings in accordance with the manufacturer's recommendations.

5. Quality Verification (QV) personnel qualified in accordance with ANSI N45.2.6-1978 and ASTM D 4537-91 perform inspections to verify conformance to the coating application procedures and perform examinations of previously applied coatings. Section 10 of ASTM D3843-93 is used as a guideline in the establishment of the inspection program.

6. Alternatively, personnel qualified in accordance with ASNT SNT-TC-1A (8/84) supplemented with appropriate coatings training, perform examinations of previously applied coatings.

RELIEF REQUEST No. RR-28
Revision 0, continued

7. Section 10.1 of ASTM D3843-93, last sentence, instead of references to ANSI 45.2 and NQA-1, inspections will be documented for record purposes as required by 10CFR50, Appendix B, and LGS QA Program. Documentation demonstrating conformance to the above is maintained.

8. Limitations on use of coatings and cleaning materials that contain elements, which could contribute to corrosion, intergranular cracking, or stress corrosion cracking of safety-related stainless steel, will be followed as described in Section C.4 of Regulatory Guide 1.54, June 1973.

A visual coatings examination of accessible and immersed surfaces of the drywell and suppression pool is performed at least every four (4) to six (6) years in accordance with 10CFR50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These periodic examinations will identify evidence of flaking, blistering, peeling, discoloration, or other signs of coating distress which might be indicative of degradation of the containment structural integrity.

If degradation of the coating is identified, additional measures will be applied to determine if the containment pressure boundary is affected. Although repairs to paint or coatings are not subject to the repair/replacement rules of ASME XI (Inquiry 97-22), repairs to the primary containment boundary, not including coatings, if required, would be conducted in accordance with ASME Section XI Code rules.

(1) This requirement does not exist in the 1998 Edition of ASME Section XI.

RELIEF REQUEST No. RR-29
Revision 0
Alternative Criteria for VT-2 Visual Examination Following Repair, Replacement or Modification

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Categories E-A, E-C, E-D and E-G, all Item Numbers.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Paragraph IWE-5240 requires the performance of a visual examination, VT-2, in accordance with the requirements of Paragraph IWA-5240 following repair, replacement, or modification.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested from the Paragraph IWE-5240 requirement to perform a VT-2 visual examination in connection with system pressure testing following repair, replacement or modification under Article IWE-5000.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. Paragraph IWE-5210 states that except as noted within Paragraph IWE-5240, the requirements of Article IWA-5000 are not applicable to Class MC or Class CC components. Paragraph IWE-5240 states that the requirements of Paragraph IWA-5240 (corrected from IWA-5246 to IWA-5240 in the 1993 Addenda) for visual examinations are applicable. Paragraph IWA-5240 identifies a "VT-2" visual examination. VT-2 examinations are conducted to detect evidence of leakage from pressure retaining components, with or without leakage collection systems, as required during the conduct of a system pressure test. In addition, personnel performing VT-2 examinations are required to be qualified in accordance with Subarticle IWA-2300 of ASME Section XI.

Table IWE-2500-1, Examination Category E-P, identifies the examination method of 10CFR50, Appendix J and does not specifically identify a VT-2 visual examination. 10CFR50, Appendix J provides requirements for testing as well as acceptable leakage criteria. These tests are performed by Appendix J "Test" personnel and utilize calibrated equipment to determine acceptability. Additionally, 10CFR50.55a(b)(2)(ix)(E) requires a general visual examination of the containment each period that would identify any structural degradation that may contribute to leakage. Performance of the visual VT-2 examination, during the conduct of these pressure tests, is in most cases impractical, due to accessibility. Access to perform the visual examination of the repaired/replaced area is normally prohibited by either encapsulation of the pressure test boundary (i.e. Local Leak Rate Test) or personnel access restrictions into containment during testing (Integrated Leak Rate Test). VT-2 examination of the repaired/replaced area from the outside surface of the LGS Units 1 and 2 containments during the pressure test would not be meaningful or practical since the majority of the containment outside surface is concrete. A "VT-2" visual examination will not provide additional assurance of safety beyond that of current Appendix J practices.

In accordance with 10CFR50.55a(a)(3)(i), an alternative is requested. Pressure testing in accordance with 10CFR50, Appendix J, provides an adequate level of quality.

RELIEF REQUEST No. RR-29
Revision 0, continued

IV. ALTERNATE PROVISIONS

Testing shall be conducted in accordance with 10CFR50, Appendix J, in lieu of Paragraph IWE-5240 of ASME Section XI. In addition, examinations following repairs or replacements on containment components will be performed in accordance with the PECO Energy ASME Section XI Repair/Replacement Program, Specification M-679.

