

PHILADELPHIA ELECTRIC COMPANY

10 CFR 50.90
10 CFR 50.12

NUCLEAR GROUP HEADQUARTERS
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WAYNE, PA 19087-5691

(215) 640-6000

November 30, 1993

Docket No. 50-352

License No. NPF-39

STATION SUPPORT DEPARTMENT

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

SUBJECT: Limerick Generating Station, Unit 1
Technical Specifications Change Request and Request For Exemption

Gentlemen:

Philadelphia Electric Company (PECo) is submitting Technical Specifications (TS) Change Request No. 93-20-1, in accordance with 10 CFR 50.90, requesting a one-time change to the TS (i.e., Appendix A) of Operating License No. NPF-39 for Limerick Generating Station (LGS), Unit 1. In addition, PECo is requesting a one-time scheduler exemption from 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," in accordance with 10CFR50.12.

TS Change Request No. 93-20-1 involves a one-time 15 month extension of the 40 +/- 10 month interval between the Unit 1 second and third Type A test (i.e., Containment Integrated Leakage Rate Test (CILRT)) required by TS Surveillance Requirement 4.6.1.2.a (i.e., the proposed total interval would be 65 months). There is a difference between the first 10CFR50, Appendix J 10 year service period and the plant inservice inspection (ISI) 10 year period for Unit 1 due to a delay between the performance of the initial (i.e., pre-operational) Type A test in August 1984 and the start of the first 10 year ISI period upon commencement of Unit 1 commercial operation in January of 1986. This proposed TS change and exemption would allow the third Type A test to be performed during the sixth Unit 1 refueling outage scheduled to begin in January 1996, thereby coinciding with the 10 year plant ISI refueling outage, instead of requiring the performance of a Type A test during both the fifth and sixth Unit 1 refueling outages. This one-time extension of the Type A test interval would also result in the third Type A test being performed 20 months after the end of the Unit 1 first 10 year service period specified in 10CFR50, Appendix J (i.e., August, 1994). In this way the third Type A test would be performed during the sixth Unit 1 refueling outage which would align the start of the second 10CFR50, Appendix J, 10 year service period with the start of the second 10 year ISI period.

The NRC has previously approved similar requests for Entergy Operations, Inc., Waterford Steam Electric Station, Unit 3, by letter dated August 12, 1993 and for Union Electric Company, Callaway Plant, Unit 1, by letter dated February 22, 1993.

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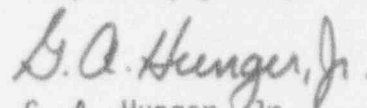
ART 11

Information supporting this TS Change Request and Exemption Request are contained in Attachment 1 to this letter, and the proposed replacement page for the LGS, Unit 1, TS is contained in Attachment 2.

We request that, if approved, the TS Change Request and Exemption Request for LGS, Unit 1, be effective by February 14, 1994 in order to eliminate the required performance of a Type A test during the upcoming fifth Unit 1 refueling outage scheduled to begin on January 29, 1994.

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

Very truly yours,



G. A. Hunger, Jr.
Director
Licensing Section

Attachments

cc: T. T. Martin, Administrator, Region I, USNRC (w/ attachments)
N. S. Perry, USNRC Senior Resident Inspector, LGS (w/ attachments)
W. P. Dornsife, Director, PA Bureau of Radiological Protection
(w/ attachments)

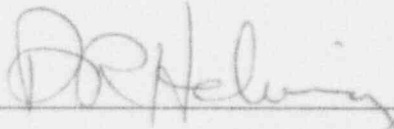
COMMONWEALTH OF PENNSYLVANIA :

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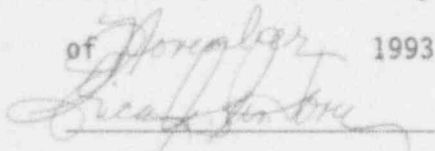
COUNTY OF CHESTER :

D. R. Helwig, being first duly sworn, deposes and says:

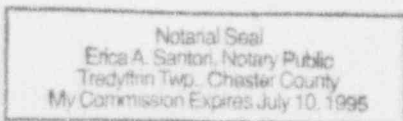
That he is Vice President of Philadelphia Electric Company; the Applicant herein; that he has read the enclosed Technical Specifications Change Request No. 93-20-1 "Extend the Interval Between the Second and Third 10CFR50, Appendix J, Type A Test to the Sixth Unit 1 Refueling Outage Thereby Extending the Third Test Beyond the 10CFR50, Appendix J, First Ten Year Service Period," for Limerick Generating Station, Unit 1, Facility Operating License No. NPF-39 and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.


Vice President

Subscribed and sworn to
before me this 24th day
of November 1993.



