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October 30, 2002 PY-CEI/NRR-2656L

United States Nuclear Regulatory Commission Document Control Desk Washington, DC 20555

Perry Nuclear Power Plant Docket No. 50-440 License Amendment Request Pursuant to 10 CFR 50.90: Elimination of the Requirements for the Post Accident Sampling System Using the Consolidated Line Item Improvement Process

Ladies and Gentlemen:

Nuclear Regulatory Commission (NRC) review and approval of a license amendment for the Perry Nuclear Power Plant (PNPP) is requested. The proposed changes to the Technical Specifications deletes Technical Specification (TS) 5.5.3, "Post Accident Sampling", which would eliminate the requirements to have and maintain a Post Accident Sampling System (PASS); and incorporates a caveat into TS 5.5.2, "Primary Coolant Sources Outside Containment", that would permit the elimination of the Post Accident Sampling System from the leakage sources if a system modification would be pursued. The changes are consistent with NRC approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)." The availability of this Technical Specification improvement was noticed in the Federal Register on December 27, 2001 (66 FR 66949) and March 20, 2002 (67 FR 13027) as part of the Consolidated Line Item Improvement Process (CLIIP).

Approval of the license amendment is requested prior to April 1, 2003, with the amendment being implemented 180 days following the approval of the amendment. The approval date was administratively selected to allow for NRC review, however, the plant does not require this amendment to allow continued safe full power operation. Approval of this amendment reflects a cost beneficial licensing change based upon the flexibility provided to respond to obsolescence, maintenance, and training issues; and utilization of plant staff.

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If you have questions or require additional information, please contact Mr. Todd A. Henderson, Manager - Regulatory Affairs, at (440) 280-5889.

Very truly yours,

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Attachment 1: Notarized Affidavit Attachment 2: Evaluation of the Proposed Technical Specification Changes, Including a Summary, Description, Assessment, Regulatory Analysis, and Environmental Consideration Attachment 3: Significant Hazards Consideration

Attachment 4: Technical Specification Pages Annotated with Proposed Change Attachment 5: List of Commitments

cc: NRC Project Manager NRC Resident Inspector NRC Region III State of Ohio

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I, William R. Kanda, hereby affirm that (1) I am Vice President - Perry, of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification as the duly authorized agent for The Cleveland Electric Illuminating Company, Toledo Edison 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.

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William R. Kanda

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Subscribed to and affirmed before me, the <u>30</u> day of <u>0</u>

JANE E. MOTT Notary Public, State of Ohio My Commission Expires Feb. 20, 2005 (Recorded in Lake County)

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SUMMARY

This license amendment proposes to eliminate the requirements for maintaining a Post Accident Sampling System described in Technical Specification (TS) 5.5.3, "Post Accident Sampling", and incorporates a caveat into TS 5.5.2, "Primary Coolant Sources Outside Containment", that would permit the elimination of the Post Accident Sampling System from the leakage sources if a system modification would be pursued. These changes are based upon implementation of the NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)." The availability of this Technical Specification improvement was noticed in the Federal Register on December 27, 2001 (66 FR 66949) and March 20, 2002 (67 FR 13027) as part of the Consolidated Line Item Improvement Process (CLIIP).

DESCRIPTION OF THE PROPOSED TECHNICAL SPECIFICATION CHANGE

Within TS 5.5.2, "Primary Coolant Sources Outside Containment", insert the following phrase after the words "Post Accident Sampling System": "(until such time as a modification eliminates a PASS penetration as a potential leakage path)."

Replace the contents of TS 5.5.3, "Post Accident Sampling", with the word "Deleted."

There are no Technical Specification Bases changes associated with this license amendment. TSTF-413 recommended a change to the Bases of Technical Specification 3.3.3.1, "PAM Instrumentation", ACTION D.1. However, ACTION D.1 (as described within the Standard Technical Specifications) is not applicable to PNPP. Therefore, the Bases change proposed by TSTF-413 is not applicable to PNPP.