Specification M-679 provides the administrative guidance for satisfying the requirements of the Section XI Code, as applicable to repairs and replacements of Class 1, 2, 3, MC and CC components and their supports. Sections 8, 9, and 10 of this specification address the need for satisfying the construction code requirements. Section 12 addresses pressure testing of components following repair or replacement, and Section 13 addresses Preservice Inspections (PSI) required of repaired or replaced components. Accordingly, a repair/replacement of a Class MC or Metallic Liner of a Class CC component shall be implemented, as required by the PECO Energy Repair/Replacement Program, Specification M-679, in accordance with the rules of the original construction code. After completion of the repair/replacement, the original construction code-required NDE shall be performed. Following this, the ASME Section XI requirement for Preservice Inspection (PSI) shall be performed, in accordance with the Containment portion of the ISI Program. As required by Section XI, the method of inspection for the PSI shall be the method originally used to detect the condition which required the repair/replacement, and the method required for subsequent Inservice Inspections (ISI).

The examinations required by the PECO Energy Repair/Replacement Program, Specification M-679, will confirm the structural integrity of the repaired or replaced area of the containment. Confirmation of the leak-tight integrity of the area will then be verified by a pressure test in accordance with the requirements of IWE-5220. The system pressure testing shall be conducted, as applicable, in the area of the repair or replacement, per 10CFR50, Appendix J. The pressure testing shall be conducted by personnel trained in the methods of testing the containment vessel, as required by Appendix J, utilizing equipment and procedures routinely used for the periodic pressure testing of the containment. 10CFR50, Appendix J acceptance criteria for the results of the pressure testing assures that the leak tight integrity of the containment vessel will support NRC safety goals.

The above-described examinations and testing assure that the structural integrity and leak-tight integrity of the primary containment will be maintained following any repairs or replacements of the pressure boundary. Nevertheless, a VT-2 visual examination will be performed from the outside surface of the containment, whenever access from the outside surface is available in the area of the repair or replacement being pressure tested.

RELIEF REQUEST No. RR-30
Revision 0
Alternative Criteria for Successive Examination of Repaired Areas

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Categories E-A, E-C, E-D and E-G, all Item Numbers.

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition, 1992 Addenda, Paragraphs IWE-2420(b) and IWE-2420(c) requires that when component examination results require evaluation of flaws, evaluation of areas of degradation, or repairs in accordance with Article IWE-3000, and the component is found to be acceptable for continued service, the areas containing such flaws, degradation, or repairs shall be reexamined during the next inspection period listed in the schedule of the inspection program of Paragraph IWE-2411 or Paragraph IWE-2412, in accordance with Table IWE-2500-1, Examination Category E-C.

In accordance with 10CFR50.55a(a)(3)(ii), an alternative is requested from the requirement of Paragraphs IWE-2420(b) and IWE-2420(c) to perform successive examination of repairs.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. The purpose of a repair is to restore the component to an acceptable condition for continued service in accordance with the acceptance standards of Article IWE-3000. Paragraph IWA-4150 requires the Owner to conduct an evaluation of the suitability of the repair including consideration of the cause of failure.

If the repair has restored the component to an acceptable condition, successive examinations are not warranted. If the repair was not suitable, then the repair does not meet code requirements and the component is not acceptable for continued service. Neither Paragraph IWB-2420(b), Paragraph IWC-2420(b), nor Paragraph IWD-2420(b) requires a repair to be subject to successive examination requirements. Furthermore, if the repair area is subject to accelerated degradation, it would still require augmented examination in accordance with Table IWE-2500-1, Examination Category E-C. The successive examination of repairs in accordance with Paragraphs IWE-2420(b) and IWE-2420(c) constitutes a burden without a compensating increase in quality or safety.[1]

In their resolution to public comment # 3.3, the NRC stated, "The purpose of IWE-2420(b) is to manage components found to be acceptable for continued service (meaning no repair or replacement at this time) as an Examination Category E-C component... If the component had been repaired or replaced, then the more frequent examination would not be needed."

An alternative is requested in accordance with 10 CFR 50.55a(a)(3)(ii). Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

RELIEF REQUEST No. RR-30
Revision 0, continued

IV. ALTERNATE PROVISIONS

Successive examinations in accordance with Paragraphs IWE-2420(b) and IWE-2420(c) are not required for repairs made in accordance with Article IWA-4000.