Notary Public



ATTACHMENT 1

LIMERICK GENERATING STATION

UNIT 1

Docket No. 50-352

License No. NPF-39

TECHNICAL SPECIFICATIONS CHANGE AND EXEMPTION REQUEST

No. 93-20-1

"Revise Technical Specifications to Extend the Interval
Between the Second and Third 10CFR50, Appendix J Type A Test
to The Sixth Unit 1 Refueling Outage Thereby Extending The Third Test
Beyond the 10CFR50, Appendix J First Ten Year Service Period for Unit 1."

Supporting Information for Changes - 13 pages

Philadelphia Electric Company (PECo), Licensee under Facility Operating License No. NPF 39 for Limerick Generating Station (LGS), Unit 1, requests that the Technical Specifications (TS) contained in Appendix A to the Operating License be amended and an exemption from the requirements of 10CFR50, Appendix J, be granted as proposed herein. We request a one-time TS change and request for exemption to extend the interval between second and third Type A test (i.e., Containment Integrated Leakage Rate Test (CILRT)) required by 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," and TS Surveillance Requirement 4.6.1.2.a. There is a difference between the first 10CFR50, Appendix J 10 year service period and the plant inservice inspection (ISI) 10 year period for Unit 1 due to a delay between the performance of the initial (i.e., pre-operational) 10CFR50, Appendix J Type A test in August 1984 and the start of the first 10 year ISI period upon commencement of Unit 1 commercial operation in January of 1986. This proposed TS change and exemption would allow the third Type A test to be performed during the sixth Unit 1 refueling outage scheduled to begin in January 1996, thereby coinciding with the 10 year plant ISI refueling outage, instead of requiring the performance of a Type A test during both the fifth and sixth Unit 1 refueling outages. This one-time extension of the Type A test interval would also result in the third Type A test being performed 20 months after the end of the Unit 1 first 10 year service period specified in 10CFR50, Appendix J (i.e., August, 1994). In this way the third Type A test would be performed during the sixth Unit 1 refueling outage which would align the start of the second 10CFR50, Appendix J, 10 year service period with the start of the second 10 year ISI period.

This proposed TS change involves revising TS Surveillance Requirement (SR) 4.6.1.2.a on a one-time bases to permit the Type A test, presently required to be performed during the fifth Unit 1 refueling outage in order to comply with the 40 +/- 10 month test interval, to be extended to the sixth Unit 1 refueling outage. As a result, TS SR 4.6.1.2.a will also be revised to allow the third Type A test to be performed after the end of the first 10 year service period specified in 10CFR50, Appendix J.

The proposed change to the TS are indicated by a vertical bar in the margin of the affected TS page. The TS page showing the proposed change is contained in Attachment 2.

The requested exemption involves a one time schedular exemption from the requirements of 10CFR50, Appendix J to perform Type A tests at approximately equal intervals and to perform three Type A tests during each 10 year service period.

We request that, if approved, the amendment to the LGS, Unit 1, TS be effective by, and the associated exemption from 10CFR50, Appendix J, be granted by, February 14, 1994, in order to eliminate performance of a Type A test during the upcoming fifth Unit 1 refueling outage scheduled to begin on January 29, 1994.

This submittal provides a discussion and description of the proposed TS change, a Safety Assessment of the proposed TS change, Information Supporting a Finding of No Significant Hazards Consideration, Justification for the Requested Exemption, and Information Supporting an Environmental Assessment.

Discussion and Description of the Proposed Changes

The current Limerick Generating Station (LGS), Unit 1, Technical Specifications (TS) Surveillance Requirement (SR) 4.6.1.2.a states, "Three Type A Overall Integrated Containment Leakage Rate Tests shall be conducted at 40 +/- 10 month intervals during shutdown at Pa, 44.0 psig, during each 10 year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection."

10CFR50.54(o) requires that primary reactor containments for water cooled power reactors shall be subject to the requirements set forth in 10CFR50, Appendix J. 10CFR50, Appendix J, section III.D.1.(a) states, "After the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each ten year service period. The third test of each set shall be conducted when the plant is shutdown for the 10-year plant inservice inspections."

Currently, TS and 10CFR50, Appendix J would require performing the third Unit 1 Type A test during the fifth Unit 1 refueling outage (i.e., approximately 40 months since the last Type A test) in order to comply with the TS required interval between Type A tests of 40 +/- 10 months and the 10CFR50, Appendix J, requirement that the three Type A tests be performed at approximately equal intervals, since the next opportunity to perform a Type A test on the Unit 1 containment is not until the sixth refueling outage in January, 1996, more than 50 months since the last Type A test. TS and 10CFR50, Appendix J, would also require the third Type A test to be performed during the next (i.e., sixth Unit 1 refueling outage scheduled for January 1996) refueling outage in order to coincide with the end of the 10 year plant inservice inspection (ISI) period. Performing the Type A test during two consecutive refueling outages in order to comply with TS and 10CFR50, Appendix J, would result in an unnecessary increase in personnel radiation exposure and increased cost by unnecessarily increasing the length of one of the two affected refueling outages.