ASSESSMENT

BACKGROUND

In the aftermath of the accident at Three Mile Island (TMI), Unit 2, the Nuclear Regulatory Commission (NRC) imposed requirements on licensees to install and maintain the capability to obtain and analyze post-accident samples of reactor coolant and containment atmosphere. The desired capabilities of the Post Accident Sampling System (PASS) were described in NUREG-0737, "Clarification of TMI Action Plan Requirements." The requirement for PASS and the related administrative controls were included in each licensee's Technical Specifications (TS). Significant improvements have been achieved since the TMI accident in the areas of understanding the risks associated with nuclear plant operations and developing better strategies for managing the response to potentially severe accidents. Recent insights into plant risks and alternate severe accident assessment tools have led the NRC staff to conclude that some TMI Action Plan items (in this case, the PASS requirements) could be revised without reducing the ability of licensees to respond to severe accidents.

In light of the above, the Boiling Water Reactor Owners Group (BWROG) developed Topical Report NEDO-32991, Revision 0, "Regulatory Relaxation for BWR Post Accident Sampling Stations (PASS)", which evaluated the PASS to determine its contribution to plant safety and accident recovery. The topical report considered the progression and consequences of

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core damage accidents, and assessed the accident progression with respect to plant abnormal and emergency operating procedures, severe accident management guidance, and emergency plans. The topical report concluded that the current PASS requirements specified in NUREG-0737 could be eliminated since alternate means existed to obtain information that might be necessary for accident assessment.

The BWROG submitted the topical report to the NRC for review and approval in November, 2000. In performing the review of the topical report, the NRC staff reviewed the available sources of information for use by decision-makers in developing protective action recommendations and assessing core damage. Based on this review, the NRC found that the information provided by PASS is either unnecessary or is effectively provided by other indications of process parameters or measurement of radiation levels. Therefore, the NRC approved the topical report as documented in a Safety Evaluation Report dated June 12, 2001 (ADAMS Accession Number ML011630016). In accordance with the Safety Evaluation Report, the topical report was redesignated NEDO-32991-A. With the approval of the topical report by the NRC, licensees could then remove the TS requirements for PASS, and revise (as necessary) other elements of the licensing bases associated with PASS, as long as the requirements of the topical report and the NRC Safety Evaluation Report were satisfied.

Since the regulatory relaxation of PASS requirements would be germane to each BWR licensee, an Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)", was approved for use. The NRC, in order to improve the efficiency of the licensing process, issued the PASS relaxation described in TSTF-413 under the Consolidated Line Item Improvement Process (CLIIP). The CLIIP was noticed for availability of use by BWR licensees in the Federal Register on December 27, 2001 (66 FR 66949) and March 20, 2002 (67 FR 13027).

OPTIONAL CHANGES AND VARIATIONS

The proposed amendment is based on changes proposed in TSTF-413 and the NRC's safety evaluation noticed on December 27, 2001 and March 20, 2002.

As described in the December 27, 2001 Federal Register notice, the NRC notes that as a result of the implementation of the PASS CLIIP, licensees may opt to modify the PASS. These modifications could affect Technical Specification 5.5.2, "Primary Coolant Sources Outside of Containment." This TS implements the program that monitors and minimizes leakage from those systems, including the PASS, that are located outside of containment that could contain highly radioactive fluids during an accident event. The NRC, within the Federal Register notice, provides the option for licensees to change TS 5.5.2 to incorporate the potential for PASS modifications by including a statement that the PASS will not be eliminated from the TS 5.5.2 program until such time that modifications can be made that would isolate the system from the capability to contain highly radioactive fluids during an accident event. This license amendment request includes this option. As stated in the Federal Register notice, if a modification is pursued to eliminate the PASS as a potential leakage path, this change would simplify the license amendment to remove reference to this leakage path.

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APPLICABILITY OF NEDO-32991-A

The PNPP staff has evaluated NEDO-32991-A for applicability to PNPP. The evaluation included a review of the 15 sampling capabilities listed therein. The evaluation determined that the topical report is applicable to PNPP.

APPLICABILITY OF SAFETY EVALUATION FOR NEDO-32991-A

The PNPP staff has evaluated the NRC safety evaluation for NEDO-32991-A. The PNPP staff has concluded that the NRC safety evaluation is applicable to PNPP.

APPLICABILITY OF TSTF-413

The PNPP staff reviewed TSTF-413 and determined that the changes proposed by this license amendment are consistent with the changes proposed within the TSTF.

