

February 2, 1996

Distribution w/encls:

Docket File	G Hill(2)
PUBLIC	R Jones
PD3-3 Reading	C Grimes
ACRS	J Roe
	W Axelson, R III

Mr. Donald C. Shelton
 Acting Vice President Nuclear - Perry
 Centerior Service Company
 P. O. Box 97, A200
 Perry, OH 44081

SUBJECT: AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. NPF-58 - PERRY
 NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M94028)

Dear Mr. Shelton:

The Commission has issued the enclosed Amendment No. 80 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) and the addition of a license condition in response to your application dated November 2, 1995, supplemented January 26, 1996.

This amendment revises the containment personnel air lock TSs to allow the air locks to be open in Modes 4 and 5 during core alterations except for movement of recently irradiated fuel. The license condition will ensure the reestablishment of containment integrity should an accident occur while the air locks are open. All other provisions of the November 2, 1995, request are being deferred for further review.

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY
 Jon B. Hopkins, Sr. Project Manager
 Project Directorate III-3
 Division of Reactor Projects III/IV
 Office of Nuclear Reactor Regulation

Docket No. 50-440

- Enclosures: 1. Amendment No. 80 to License No. NPF-58
 2. Safety Evaluation

cc w/encls: See next page

DOCUMENT NAME: G:\PERRY\M94028.AMD

*SEE PREVIOUS CONCURRENCE

To receive a copy of this document, indicate in the box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

OFFICE	PD33-LA	E	PD33-PM	E	OCG	PD33:PD	PERB:PD	E	SCSB:PD	E
NAME	DFoster-Curseen		JHopkins		EHoller	GMarcus	CMiller*		CBerlinger*	
DATE	1/31/96		1/31/96		2/1/96	2/1/96	01/31/96		01/31/96	

OFFICIAL RECORD COPY

9602120306 960202
 PDR ADOCK 05000440
 P PDR

DFD



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 2, 1996

Mr. Donald C. Shelton
Acting Vice President Nuclear - Perry
Centerior Service Company
P. O. Box 97, A200
Perry, OH 44081

SUBJECT: AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. NPF-58 - PERRY
NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M94028)

Dear Mr. Shelton:

The Commission has issued the enclosed Amendment No. 80 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) and the addition of a license condition in response to your application dated November 2, 1995, supplemented January 26, 1996.

This amendment revises the containment personnel air lock TSs to allow the air locks to be open in Modes 4 and 5 during core alterations except for movement of recently irradiated fuel. The license condition will ensure the reestablishment of containment integrity should an accident occur while the air locks are open. All other provisions of the November 2, 1995, request are being deferred for further review.

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Jon B. Hopkins, Sr.".

Jon B. Hopkins, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosures: 1. Amendment No. 80 to
License No. NPF-58
2. Safety Evaluation

cc w/encls: See next page

Mr. Donald C. Shelton
Centerior Service Company

Perry Nuclear Power Plant
Unit Nos. 1 and 2

cc:

Jay E. Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, N. W.
Washington, D. C. 20037

Mr. James W. Harris, Director
Division of Power Generation
Ohio Dept. of Industrial Relations
P.O. Box 825
Columbus, Ohio 43216

Ms. Mary E. O'Reilly
Centerior Energy Corporation
300 Madison Avenue
Toledo, Ohio 43652

The Honorable Lawrence Logan
Mayor, Village of Perry
4203 Harper Street
Perry, Ohio 44081

Resident Inspector's Office
U. S. Nuclear Regulatory Commission
Parmly at Center Road
Perry, Ohio 44081

The Honorable Robert V. Orosz
Mayor, Village of North Perry
North Perry Village Hall
4778 Lockwood Road
North Perry Village, Ohio 44081

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4531

Attorney General
Department of Attorney General
30 East Broad Street
Columbus, Ohio 43216

Lake County Prosecutor
Lake County Administration Bldg.
105 Main Street
Painesville, Ohio 44077

Radiological Health Program
Ohio Department of Health
P.O. Box 118
Columbus, Ohio 43266-0118