Safety Assessment

The current Limerick Generating Station (LGS), Unit 1 Technical Specifications (TS) Surveillance Requirement (SR) 4.6.1.2.a states, "Three Type A Overall Integrated Containment Leakage Rate Tests shall be conducted at 40 +/- 10 month intervals during shutdown at Pa, 44.0 psig, during each 10 year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection." In addition, 10CFR50, Appendix J, section III.D.1.(a) states, "After the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each ten year service period. The third test of each set shall be conducted when the plant is shutdown for the 10-year plant inservice inspections."

The intent of the Type A test (i.e., Containment Integrated Leakage Rate Test (CILRT)) is to determine that the total leakage from containment does not exceed the maximum allowable leakage rate (i.e., designated L_a) as specified in TS, the Updated Final Safety Analysis Report (UFSAR), and 10CFR50, Appendix J. The LGS Unit 1 containment design maximum allowable leakage rate measured in weight percent/24 hours at the peak accident pressure of 44 psig is 0.5% wt/day. TS and 10CFR50, Appendix J, require this measured Type A test acceptance criterion to be less than or equal to 75% of L_a , or 0.375% wt/day, to allow for deterioration of leakage paths between tests (i.e., a test interval of 40 +/- 10 months between the three tests during each 10 year period). The containment maximum allowable leakage rate, L_a , provides an input assumption to the calculation required to ensure that the maximum allowable offsite dose during a design basis accident, defined in section 15.6.5 of the LGS UFSAR, does not exceed that specified in 10CFR100.

The proposed TS change and exemption introduce the possibility that primary containment leakage in excess of the allowable value would remain undetected during the proposed 15 month extension of the interval between performance of the second and third Type A test for the Unit 1 primary containment. Since the second Unit 1 Type A test was performed in November, 1990, the third Type A test should be performed by January 1995 (i.e., 50 months from the second test) in order to comply with TS SR 4.6.1.2.a and 10CFR50, Appendix J, Section III. D.1(a). The types of mechanisms which could cause the degradation of the containment can be categorized into two types. These are degradation due to work which is performed as part of a modification or maintenance activity (i.e., activity-based), or degradation resulting from a time-based failure mechanism.

Based on a review of activities, we have concluded that there have not been any alterations or challenges to the Unit 1 primary containment since the last Type A test, nor will there be any future maintenance activities during the proposed extended test interval that will adversely affect Unit 1 primary containment leakage rates without implementation of strict administrative controls that require the performance of an individual local leak rate test. Also, scheduled modifications during the proposed extended test interval were reviewed and we have concluded that these modifications do not have the potential to adversely affect the Unit 1 primary containment leakage rate. The review found that the risk of a non-detectable increase of Unit 1 primary containment leakage is considered to be negligible due to the conclusion that 10CFR50, Appendix J, Type B and Type C testing will identify most of the leakage and the LGS Type B and Type C testing program will continue to be performed through-out the proposed extended test interval. Finally, the review assessed the results of previous CILRTs and we concluded that the only failure mechanisms which have been detected during the past CILRTs are activity-based and that there is no indication of time-based failures that would not be identified during the performance of Type B and Type C testing. Therefore, we have concluded that the proposed extended test interval would not result in a non-detectable Unit 1 primary containment leakage rate in excess of the allowable value (i.e., 0.5 wt/day) established by the LGS TS and 10CFR50, Appendix J.

Although our review concluded that the risk of non-detected primary containment degradation is not increased, the Individual Plant Examination (IPE) for LGS, Units 1 and 2, was also reviewed in order to assess the impact of exceeding the primary containment allowable leakage rate, if a non-mechanistic activity type (i.e., time-based) failure were to occur. The IPE included an evaluation of the effect of various containment leakage sizes under different scenarios. The IPE results showed that a containment leakage rate of 35% wt/day would represent less than a 5 % increase in risk to the public of being exposed to radiation. This evaluation was based on a study performed by Oak Ridge National Laboratory which evaluated the impact of leakage rates on public risk. As stated earlier, the current value of L_a for LGS, Unit 1, is 0.5% wt/day, which is significantly less than the 35% wt/day used in the IPE evaluation.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed change to the Limerick Generating Station (LGS), Unit 1, Technical Specifications (TS) to allow a one-time 15 month extension of the 40 +/- 10 month interval between the Unit 1 second and third Type A test (i.e., the total interval would be 65 months) and performance of the third Type A test 20 months after the end of the Unit 1 first ten year service period (i.e., August, 1994) does not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10CFR50.92 is provided below.