REGULATORY ANALYSIS

SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Significant Hazards Consideration Determination for the proposed Technical Specification changes is contained in Attachment 3. The Significant Hazards Consideration Determination is consistent with the NRC Proposed No Significant Hazards Consideration Determination that was published in the Federal Register dated December 27, 2001 (66 FR 66949) as part of the CLIIP.

VERIFICATIONS AND COMMITMENTS

The CLIIP required each licensee to either: 1) verify that it has and to commit to maintaining certain assessment capabilities, or 2) to commit to develop and to maintain certain assessment capabilities. The following provides the PNPP response to the three CLIIP conditions:

- 1. Contingency plans for obtaining and analyzing highly radioactive samples of reactor coolant, suppression pool, and containment atmosphere will be developed. A description of the contingency plans will be contained in either the Emergency Plan or the Emergency Plan implementing procedures. These contingency plans will be implemented within 180 days after approval of the license amendment and no later than concurrent with the implementation of the amendment. The development of the contingency plans is considered a regulatory commitment.
- 2. The capability for classifying fuel damage events at the Alert level threshold has been established at 2-5% fuel clad damage. This level of core damage is associated with reactor coolant radioactivity levels of 300 μ Ci/gm dose equivalent iodine. This capability will be described in the Emergency Plan, and implemented within 180 days after approval of the license amendment and no later than concurrent with the implementation of the amendment. The capability for classifying fuel damage events is considered a regulatory commitment.

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3. The capability to monitor radioactive iodines that have been released offsite to the environs has been verified. This capability is described in both the Emergency Plan and its implementing procedures. The capability to monitor radioactive iodines is considered a regulatory commitment.

Attachment 5 provides a listing of the commitments associated with this license amendment.

ENVIRONMENTAL CONSIDERATION

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The proposed Technical Specification change request was evaluated against the criteria of 10 CFR 51.22 for environmental considerations. The proposed change does not significantly increase individual or cumulative occupational radiation exposures, does not significantly change the types or significantly increase the amounts of effluents that may be released off-site, and as discussed in Attachment 3, does not involve a significant hazards consideration. Based upon the preceding discussion 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.

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SIGNIFICANT HAZARDS CONSIDERATION

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The proposed amendment is requesting Nuclear Regulatory Commission review and approval of changes to the Perry Nuclear Power Plant (PNPP) Technical Specifications to delete the requirements to maintain a Post Accident Sampling System (PASS). The changes are consistent with the NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)." The availability of this Technical Specification improvement was noticed in the Federal Register on December 27, 2001 (66 FR 66949) and March 20, 2002 (67 FR 13027) as part of the Consolidated Line Item Improvement Process (CLIIP).

The standards used to arrive at a determination that a request for amendment involves no significant hazards considerations are included in the Nuclear Regulatory Commission's regulation, 10 CFR 50.92, which states that the operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any previously evaluated; or (3) involve a significant reduction in a margin of safety.

The proposed amendment has been reviewed with respect to these three factors and it has been determined that the proposed change does not involve a significant hazard because:

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

The PASS was originally designed to perform many sampling and analysis functions. These functions were designed and intended to be used in post accident situations, and were put into place as a result of the Three Mile Island (TMI) 2 accident. The specific intent of the PASS was to provide a system that has the capability to obtain and analyze samples of plant fluids containing potentially high levels of radioactivity. without exceeding plant personnel radiation exposure limits. Analytical results of these samples would be used largely for verification purposes in aiding the plant staff in assessing the extent of core damage and subsequent offsite radiological dose projections. The system was not intended to and does not serve a function for preventing accidents, and its elimination would not affect the probability of accidents previously evaluated. In the 23 years since the TMI 2 accident, and the consequential promulgation of post accident sampling requirements, operating experience has demonstrated that a PASS provides little actual benefit to post accident mitigation. Past experience has indicated that there exists in-plant instrumentation and methodologies available in lieu of a PASS for collecting and assimilating information needed to assess core damage following an accident. Furthermore, the implementation of Severe Accident Management Guidance (SAMG) emphasizes accident management strategies based on in-plant instruments. These strategies provide guidance to the plant staff for mitigation and recovery from a severe accident. Based on current severe accident management strategies and guidelines, it is determined that the PASS provides little benefit to the plant staff in coping with an accident. The regulatory requirements for the PASS can be

eliminated without degrading the plant emergency response. The emergency response, in this sense, refers to the methodologies used in ascertaining the condition of the reactor core, mitigating the consequences of an accident, assessing and projecting offsite releases of radioactivity, and establishing protective action recommendations to be communicated to offsite authorities. The elimination of the PASS will not prevent an accident management strategy that meets the initial intent of the post-TMI 2 accident guidance through the use of the SAMGs, the Emergency Plan, the Emergency Operating Procedures (at PNPP, these procedures are titled the Plant Emergency Instructions), and site survey monitoring that support modification of Emergency Plan Protective Action Recommendations (PARs). Therefore, the elimination of PASS requirements from Technical Specifications does not involve a significant increase in the consequences of any accident previously evaluated.