Ms. Sue Hiatt
OCRE Interim Representative
8275 Munson
Mentor, Ohio 44060

Ohio Environmental Protection
Agency
DERR--Compliance Unit
ATTN: Mr. Zack A. Clayton
P.O. Box 1049
Columbus, Ohio 43266-0149

Terry J. Lodge, Esq.
618 N. Michigan Street, Suite 105
Toledo, Ohio 43624

Ashtabula County Prosecutor
25 West Jefferson Street
Jefferson, Ohio 44047

Mr. Thomas Haas, Chairman
Perry Township Board of Trustees
3750 Center Rd., Box 65
Perry, Ohio 44081

Mr. James D. Kloosterman
Regulatory Affairs Manager
Cleveland Electric Illuminating
Company
Perry Nuclear Power Plant
P. O. Box 97, E-210
Perry, Ohio 44081

State of Ohio
Public Utilities Commission
East Broad Street
Columbus, Ohio 43266-0573

Mr. James R. Williams, Chief of
Staff
Ohio Emergency Management Agency
2825 West Granville Road
Worthington, Ohio 43085

Mr. Richard D. Brandt, Plant Manager
Cleveland Electric Illuminating
Company
Perry Nuclear Power Plant
P.O. Box 97, SB306
Perry, Ohio 44081



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80
License No. NPF-58

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by The Cleveland Electric Illuminating Company, Centerior Service Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated November 2, 1995, supplemented January 26, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-58 is hereby amended to read as follows:

9602120312 960202
PDR ADDCK 05000440
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 80 are hereby incorporated into this license. The Cleveland Electric Illuminating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. Further, the license is amended by the addition of license condition, Paragraph 2.C.(10) to read as follows:

(10) Primary Containment air lock penetrations may be open during CORE ALTERATIONS and movement of irradiated fuel within the primary containment, except when moving recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous seven days), provided the following conditions exist:

- One door in each air lock is capable of being closed.
- Hoses and cables running through the air lock employ a means to allow safe, quick disconnect or severance, and are tagged at the air lock with specific instructions to expedite removal.
- The air lock door is not blocked in such a way that it cannot be expeditiously closed.
- A designated individual is available to expeditiously close the air lock door.

4. This license amendment is effective as of its date of issuance and shall be implemented not later than 90 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Jon B. Hopkins, Senior Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachments: 1. Pages 5 and 6 of the license*
2. Changes to the Technical Specifications

Date of issuance: February 2, 1996

*Pages 5 and 6 are attached, for convenience, for the composite license to reflect the change.

ATTACHMENT TO LICENSE AMENDMENT NO. 80

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

Replace the following pages of the License with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of changes.

Remove

5
6

Insert

5
6

Replace the following pages of the Appendix "A" Technical Specifications including the issued but not yet implemented Improved Technical Specifications (ITS) with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

3/4 6-6
3/4 6-6a
B 3/4 6-2a
B 3/4 6-2b

ITS 3.6-3
ITS 3.6-6

Insert

3/4 6-6
3/4 6-6a
B 3/4 6-2a
B 3/4 6-2b

ITS 3.6-3
ITS 3.6-6

(7) Detailed Control Room Design Review (Section 18, SSER #10)

CEICO shall implement the remaining activities to complete the Detailed Control Room Design Review and correct all human engineering discrepancies (HED's) identified in Attachment 1. Attachment 1 is hereby incorporated into this license.

(8) Emergency Planning (Section 13.3, SSER #10)

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule (44 CFR Part 350) indicates that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR 50.54(s)(2) will apply.

(9) Deleted

(10) Primary Containment air lock penetrations may be open during CORE ALTERATIONS and movement of irradiated fuel within the primary containment, except when moving recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous seven days), provided the following conditions exist:

- One door in each air lock is capable of being closed.
- Hoses and cables running through the air lock employ a means to allow safe, quick disconnect or severance, and are tagged at the air lock with specific instructions to expedite removal.
- The air lock door is not blocked in such a way that it cannot be expeditiously closed.
- A designated individual is available to expeditiously close the air lock door.