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

The accidents which are potentially negatively impacted by the proposed change are any Loss of Coolant Accident (LOCA) inside primary containment as described in the Limerick Generating Station (LGS) Updated Final Safety Analysis Report (UFSAR), section 15.6.5, with or without offsite power available.

The proposed change increases the surveillance interval of the 10CFR50, Appendix J Type A test (i.e., Containment Integrated Leakage Rate Test (CILRT)) from a maximum of 50 months currently allowed by TS Surveillance Requirement 4.6.1.2.a to 65 months. This test is performed to determine that the total leakage from containment does not exceed the maximum allowable primary containment leakage rate (i.e., designated L_a) at a calculated peak containment internal pressure (P_a), as defined in 10CFR50, Appendix J. The primary containment limits the leakage of radioactive material during and following design bases accidents in order to comply with the offsite dose limits specified in 10CFR100. Accordingly, the primary containment is not an accident initiator, it is an accident mitigator. No physical or operational changes to the containment structure, plant systems, or components would be made as a result of the proposed change. Therefore, the probability of occurrence of an accident previously evaluated is not increased.

The failure effects that are potentially created by the proposed one-time TS change have been considered. The relevant components important to safety which are potentially affected are the containment structure, plant systems, and containment penetrations. There are no physical or operational changes to any plant equipment associated with the proposed TS change. Therefore, the probability or consequences of a malfunction of equipment important to safety is not increased.

The proposed change introduces the possibility that primary containment leakage in excess of the allowable value (i.e., L_a) would remain undetected during the proposed 15 month extension of the interval between the second and third Type A test. The types of mechanisms which could cause degradation of the primary containment can be categorized into two types. These are degradation due to work which is performed as part of a modification or maintenance activity (i.e., activity-based), or degradation resulting from a time-based failure mechanism.

To address the potential for degradation due to an activity-based mechanism, we have performed a review of all Unit 1 modifications since the last time the Unit 1 CILRT was performed (i.e., during the third Unit 1 refueling outage) and determined that no modifications were performed which could adversely impact the CILRT boundary. Furthermore, strict administrative controls on maintenance activities are in place at LGS, such as the controls on post maintenance testing (PMT) that ensures that any maintenance activity which affects a primary containment penetration is local leak rate tested after the activity. Finally, we have performed a review of all modifications that are scheduled to be performed during the upcoming fifth Unit 1 refueling outage, and determined that either these modifications will either not impact the boundaries which would be tested during a CILRT, or the as-modified configuration will be adequately tested to ensure there is no degradation of the primary containment. Based on a review of the plant modifications performed and the administrative controls at LGS, we have concluded that there has not been and will be no work performed on the primary containment that would potentially result in the degradation of the primary containment.

To address the potential for primary containment degradation due to a time-based mechanism, the information obtained from additional testing programs was considered. We have concluded that the LGS Local Leak Rate Test (LLRT) program would identify most types of penetration leakage. The LLRT program involves measurement of leakage from Type B and Type C primary containment penetrations as defined in 10CFR50, Appendix J.

The 10CFR50, Appendix J, Type B tests are intended to detect local leaks and to measure leakage across pressure containing or leakage-limiting boundaries other than valves, such as containment penetrations incorporating resilient seals, gaskets, expansion bellows, flexible seal assemblies, door operating mechanism penetrations that are part of the containment system, doors, and hatches. 10CFR50, Appendix J, Type C testing is intended to measure reactor system primary containment isolation valve leakage rates. The frequency of the Type B and Type C testing is not being altered by the proposed TS change. The acceptance criterion for Type B and Type C leakage is $0.6 L_a$ (i.e., 0.3 % wt/day) which, when compared to the Type A test acceptance criterion of $0.75 L_a$ (i.e., 0.375 % wt/day), is a significant portion of the Type A test allowable leakage.

The proposed TS change only extends the interval between two consecutive Type A tests. The Type B and Type C tests will be performed as required. The Type B and Type C tests will continue to be used to confirm that the containment isolation valves and penetrations have not degraded. The CILRT boundary includes the containment structure and the piping from the containment penetration to the first isolation valve. This piping includes some flanged connections which are not tested as part of the LLRT program. The piping system with flanged connections is part of the Containment Atmosphere Control (CAC) system and is not included in the LLRT program. The risk of gasket degradation in these flanged connections is judged to be negligible based on the fact that they are mechanical joints which are seismically supported and operate at low pressure and temperature conditions. Under these service conditions, gaskets are not found to degrade, and are considered to last the life of the plant unless the joint is subjected to maintenance activities. The other containment system components that would not be tested are the containment structure itself and small diameter instrumentation lines. Time-based degradation of any of the instrumentation lines would most likely be identified by faulty instrument indication or during instrument calibrations that will be performed during the fifth Unit 1 refueling outage. In examining the potential for a time-based failure mechanism that could cause significant degradation of the containment structure, we concluded that the risk, if any, of such a mechanism is small since the design requirements and fabrication specifications established for the containment structure are in themselves adequate to ensure containment leak tight integrity.