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

The elimination of PASS related requirements will not result in any failure mode not previously analyzed. The PASS was intended to allow for verification of the extent of reactor core damage and also to provide an input to offsite dose projection calculations. The PASS is not considered an accident precursor, nor does its existence or elimination have any adverse impact on the pre-accident state of the reactor core or post accident confinement of radioisotopes within the containment building. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change will not involve a significant reduction in the margin of safety.

The elimination of the PASS, in light of existing plant equipment, instrumentation, procedures, and programs that provide effective mitigation of and recovery from reactor accidents, results in a neutral impact to the margin of safety. Methodologies that do not rely on PASS are designed to provide rapid assessment of current reactor core conditions and the trending of degradation while effectively responding to the event in order to mitigate the consequences of the accident. The use of a PASS is redundant and does not provide quick recognition of core events or rapid response to events in progress. The intent of the requirements established as a result of the TMI 2 accident can be adequately met without reliance on a PASS. Therefore, this change does not involve a significant reduction in the margin of safety.

Based upon the reasoning presented above and the previous discussion of the amendment request, the requested change does not involve a significant hazards consideration.

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5.5 Programs and Manuals

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5.5.1 <u>Offsite Dose Calculation Manual (ODCM)</u> (continued)

C. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of, or concurrent with. the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 <u>Primary Coolant Sources Outside Containment</u>

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include the Low Pressure Core Spray System. High Pressure Core Spray System. Residual Heat Removal System. Reactor Core Isolation Cooling System. hydrogen analyzer portion of the Combustible Gas Control System. Post-Accident Sampling System. Reactor Water Cleanup System Return to Feedwater line. and Feedwater Leakage Control System. including the Feedwater System motor operated containment isolation valves. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements: and
- b. Integrated leak test requirements for each system at refueling cycle intervals or less.

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5.5.3 <u>Post Accident Sampling</u>

This program provides controls that ensure the capability to obtain and analyze reactor coolant, radioactive gases, and particulates in plant gaseous effluents and containment atmosphere samples under accident conditions. The program shall include the following:

Deleted.

- a. Training of personnel;
- b. Procedures for sampling and analysis: and
- c. Provisions for maintenance of sampling and analysis equipment.

(continued)

PERRY - UNIT 1

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(until such time as a modification eliminates a PASS penetration as a potential leakage path)

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Commitments

The following table identifies the actions that are considered to be regulatory commitments. Any other actions discussed in this document represent intended or planned actions, are described for the NRC's information, and are not regulatory commitments. Please notify the Manager - Regulatory Affairs at the Perry Nuclear Power Plant (PNPP) of any questions regarding this document or any associated regulatory commitments.

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Commitments

- Contingency plans for obtaining and analyzing highly radioactive samples of reactor coolant, suppression pool, and containment atmosphere will be developed. A description of the contingency plans will be contained in either the Emergency Plan or the Emergency Plan implementing procedures. These contingency plans will be implemented within 180 days after the approval of the license amendment and no later than concurrent with the implementation of the amendment. The development of the contingency plans is considered a regulatory commitment.
- 2. The capability for classifying fuel damage events at the Alert level threshold has been established at 2-5% fuel clad damage. This level of core damage is associated with reactor coolant radioactivity levels of 300 μCi/gm dose equivalent iodine. This capability will be described in the Emergency Plan, and implemented within 180 days after the approval of the license amendment and no later than concurrent with the implementation of the amendment. The capability for classifying fuel damage events is considered a regulatory commitment.
- 3. The capability to monitor radioactive iodines that have been released offsite to the environs has been verified. This capability is described both in the Emergency Plan and its implementing procedures. The capability to monitor radioactive iodines is considered a regulatory commitment.