

**PERRY NUCLEAR POWER PLANT**

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**Donald C. Shelton**  
SENIOR VICE PRESIDENT  
NUCLEAR

February 17, 1996  
PY-CEI/NRR-2027L

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
License Amendment Request: Main Steam Isolation  
Valve Leakage Rate Modification Request - Exigent Change

Gentlemen:

Enclosed please find an application for a change to the Perry Nuclear Power Plant Unit 1 Technical Specifications, reflecting a modification of the leakage rate requirements for the main steam lines until the end of Operating Cycle 6. Granting this request will allow the plant to start up and operate after the completion of Refueling Outage 5 with the as-found leakage on the Main Steam Isolation Valves.

Attachment 1 provides a Summary, Statement of Exigent Circumstances, Safety Analyses, Description of the Proposed Technical Specification Changes, and the Environmental Consideration. Attachments 2 and 3 provide a marked-up copy of the affected Technical Specification page in both the current and improved Technical specification format. Attachment 4 provides the Significant Hazards Consideration.

These issues were discussed with members of the NRC staff on February 12, 1996, and this request is being submitted under exigent circumstances. The present schedule would place the facility in Operational Condition 2 on or about March 25, 1996. The present requirements for main steam line leakage rates would prevent the shift to Operational Condition 2, and the subsequent resumption of power operation.

Issuance of the proposed changes is requested by March 17, 1996, so that the resumption of power operation can be accomplished in accordance with the present schedule.

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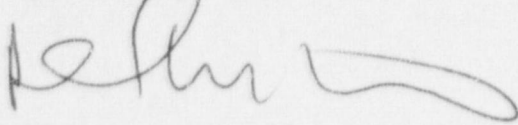
Operating Companies  
Cleveland Electric Illuminating  
Toledo Edison

ADM

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If you have questions or require additional information, please contact  
Mr. James D. Kloosterman, Manager - Regulatory Affairs at (216) 280-5833.

Very truly yours,

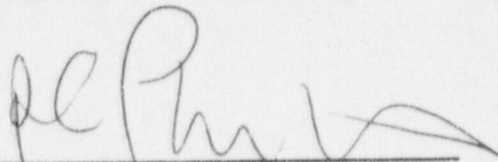
A handwritten signature in dark ink, appearing to be 'J. Kloosterman', written over a horizontal line.

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Attachments

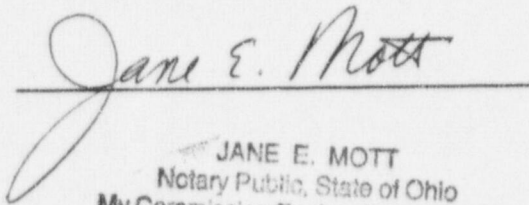
cc: Region III Administrator  
Resident Inspector Office  
NRC/NRR Project Manager  
State of Ohio

I, Donald C. Shelton, being duly sworn state that (1) I am Senior Vice President, Nuclear of the Centerior Service Company, (2) I am duly authorized to execute and file this certification on behalf of The Cleveland Electric Illuminating Company and Toledo Edison Company, and as the duly authorized agent for Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.



Donald C. Shelton

Sworn to and subscribed before me, the 17<sup>th</sup> day of February,  
1996.



JANE E. MOTT  
Notary Public, State of Ohio  
My Commission Expires Feb. 20, 2000  
(Recorded in Lake County)

SUMMARY

The Perry Nuclear Power Plant (PNPP), Unit 1, Technical Specification (TS) 3.6.1.2 requires that the primary containment leakage rates shall be limited to less than or equal to 25 standard cubic feet per hour (SCFH) for any one main steam line through the isolation valves when tested at the calculated peak containment pressure (Pa). On February 11, 1996, it was determined that the "C" main steam line had a leakage rate of 28.1 SCFH which could not be accounted for by leakage paths other than the Main Steam Isolation Valves (MSIVs), and that the most likely source of the leakage was the inboard MSIV. The other 3 main steam line penetrations have also been tested and leakage through each of the penetrations meets the 25 SCFH limit.

Each main steam line penetration consists of four isolation valves which are pressurized simultaneously to Pa. The inboard containment isolation barrier is provided by an Atwood Morrill (A/M) Main Steam Isolation Valve (MSIV). The seat of the inboard MSIV is the containment boundary since leakage past its packing or flange gasket would be contained within the Drywell. The outboard containment isolation barrier is provided by three valves, an outboard A/M MSIV, a before seat drain valve and an MSIV leakage control system isolation valve. Pa is applied between the inboard and outboard isolation valves and the leakage rate is determined by measuring the air flow necessary to maintain the test pressure.

Leakage measured using this method could be from any of the four isolation valves. Depending on the quantity of the total leakage, leakage from individual valves can then be estimated by observing the leakage rate change when system manipulations are performed. Examples of system manipulations include closing a system isolation valve downstream of the containment isolation valve boundary or pressurizing downstream of the containment isolation valve(s) in order to reduce the leakage. By performing these system manipulations, the leakage through each valve can be estimated. Leakage control system isolation valves and the drain valves can be disassembled and plugged to determine their leakage.

Given below are the as-found minimum pathway leakage rate results from the testing performed this outage for each main steam line.