Based on the above evaluation, we have concluded that the proposed TS change will have a negligible impact on the consequences of any accident previously evaluated. To support this conclusion, a review of the Unit 1 CILRT history was performed. As summarized below, this review identified that the only failure mechanisms that have been detected during the past CILRTs are activity-based, and that there is no indication of any time-based degradation that would not be identified during performance of Type B and Type C tests.

The Unit 1 pre-operational CILRT performed in August 1984 resulted in a total time leakage rate of 0.255% wt/day compared to an acceptance criterion of 0.375% wt/day. The first post-operational Unit 1 CILRT was performed in August 1987. During this CILRT, the leakage rate stabilized at approximately 1.0 % wt/day which failed to meet the TS acceptance criterion of 0.375% wt/day. Investigation revealed packing gland leaks on nine CAC System valves and that this CILRT failure was attributed to these packing gland leaks. The leaks were found to be the result of a modification that replaced bearings on containment purge and vent valves. Local leak rate testing did not reveal these leaks since the packing glands were not included in the test boundary. The CAC valves were repaired and the CILRT was performed again and successfully passed with a measured leakage rate of 0.178 % wt/day compared to the TS acceptance criterion of 0.375% wt/day. Accordingly, the failure of the initial CILRT was an activity-based failure and not a time-based failure. The configuration of the CAC valves was subsequently modified so that the LLRT would identify any packing leaks in the future. In addition, all containment inboard isolation valves that are located outside containment (i.e., the same configuration as the CAC valves) were reviewed and modified as necessary to ensure that the packing would be subject to LLRT pressure.

The results of the second CILRT performed in November 1990 was 0.334% wt/day compared to the acceptance criterion of 0.375% wt/day. We attribute the majority of the measured leakage to Type B and Type C containment boundaries since the containment structure was not altered in any fashion. This conclusion is consistent with the industry data presented by the Nuclear Management and Resources Council (NUMARC) at the NRC Workshop Session on Appendix J Containment Integrated Testing held April 27, 1993.

Although this review concluded that the risk of undetected primary containment degradation is not increased, the Individual Plant Examination (IPE) for LGS, Units 1 and 2, was also reviewed in order to assess the impact of exceeding the primary containment allowable leakage rate, if a non-mechanistic activity type (i.e., time-based) failure were to occur. The IPE included an evaluation of the effect of various containment leakage sizes under different scenarios. The IPE results showed that a containment leakage rate of 35 % wt/day would represent less than a 5 % increase in risk to the public of being exposed to radiation. This evaluation was based on a study performed by Oak Ridge National Laboratory that evaluated the impact of leakage rates on public risk. As stated earlier, the current value of L_a for LGS, Unit 1, is 0.5 % wt/day, which is significantly less than the 35 % wt/day used in the IPE evaluation.

Therefore, the proposed TS change involving a one-time extension of the Type A test interval and performing the third Type A test after the first 10 year service period will not involve an increase in the probability or consequences of an accident previously evaluated.

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

The proposed change is an increase of a surveillance test interval and does not make any physical or operational changes to existing plant systems or components. Primary containment acts as an accident mitigator not initiator. Therefore, the possibility of a different type of accident than any previously evaluated or the possibility of a different type of equipment malfunction is not introduced.

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

3. The proposed TS change does not involve a significant reduction in a margin of safety.

The total primary containment leakage rate ensures that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak accident pressure. As an added conservatism, the measured overall leakage rate is further limited to less than or equal to 0.75 L_a during performance of periodic tests to account for possible degradation of the containment leakage barriers between leakage tests. There is the potential that containment degradation could remain undetected during the proposed 15 month surveillance interval extension and result in the containment leakage exceeding the allowable value assumed in safety analysis. However, the potential primary containment degradation mechanisms due to activity-based and time-based causes