(1) Repair was deleted in Paragraphs IWE-2420(b) and IWE-2420(c) in the 1997 Addenda of ASME Section XI, and is not included in the 1998 Edition.

RELIEF REQUEST No. RR-31
Revision 0
Alternative Criteria for Examination and Testing of Bolted Connections

I. IDENTIFICATION OF COMPONENTS

Class MC and Metallic Liners of Class CC Components, Examination Category E-G, Pressure Retaining Bolting, Item Numbers E8.10, Bolted Connections (Examination) and E8.20, Bolted Connections (Test).

II. CODE REQUIREMENTS FROM WHICH AN ALTERNATIVE IS REQUESTED

ASME Section XI, 1992 Edition through the 1992 Addenda, Table IWE-2500-1, Examination Category E-G, Pressure Retaining Bolting, Item Number E8.10, requires that Class MC bolted connections be subject to a VT-1 visual examination.

ASME Section XI, 1992 Edition through the 1992 Addenda, Table IWE-2500-1, Examination Category E-G, Pressure Retaining Bolting, Item Number E8.20, requires that Class MC bolted connections be subject to a bolt torque or tension test.

In accordance with 10CFR50.55a(a)(3)(ii), an alternative is requested from the requirements of ASME Section XI 1992 Edition with the 1992 Addenda, Table IWE-2500-1 Examination Category E-G, Pressure Retaining Bolting, Item Numbers E8.10 and E8.20.

III. BASIS FOR ALTERNATIVE

10CFR50.55a was amended in the Federal Register (61FR41303) to require the use of the 1992 Edition, 1992 Addenda, of Section XI when performing containment examinations. Per the 1992 Edition though 1992 Addenda of ASME Section XI, pressure retaining bolted connections require a VT-1 visual examination.

Examination Category E-G visual examinations of pressure-retaining bolting may be performed with the bolting in place under tension and do not require removal or disassembly of the bolted connection solely for the purpose of performing the examination. Only those exposed surfaces of bolting materials need be examined. However, containment surfaces, including bolted connections, are already subject to visual examination in accordance with Table IWE-2500-1, Examination Category E-A. Bolted connections in containment are also subject to the performance of 10CFR50 Appendix J testing.

Containment bolting is not subject to a known degradation mechanism, primarily because it is not in contact with a corrosive environment. There have been no problems with containment bolting identified within the industry. Accordingly, Examination Category E-G has been eliminated from Table IWE-2500-1 in the 1998 Edition of ASME Section XI and the examination requirements for pressure-retaining bolting have been consolidated into Category E-A.

RELIEF REQUEST No. RR-31
Revision 0, continued

The performance of visual examinations on bolted connections in accordance with the 1992 Edition through 1992 Addenda of ASME Section XI, Examination Category E-G represents a hardship with no compensating increase in the level of quality and safety. The reexamination of bolted connections that are already examined as part of Examination Category E-A, and tested in accordance with 10CFR50, Appendix J, unnecessarily increases the number of inservice examinations and the associated radiation exposure to personnel.

In addition to the visual examination of bolted connections, the 1992 Edition through 1992 Addenda of ASME Section XI requires that bolt torque or tension testing be performed on bolted connections that have not been disassembled and reassembled during the inspection interval. Determination of the torque or tension value would require that the bolting be un-torqued and then re-torqued or re-tensioned. The performance of a 10CFR50, Appendix J, Type B test proves that the bolt torque or tension remains adequate to provide a leak rate that is within acceptable limits. The torque or tension value of bolting only becomes an issue if the leak rate is excessive. Once a bolt is torqued or tensioned, it is not subject to dynamic loading that could cause it to experience significant change. Verification of torque or tension values on bolted joints that are proven adequate through Appendix J testing and visual inspection is adequate to demonstrate that design function is met. Torque or tension testing is not required on any other ASME Section XI, Class 1, 2, or 3 bolted connections or their supports as part of the inservice inspection program.

In accordance with 10CFR50.55a(a)(3)(ii), an alternative is requested. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

IV. ALTERNATE PROVISIONS

The following examinations and tests required by Subsection IWE ensure the structural integrity and the leak-tightness of Class MC pressure retaining bolting, and, therefore, no additional alternative examinations are proposed:

1. Exposed surfaces of bolted connections shall be visually examined in accordance with the requirements of Table IWE-2500-1, Examination Category E-A, Containment Surfaces, and

2. Bolted connections shall meet the pressure test requirements of 10CFR50, Appendix J.