D. CEICO is exempted from: 1) the requirements of Section III.D.2(b)(ii), containment airlock testing requirements, Appendix J to 10 CFR Part 50, due to the special circumstance described in Section 6.2.6 of SER Supplement No. 7 authorized by 10 CFR 50.12(a)(2)(iii); and 2) the requirements of Section IV.F., Full Participation Exercise, of Appendix E to 10 CFR Part 50, due to the special circumstance described in the Exemption, dated November 6, 1986. These exemptions are authorized by law, will not present an undue risk to the public health and safety and are consistent with the common defense and security. The exemptions are hereby granted pursuant to 10 CFR 50.12. With the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. CEICO shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Perry Nuclear Power Plant Security Plan", with revisions submitted through September 11, 1987; "Perry Nuclear Power Plant Guard Training and Qualification Plan", with revisions submitted through August 12, 1986; and "Perry Nuclear Power Plant Safeguards Contingency Plan" (Chapter 8 of the Security Plan), with revisions submitted through May 15, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.
- F. Except as otherwise provided in the Technical Specification or Environmental Protection Plan, CEICO shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written follow-up within thirty (30) days in accordance with the procedures described in 10 CFR 50.73(b), (c) and (e).
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- H. This license is effective as of the date of issuance and shall expire at midnight on March 18, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments/Appendices:

1. Attachments 1 - 2
2. Appendix A - Technical Specifications
(NUREG-1204)
3. Appendix B - Environmental Protection
Plan
4. Appendix C - Antitrust Conditions

Date of Issuance: November 13, 1986

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each primary containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to 2.5 scf per hour at P_a .

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and #.

ACTION:

- a. With one or both air locks having:
 1. an inoperable interlock mechanism, for each affected air lock,
 - a) Maintain at least one OPERABLE air lock door closed* and within 24 hours lock one OPERABLE air lock door closed.
 - b) Operation may then continue provided that at least once per 31 days, one OPERABLE air lock door is verified to be locked closed*.
 2. one inoperable air lock door, or, both one inoperable door and an inoperable interlock mechanism, for each affected air lock,
 - a) Maintain at least the OPERABLE air lock door closed** and within 24 hours lock the OPERABLE air lock door closed.
 - b) Operation may then continue until performance of the next required overall air lock leakage test provided that at least once per 31 days the OPERABLE air lock door is verified to be locked closed**.

Otherwise, in OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT

When handling recently irradiated fuel in the primary containment, and operations with a potential for draining the reactor vessel.

* Entry into and exit from the air lock(s) or primary containment, including through a "locked closed" door, is permitted under administrative controls.

** If one or both air locks have one inoperable door, entry into and exit from the air lock(s) through the OPERABLE door is permitted under administrative controls to perform repairs of the affected air lock components. Also, if both air locks have one inoperable door, entry into and exit from primary containment is permitted under administrative controls for 7 days.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION (Continued)

SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in OPERATIONAL CONDITION #, suspend handling of recently irradiated fuel in the primary containment, and operations with a potential for draining the reactor vessel.

The provisions of Specification 3.0.4 are not applicable.

- b. With a primary containment air lock inoperable in OPERATIONAL CONDITIONS 1, 2 or 3, except as a result of an inoperable air lock door and/or interlock mechanism, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With a primary containment air lock inoperable, in OPERATIONAL CONDITION #, except as a result of an inoperable air lock door and/or interlock mechanism, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or suspend all operations involving handling of recently irradiated fuel in the primary containment, and operations with a potential for draining the reactor vessel.

CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT (Continued)

3/4.6.1.3 CONTAINMENT AIR LOCKS (Continued)

In OPERATIONAL CONDITIONS 4 and 5, the probability and consequences of LOCAs are reduced due to the pressure and temperature limitations in these Operational Conditions. Therefore, maintaining primary containment air lock OPERABILITY is only required during situations for which significant releases of radioactive material can be postulated; such as during operations with the potential for draining the reactor vessel, or during handling of recently irradiated fuel assemblies. Due to radioactive decay, handling of fuel only requires primary containment air lock OPERABILITY when the fuel being handled is recently irradiated, i.e., fuel that has occupied part of a critical reactor core within the previous seven days.