has been reviewed as described above. This review concluded that there has not been any alterations or challenges to primary containment since the last Type A test, nor will there be any future maintenance activities during the proposed extended test interval which will adversely affect primary containment leakage rates without implementation of strict administrative controls that require the performance of individual local leak rate testing. Also, scheduled modifications during the proposed extended test interval were reviewed and we have concluded that these modifications do not have the potential to adversely affect the primary containment boundary. This review found that the risk of a non-detectable increase of primary containment leakage is considered to be negligible due to the conclusion that 10CFR50, Appendix J, Type B and Type C testing will identify most of the containment leakage and the LGS Type B and Type C testing program will continue to be conducted through-out the proposed extended test interval. Finally, this review assessed the results of previous Unit 1 CILRT results and concluded that the only failure mechanisms which have been detected during the past CILRTs are activity-based and that there is no indication of time-based failures that would not be identified during the performance of Type B and Type C tests. Therefore, we have concluded that the proposed extended test interval would not result in a non-detectable Unit 1 primary containment leakage rate in excess of the allowable value (i.e., 0.5% wt/day) established by the TS and 10CFR50, Appendix J.

Therefore, the proposed TS change does not involve a reduction in a margin of safety.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed this proposed change to the Limerick Generating Station (LGS), Unit 1, Technical Specifications (TS) and have concluded that the change does not involve an unreviewed safety question, and will not endanger the health and safety of the public.

Exemption Request

An exemption from 10CFR50, Appendix J, section III.D.1(a) is necessary due to a difference between the Limerick Generating Station (LGS), Unit 1 first 10 year service period as defined in 10CFR50, Appendix J, and the Unit 1 first 10 year inservice inspection (ISI) period.

10CFR50.54(o) requires that the primary reactor containments for water cooled power reactors shall be subject to the requirements set forth in 10CFR.50, Appendix J. 10CFR50, Appendix J, section III.D.1.(a) states, "After pre-operational leakage rate test, a set of three Type A tests shall be performed, at approximately equal intervals during each ten year service period. The third test of each set shall be conducted when the plant is shutdown for the ten-year plant inservice inspections."

The Unit 1 pre-operational Type A test was performed in August 1984; however, Unit 1 did not commence commercial operation, and therefore the first 10 year ISI period did not start, until January 1986. Accordingly, the end of the first 10 year service period is August 1994, and the end of the first 10 year ISI period is January 1996. Therefore, we are proposing to re-align the Type A test service period with the ISI period by requesting an exemption to 10CFR50, Appendix J to extend the interval between the second and third Type A test by 15

months (i.e., the interval would be 65 months) and to perform the third Type A test 20 months after the end of first 10 year service period (i.e., 11 years, 8 months since the pre-operational test).

The 10 CFR 50, Appendix J, requirement that the Type A tests be performed at approximately equal intervals would require the performance of a Type A Test during the upcoming fifth Unit 1 refueling outage scheduled to start on January 29, 1994. 10CFR50, Appendix J, also requires that the third Type A test during the 10 year service period shall be conducted where the plant is shutdown for the 10 year plant inservice inspections. This would require the performance of another Type A test during the Unit 1 sixth refueling outage that is scheduled to begin in January 1996, since this sixth refueling outage comes at the end of the 10 year inservice inspection period. In order to avoid performing two consecutive type A tests unnecessarily, a request for a schedular exemption that would extend the Unit 1, third test interval (i.e., the time between the second and third Type A tests) which is not approximately equal to the first two test intervals is necessary. This schedular exemption includes a request to perform the third, Unit 1, Type A test 20 months after the end of the first service period.

Performing the Type A test during two consecutive refueling outages to comply with 10CFR50, Appendix J would result in an unnecessary increase in personnel radiation exposure and increased cost by unnecessarily increasing the length of one of the two affected refueling outages.

Justification for the Exemption

We are requesting a one-time (i.e., temporary) schedular exemption from 10CFR50, Appendix J, section III.D.1(a) which establishes the periodic test schedule for Type A tests (i.e., Containment Integrated Leakage Rate Test (CILRT)), specifically the 10CFR50, Appendix J, requirement that three Type A tests be performed at approximately equal intervals during the 10 year service period.

The purpose of this requirement is to determine that the total leakage from primary containment does not exceed the maximum allowable leakage rate, L_a , as specified in the Limerick Generating Station (LGS) Facility Operating License. This primary containment maximum allowable leakage rate provides an input assumption to the calculation required to ensure that the maximum potential offsite dose during a design basis accident, defined in section 15.6.5 of the LGS Updated Final Safety Analysis Report (UFSAR), does not result in a dose in excess of that specified in 10CFR100.