Main Steam Line	Leakage Rate
A	21.1 + 1.3 SCFH
B	9.6 + 1.3 SCFH
C	28.1 + 1.3 SCFH
D	10.6 + 1.3 SCFH
TOTAL	$\frac{69.4}{-} + \frac{5.2}{-}$ SCFH

The leakage indicated above for the "C" main steam line has been determined to be from the inboard MSIV. Thus, this penetration pathway will exceed the current value of 25 SCFH specified in TS 3.6.1.2. Testing also demonstrated that leakage exists through the "A" main steam line outboard drain isolation valve and the "C" main steam line MSIV leakage control system isolation valve.

Based on the results of the leak rate testing of the main steam line penetrations, it is appropriate to restore from testing, perform maintenance on the drain valve and MSIV leakage control valve known to be leaking, continue with the present outage schedule, and start up the facility in late March without working on the "C" inboard MSIV. This conclusion is based on several factors: the leakage rate of the "C" inboard MSIV, although slightly greater than the present TS limit, is not excessive; the total leakage through all four of the main steam lines is less than the 100 SCFH assumed in the accident analysis; MSIV performance is such that it is not expected that leakage will increase appreciably during the next operating cycle; and that for ALARA purposes it is prudent to minimize work in the drywell.

The scheduled date for entering Operational Condition 2 (the first time that TS 3.6.1.2 would be applicable) is March 25, 1996, and is likely to be accelerated. The present TS requirements would prevent the plant from making this Operational Condition change. If the requested changes are not granted by this time, the plant would be prevented from resuming power operation. This would result in a costly extension to the outage with no corresponding benefit to safety, since the overall main steam line leakage rate is within that assumed in the accident analysis. For this reason it is requested that this proposed change be approved by March 17, 1996. Due to the timing involved, this request should be processed under exigent circumstances. The discussion of the reasons for exigency are given below.

#### STATEMENT OF EXIGENT CIRCUMSTANCES

10 CFR 50.91(a)(6) requires that change requests submitted under exigent circumstances be explained. The need for a change to the main steam line leakage rate limits became apparent on February 11, 1996, during surveillance testing of the main steam lines. As discussed above, the plant would be restricted from entering Operational Condition 2 (Start Up) if either the leakage rate for the "C" inboard MSIV is not restored to within the existing limits, or the leakage rate limits are not changed to account for the additional leakage found during testing. It is appropriate and justifiable to adjust the leakage rate limit for this main steam line to account for the additional leakage, and not to perform a major repair operation on the MSIV. However, there is not sufficient time for the change request to be processed under the normal review process. This request has been submitted in a timely fashion since discovery that the "C" main steam line exceeded the leakage rate limits. Therefore, the circumstances surrounding the submittal of this change request at this time could not have been avoided.

#### SAFETY ANALYSIS

The proposed change would permit one main steam line to have a leakage rate of less than or equal to 35 SCFH leakage rate through the isolation valves when tested at Pa, as long as the combined leakage rate through all four main steam lines is less than or equal to 100 SCFH. This preserves the overall leakage requirement of the four main steam line penetrations, while at the same time permitting the one main steam line to have an increased leakage limit. It is estimated that the leakage rate of the four main steam lines will be less than 75 SCFH at the time of plant start up, well below the overall combined limit of 100 SCFH. The accident analysis assumes that the MSIVs have a combined leakage rate of 100 SCFH. Therefore, this proposed change does not affect any accident analysis.

Performing maintenance on the "C" inboard MSIV is costly and would provide no significant benefit to safety. The projected radiation exposure to the personnel performing the maintenance and testing is estimated to be approximately 2 man-rem, and the time estimates based on previous experiences with MSIV repairs is approximately 2200 man-hours of work.

Thus, the appropriate course of action is to adjust the limit on a one cycle basis, and eliminate this work and radiation exposure from the outage.

This proposed TS change would only be in effect until the completion of Operating Cycle 6. Reviews are presently underway which would result in a change request to eliminate the need for the MSIV leakage control system, and which would permit increased main steam line leakage limits. It is presently expected that these reviews will be completed in time to make a submittal such that the MSIV leakage rate limits would be increased by the end of Refueling Outage 6. Changes similar to what is currently under review have been approved at other boiling water reactors, such as at the Limerick Generating Station.

#### DESCRIPTION OF THE PROPOSED TECHNICAL SPECIFICATION CHANGE

Refer to Attachments 2 and 3 for a marked-up copy of the affected Technical Specification pages in the current and improved Technical Specification formats. As cited above, a change to the leakage rate limits for main steam lines is being requested to allow for plant start up and a return to power operation.

#### ENVIRONMENTAL CONSIDERATION

The proposed Technical Specification change request was evaluated against the criteria of 10 CFR 51.22 for environmental considerations. The proposed change does not increase the types and amounts of effluents that may be released offsite, does not significantly increase individual or cumulative occupational radiation exposures, and, as discussed in Attachment 4, does not involve a significant hazards consideration. Based on the foregoing, it has been concluded that the proposed Technical Specification change meets the criteria given in 10 CFR 51.22(c)(9) for categorical exclusion from the requirement for an Environmental Impact Statement.