An allowance has been provided within Action a.1 for access into or through the containment air locks when an interlock mechanism in one or both air locks is inoperable. Action a.1 requires that at least one of the two OPERABLE doors for each affected air lock be maintained closed, and if the interlock mechanism has not been restored to OPERABLE status within 24 hours, one door must be locked closed. The provisions of footnote * may be utilized for entries and exits. The administrative controls of footnote * allow the unlocking and use of the air lock provided that an individual is stationed at the air lock, dedicated to assuring that at least one OPERABLE air lock door remains closed at all times. This allowance is provided to address those situations when the use of an air lock with only an inoperable interlock mechanism may be preferred over the use of the other air lock, such as when the other air lock has an inoperable door.

An allowance has also been provided in Action a.2 for access into or through the containment air locks when one air lock door in one or both air locks is inoperable. The first sentence of footnote ** provides that entry and exit through the OPERABLE door on one or both air locks is permissible under administrative controls for the performance of repairs of the affected air lock components. The second sentence of footnote ** provides for entry into and exit from the containment for activities other than just the repairs of affected air lock components under administrative controls, but only permits these entries when both air locks have an inoperable door, and limits such use to a 7 day period. The administrative controls for the second sentence shall define limits on entry and exit, in order to minimize openings of the OPERABLE door.

The administrative controls for both sentences of footnote ** include provisions that after each entry and exit, the OPERABLE door must be promptly closed. The allowances of footnote ** are acceptable because of the low probability of an event that could pressurize the containment during the short time that the OPERABLE door will be open for entry into and exit from the containment.

The air supply to the containment air lock and seal system is the service and instrument air system. The system consists of two 100% capacity air compressors per unit and can be cross-connected. This system is redundant and extremely reliable and provides system pressure indication in the control room.

CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT (Continued)

3/4.6.1.4 MSIV LEAKAGE CONTROL SYSTEM

Calculated doses resulting from the maximum leakage allowance for the main steam line isolation valves in the postulated LOCA situations would be a small fraction of the 10 CFR 100 guidelines, provided the main steam line system from the isolation valves up to and including the turbine condenser remains intact. Operating experience has indicated that degradation has occasionally occurred in the leak tightness of the MSIV's such that the specified leakage requirements have not always been maintained continuously. The requirement for the leakage control system will reduce the untreated leakage from the MSIV's when isolation of the primary system and containment is required. An LCO 3.0.4 exception is provided to permit changes in Operational Conditions when the Inboard MSIV-LCS subsystem becomes inoperable due to condensate buildup between the MSIVs when the plant is operated below 50% rated thermal power.

3/4.6.1.5 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the unit. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 15 psig in the event of a LOCA. A visual inspection in conjunction with Type A leakage tests is sufficient to demonstrate this capability.

3/4.6.1.6 CONTAINMENT INTERNAL PRESSURE

The limitations on primary containment to secondary containment differential pressure ensure that the primary containment peak pressure of 7.80 psig does not exceed the design pressure of 15.0 psig during LOCA conditions or that the external pressure differential does not exceed the design maximum external pressure differential of +0.8 psid. The limit of -0.1 to +1.0 psid for initial positive primary containment to secondary containment pressure will limit the primary containment pressure to 7.80 psig which is less than the design pressure and is consistent with the safety analysis.

3/4.6.1.7 CONTAINMENT AVERAGE AIR TEMPERATURE

The limitation on containment average air temperature ensures that the containment peak air temperature does not exceed the design temperature of 185°F during LOCA conditions and is consistent with the safety analysis.

3/4.6.1.8 DRYWELL AND CONTAINMENT PURGE SYSTEM

The use of the drywell and containment purge lines is restricted to the 42-inch outboard and 18-inch purge supply and exhaust isolation valves. These valves will close during a LOCA or steam line break accident and therefore the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during purging operations. The term sealed closed as used in this context means that the valve is secured in its closed position by deactivating the valve motor operator, and does not pertain to injecting seal water between the isolation valves by a seal water system.

3.6 CONTAINMENT SYSTEMS

3.6.1.2 Primary Containment Air Locks

LCO 3.6.1.2 Two primary containment air locks shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of recently irradiated fuel assemblies in
the primary containment,
During operations with a potential for draining the reactor
vessel (OPDRVs).