Based on a review of activities, we have concluded that there have not been any alterations or challenges to the Unit 1 primary containment since the last Type A test, nor will there be any future maintenance activities during the proposed extended test interval that will adversely affect Unit 1 primary containment leakage rates without implementation of strict administrative controls that require the performance of an individual local leak rate test. Also, scheduled modifications during the proposed extended test interval were reviewed and we have concluded that these modifications do not have the potential to adversely affect the Unit 1 primary containment leakage rate. The review found that the risk of a non-detectable increase of Unit 1 primary containment leakage is considered to be negligible due to the conclusion that 10CFR50, Appendix J, Type B and Type C testing will identify most of the leakage and the LGS Type B

and Type C testing program will continue to be performed through-out the proposed extended test interval. Finally, the review assessed the results of previous CILRTs and we concluded that the only failure mechanisms which have been detected during the past CILRTs are activity-based and that there is no indication of time-based failures that would not be identified during the performance of Type B and Type C testing. Therefore, we have concluded that the proposed extended test interval would not result in a non-detectable Unit 1 primary containment leakage rate in excess of the LGS allowable value (i.e., 0.5 wt/day) established by 10CFR50, Appendix J. Based on the above technical justification we request a one-time exemption of the requirements of 10 CFR 50, Appendix J, section III.D.1(a), in accordance with three of the criteria of 10 CFR 50.12.

The NRC may, upon application, grant exemptions from the requirements of 10CFR50, where special circumstances are present. 10CFR50.12(a)(2)(ii) defines such a circumstance where, "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule..." The underlying purpose of 10CFR50, Appendix J, section III.D.1(a) is to establish and maintain a level of confidence that any primary containment leakage, during a hypothetical design basis accident, will remain less than or equal to the maximum allowable value, L_a , established by 10CFR50, Appendix J, by performing periodic Type A testing. 10CFR50, Appendix J, requires that the third, Unit 1, Type A test be performed during two consecutive Unit 1 refueling outages scheduled 24 months apart. This is not necessary to achieve the underlying purpose of the rule, as explained in the above technical justification. The technical justification supports the conclusion that the requested scheduler exemption to extend the Unit 1, third Type A test, by 15 months will maintain the same level of confidence that any Unit 1 primary containment leakage will remain less than or equal to the maximum allowable leakage rate value, L_a , during the proposed one-time extension.

10CFR50.12(a)(2)(iii) states the NRC may grant exemptions from requirements of 10CFR50 where, "Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated..." The current LGS Unit 1, Type A test schedule established by 10CFR50, Appendix J, section III.D.1.a, will require that the Type A test be performed during two consecutive Unit 1 refueling outages. This current test schedule will result in unnecessary additional personnel radiation exposure in order to perform the test and unnecessary costs associated with an increase in the refueling outage length of two days.

Finally, 10CFR50.12(a)(2)(v) states the NRC may grant exemptions from requirements of 10CFR50 where, "The exemption would provide only temporary relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation..." The requested exemption would provide only temporary relief pertaining only to the third, Unit 1, Type A test interval and only the first 10 year service period. Approval of this one time exemption would align the start of the second 10 year service period with the start of the second 10 year inservice inspection period. Nevertheless, provisions have been made to perform the third Unit 1 Type A test during the fifth Unit 1 refueling outage.

Information Supporting an Environmental Assessment

An Environmental Assessment is not required for the one-time Technical Specifications (TS) change proposed by this Change Request because the requested change to the Limerick Generating Station (LGS), Unit 1, TS conform to the criteria for "actions eligible for categorical exclusion," as specified in 10CFR51.22(c)(9). The requested TS change will have no impact on the environment. The proposed TS change does not involve a Significant Hazards Consideration as discussed in the preceding safety assessment section. The proposed change does not involve a significant change in the types or significant increase in the amounts of any effluent that may be released offsite. In addition, the proposed TS change does not involve a significant increase in individual or cumulative occupational radiation exposure.

With respect to the requested exemption for LGS, Unit 1, the following information is provided to support an Environmental Assessment.

Identification of Proposed Action

The proposed action is to grant an exemption from 10 CFR 50, Appendix J, Section III.D.1.(a) which requires a set of three Type A tests (i.e., Containment Integrated Leakage Rate Test (CILRT)) to be performed at approximately equal intervals during each 10 year service period and specifies that the third test of each set shall be conducted when the plant is shut down for the performance of the 10 year plant inservice inspection (ISI). This one-time exemption would allow the third, Unit 1, Type A test to be performed during the sixth Unit 1 refueling outage scheduled to begin in January 1996, approximately 65 months after the last Unit 1 test, thereby coinciding with the 10 year plant ISI refueling outage. Furthermore, this one-time exemption would result in the third Type A test not being performed at an interval approximately equal to previous intervals (i.e., approximately 40 months) during the first 10 year service period, and the third Unit 1 Type A test would be performed after the end (i.e., 20 months) of the first 10 year service period. Without the exemption, the Unit 1 third Type A test would be required to be performed during the fifth Unit 1 refueling outage scheduled to start on January 29, 1994 (i.e., approximately 40 months since the last Unit 1 Type A test), and during the sixth Unit 1 refueling outage, scheduled to begin in January 1996, to coincide with the 10 year ISI refueling outage.