ACTIONS

-----NOTES-----

1. Entry and exit is permissible to perform repairs of the affected air lock components.
2. Separate Condition entry is allowed for each air lock.
3. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment-Operating," when air lock leakage results in exceeding overall containment leakage rate acceptance criteria in MODES 1, 2, and 3.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more primary containment air locks with one primary containment air lock door inoperable.</p>	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls if both air locks are inoperable. <p>-----</p>	<p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.3 Restore air lock to OPERABLE status.	24 hours
D. Required Action and associated Completion Time of Condition A, B, or C not met in MODE 1, 2, or 3.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	12 hours 36 hours
E. Required Action and associated Completion Time of Condition A, B, or C not met during movement of recently irradiated fuel assemblies in the primary containment, or OPDRVs.	E.1 Suspend movement of recently irradiated fuel assemblies in the primary containment. <u>AND</u> E.2 Initiate action to suspend OPDRVs.	Immediately Immediately



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. NPF-58
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.
PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By application dated November 2, 1995, The Cleveland Electric Illuminating Company (CEI or the licensee) requested changes to the Technical Specifications (TSs) (Appendix A to Facility Operating License No. NPF-58) for the Perry Nuclear Power Plant, Unit 1. The proposed changes would revise the TSs to allow the containment personnel air locks (PAL) to be open in Modes 4 and 5 during core alterations except for movement of recently irradiated fuel. The licensee provided additional information by letter dated January 26, 1996, which did not change the initial no significant hazards consideration determination.

The current TSs require that the PALs be operable during fuel movement and core alteration. This requirement is to prevent the release of radioactive material in the event of a fuel handling accident. CEI stated that because of the high level of modification, maintenance, and repair activities during outages, wear and tear on the two airlocks doors to containment causes the doors to break down resulting in increased repair costs. These repairs also create a bottle neck situation for processing personnel and equipment in and out of the containment and drywell.

The licensee's application dated November 2, 1995, also proposed changes for the secondary containment isolation valves, control room heating, ventilation, and air conditioning system, primary containment during shutdown, fuel handling building, fuel handling building ventilation exhaust system, AC sources during shutdown, DC sources during shutdown, and distribution systems during shutdown. The NRC is not acting on these changes pending further review. The action on these items is deferred, will continue to be pursued by the licensee and the NRC, and may be the subject of future licensing action.

2.0 BACKGROUND

By letter dated November 2, 1995, CEI proposed to amend Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit 1 (PNPP), by incorporating changes to their TSs. The licensee provided additional information by letter dated January 26, 1996, adding their administrative controls on air locks to their license as a license condition. The proposed changes will allow the containment personnel air locks to be open during CORE ALTERATIONS within the containment after the reactor has been subcritical for

a period of 7 days. These CORE ALTERATIONS, which include the movement of fuel, will be governed by conditions or specific language committed to by the licensee and added as a license condition. This condition states:

Primary Containment air lock penetrations may be open during CORE ALTERATIONS and movement of irradiated fuel within the primary containment, except when moving recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous seven days), provided the following conditions exist:

- 1) One door in each air lock is capable of being closed.
- 2) Hoses and cables running through the air lock employ a means to allow safe, quick disconnect or severance, and are tagged at the air lock with specific instructions to expedite removal.
- 3) The air lock door is not blocked in such a way that it cannot be expeditiously closed.
- 4) A designated individual is available to expeditiously close the air lock door.

In addition, the term "recently irradiated fuel" is defined in the bases of the technical specifications as "fuel that has occupied part of a critical reactor core within the previous 7 days." This condition of prohibiting movement of irradiated fuels with less than 7 days decay, was a part of the larger review for opening containment, secondary containment, and other items and the 7 days directly relates to the fuel accident analysis for technical acceptance of all those provisions.

3.0 EVALUATION

PNPP has an upper and lower PAL, which opens up into the intermediate building. The intermediate building is vented through a filter. Additionally, the annulus exhaust gas treatment system and the control room emergency recirculation system will be operable in accordance with TS during fuel handling to protect against any radioactive fission products that might escape an open PAL during a fuel handling accident inside the containment. PNPP has experienced outage delays due to the PAL door problems resulting from heavy use. CEI proposes that a designated individual be available to expeditiously and safely remove any hoses or cables running through the PAL, and to be available to expeditiously close one of the PAL doors in the event of an accident. Also, the minimum decay time prior to handling of irradiated fuel with the PAL doors open is established at 7 days, consistent with the revised fuel handling accident dose analysis which is discussed later in the safety evaluation.

The PAL is provided for the purpose of permitting personnel to enter and exit the containment while maintaining the integrity of the containment pressure boundary. Each PAL contains two airlock doors with a personnel chamber between the doors. In reactor operational Modes 1, 2, and 3, at least one of the two doors must be closed. Mechanical interlocks ensure that both doors

cannot be opened at the same time. During shutdown and refueling operations, both doors may be opened at the same time (the interlock mechanism is intentionally disabled) unless (a) core alterations are in progress, (b) during operations with a potential for draining the reactor vessel, or (c) during movement of irradiated fuel assemblies in the primary containment. The licensee does not propose to change the PALs' operation during the potential for draining down the vessel.

Core alterations are defined in the TSs as follows:

"CORE ALTERATION shall be the addition, removal, relocation or movement of fuel, sources, incore instruments or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Normal movement of the SRMs, IRMs, LPRMs, TIPS, or special movable detectors is not considered a CORE ALTERATION. Suspension of CORE ALTERATIONS shall not preclude completion of the movement of a component to a safe conservative position."

The Updated Final Safety Analysis Report for PNPP includes an analysis of the accidents which can occur during core alterations. Those accidents postulated to occur during core alterations are: inadvertent criticality due to a control rod removal error, continuous control rod withdrawal error during refueling; and the inadvertent loading and operation of a fuel assembly in an improper location. These accidents are not postulated to result in fuel cladding integrity damage during shutdown. However, core alterations cover the movement of any fuel and the accident analysis of concern is the fuel handling accident. The licensee's original fuel handling accident after 24 hours decay and with the containment closed except for certain vent and drain lines, has not been changed. The analysis for fuel handling accidents after the 7 day decay period as proposed by the licensee should bound any CORE ALTERATIONS with the PAL doors open. Therefore, for the PALs it is acceptable to delete core alterations for other than Modes 1, 2, or 3 based on an acceptable analysis for the fuel handling accident after the decay period proposed by the licensee.

The licensee has proposed a license condition to include provisions to expeditiously close one of the PAL doors in the event of a fuel handling accident. These provisions are acceptable. Additionally, TS 3.9.8 continues to require at least 22 feet 9 inches of water above the reactor vessel flange for movement of fuel assemblies or control rods. Therefore, for CORE ALTERATIONS during shutdown or irradiated fuel movement, any release of radioactive fission products from damaged fuel will occur under water at a depth of at least 22 feet 9 inches.

The minimum decay time of 7 days will ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR Part 100. Further guidance regarding limits for offsite radiation exposure are contained in Standard Review Plan Section 15.7.4, Rev. 1, which defines "well within" 10 CFR Part 100 to be 25% or less of the 10 CFR Part 100 values.

The staff has completed its evaluation of the potential radiological consequences of a fuel handling accident at PNPP, based upon the license condition and the proposed TS changes. In addition to reviewing the licensee's submittal, the staff performed an independent analysis to determine conformance with the dose acceptance criteria of 10 CFR Part 100 and General Design Criterion (GDC) 19 of Appendix A to 10 CFR Part 50. The staff's analysis utilized the accident source term given in Regulatory Guide 1.3, the assumptions contained in Regulatory Guide 1.25, and the review procedures specified in Standard Review Plan (SRP) Sections 15.7.4 and 6.4. The staff assumed an instantaneous puff release of noble gases and radioiodines from the gap and plenum of the broken fuel rods. These gas bubbles will pass through at least 22 feet 9 inches of water covering the fuel prior to reaching the containment atmosphere. All airborne activity reaching the containment atmosphere is assumed to exhaust from the plant vent to the environment within 2 hours. As stipulated in the proposed TS change, the gap activity is assumed to have decayed for a period of 7 days.