The Need for the Proposed Action

The requested exemption is needed because the requirements of 10CFR50, Appendix J, and the current Unit 1 refueling outage schedule, would require that the 10 CFR 50, Appendix J, Type A test be performed during two consecutive refueling outages. There is a difference between the first 10CFR50, Appendix J 10 year service period and the plant inservice inspection (ISI) 10 year period for Unit 1 due to a delay between the performance of the initial (i.e., pre-operational) 10CFR50, Appendix J Type A test in August 1984 and the start of the first 10 year ISI period upon commencement of Unit 1 commercial operation in January of 1986. Without this exemption, the 10CFR50, Appendix J, Type A test would be required to be performed during the fifth Unit 1 refueling outage scheduled to begin in January 1994, at an interval approximately equal to the previous Unit 1 Type A test intervals (i.e., approximately 40 months since the

last test), and during the sixth Unit 1 refueling outage scheduled to begin in January 1996, in order to coincide with the first 10 year ISI refueling outage.

Environmental Impacts of the Proposed Action

The requested exemption would not significantly increase the probability of exceeding the maximum allowable value of expected primary containment leakage (i.e., L_a , established by 10CFR50, Appendix J), during a hypothetical design basis accident, therefore, the primary containment integrity would be maintained. Although the requirements in 10 CFR 50, Appendix J, section III.D.1(a) state that three Type A tests shall be performed in each 10 year service period and at approximately equal intervals during that service period, we have concluded that performing the third Type A test of first 10 year service period approximately 65 months after the second Type A test and approximately 20 months after the end of the first 10 year service period would meet the underlying purpose of the rule, that any primary containment leakage during a hypothetical design basis accident will remain less than the maximum allowable leakage rate value, L_a , established by 10 CFR 50, Appendix J. This determination was made based on the following assessment.

There is the potential that containment degradation could remain undetected during the proposed 15 month surveillance interval extension and result in the containment leakage exceeding the allowable value assumed in the safety analysis. However, the potential primary containment degradation mechanisms due to activity-based and time-based causes have been reviewed. This review concluded that there has not been any alterations or challenges to primary containment since the last Type A test, nor will there be any future maintenance activities during the proposed extended test interval which will adversely affect primary containment leakage rates without implementation of strict administrative controls that require the performance of individual local leak rate testing. Also, scheduled modifications during the proposed extended test interval were reviewed and we have concluded that these modifications do not have the potential to adversely affect the primary containment boundary. This review found that the risk of a non-detectable increase of primary containment leakage is considered to be negligible due to the conclusion that 10CFR50, Appendix J, Type B and Type C testing will identify most of the containment leakage and the LGS Type B and Type C testing program will continue to be conducted through-out the proposed extended test interval. Finally, this review assessed the results of previous Unit 1 CILRT results and concluded that the only failure mechanisms which have been detected during the past CILRTs are activity-based and that there is no indication of time-based failures that would not be identified during the performance of Type B and Type C tests. Therefore, we have concluded that the proposed extended test interval would not result in a non-detectable Unit 1 primary containment leakage rate in excess of the allowable value (i.e., 0.5% wt/day) established by 10CFR50, Appendix J.

Accordingly, the consequences of an accident would not be increased, that is, the post-accident radiological releases would not be greater than previously determined. The requested exemption would not affect plant radiological effluents. Therefore, there are no significant radiological environmental impacts associated with the requested exemption. With regard to potential nonradiological impacts, the requested exemption involves a one-time schedular change to surveillance and testing requirements. It does not affect non-radiological plant effluents and has no other environmental impact.

Alternative to the Proposed Action

Since we have concluded that there is no significant environmental impacts associated with the requested exemption, any alternatives would have either no or greater environmental impact.

The principal alternative would be to deny the requested exemption which would require the performance of a 10CFR50. Appendix J, Type A test during two consecutive Unit 1 refueling outages. This would not reduce the environmental impact attributed to the facility as compared to the impact of granting the requested exemption.

Alternative Use of Resources

This proposed exemption does not involve the use of any resources not previously considered in connection with the Nuclear Regulatory Commission's Final Environmental Statement dated, April 1984, related to the operation of the Limerick Generating Station, Unit 1 and Unit 2.

Information Supporting a Finding of No Significant Impact

We have concluded, based on the preceding environmental assessment, that the proposed action will not have a significant effect on the quality of the human environment, therefore, an environmental impact statement for the requested exemption would not be required.