The staff computed the offsite doses for PNPP using the above assumptions and NRC computer code ACTICODE. Control room operator doses were determined using the methodology in SRP Section 6.4, including use of the Murphy-Campe methodology for calculation of the relative concentration. Prior to entry into the control room intake, the effluent was assumed to mix within the cross-sectional area bounded by the containment diameter and the top of the containment downward to the height of the intake. The computed offsite doses and control room operator doses are within the acceptance criteria given in SRP Section 15.7.4 and GDC 19. The assumptions used in calculating those doses and the resulting calculated values are attached in Tables 1 and 2.

The staff's dose calculation was based on the assumption that all of the radioactive material released to the containment escapes the containment within 2 hours. However, the staff has historically required plant technical specifications to maintain containment closure during core alterations and fuel handling as a defense-in-depth measure to further limit releases. Recently the staff has allowed changes to plant technical specifications to keep both doors to a containment air lock open during core alterations and fuel handling with provisions in place to close one door quickly, thereby reestablishing containment closure. The provisions described in the Background Section of this safety evaluation provide reasonable assurance that containment closure as a defense-in-depth measure can be reestablished quickly to limit releases to much lower than assumed in the dose calculations.

The staff has reviewed the licensee's analysis and has performed an independent assessment of the radiological consequences resulting from a fuel handling accident during refueling operations with the containment air locks open. The staff concludes that the radiological consequences associated with this accident are within the acceptance criteria set forth in 10 CFR Part 100 and the control room operator dose criteria specified in GDC-19 of Appendix A to 10 CFR Part 50 and are acceptable.

4.0 TECHNICAL SPECIFICATIONS/LICENSE CONDITIONS

The licensee in their original request had proposed changes to the TSs to

allow the PALs to be open during CORE ALTERATIONS except for movement of recently irradiated fuel (fuel that has been critical in the past 7 days). The licensee's proposal was made as part of a larger consideration for removal of systems during refueling based on technical merits, however, the staff is not prepared at this time to act on those considerations and has deferred most of the request pending further review. The wording of the TSs proposed by the licensee reflects that larger consideration (i.e., during the period the PALs could be open, the TSs would not be applicable and the PAL doors would not be required to be operable), but does not reflect consideration of containment integrity. While the staff is prepared to accept the operation of PALs with both doors open, additional controls in the license to assure prompt reestablishment of containment are necessary. The licensee's commitment in their letter dated January 26, 1996, clarified those actions or controls, and proposed adding the controls to the license as a license condition. These controls and actions are consistent with the licensee's intent and original proposal and are being proposed by the licensee to provide clarification. The amended TSs and the license condition provide the necessary assurance for reestablishment of containment integrity during CORE ALTERATIONS and movement of fuels. We find the proposed TSs and license condition acceptable.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State Official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 62497). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Attachments: 1. Table 1
2. Table 2

Principal Contributors: D. Carter
J. Hopkins
L. Brown

Date: February 2, 1996

TABLE 1
CALCULATED RADIOLOGICAL CONSEQUENCES
 (rem)

<u>Exclusion Area Boundary</u>	<u>Dose</u>	<u>SRP 15.7.4 Guidelines</u>
Whole Body	0.17	6
Thyroid	38.8	75
<u>Control Room Operator</u>	<u>Dose</u>	<u>GDC-19 Guidelines</u>
Whole Body	0.1	5
Thyroid	18.1	Equivalent to 5 rem whole body*

* Guideline doses provided in Standard Review Plan Section 6.4 define the dose-equivalent as 30 rem to the thyroid.

TABLE 2

ASSUMPTIONS USED FOR CALCULATING RADIOLOGICAL CONSEQUENCES

<u>Parameters</u>	<u>Quantity</u>
Power Level, Mwt	3,834
Number of Fuel Rods Damaged	124
Total Number of Rods	46,376
Shutdown time, hours	168
Power Peaking Factor*	1.5
Fission Product Release Duration*	2 hours
Release Fractions*	
Iodine	0.12
Noble Gases	0.30
Pool Decontamination Factors*	
Iodine	100
Noble Gases	1
Iodine Forms*	
Elemental	75%
Organic	25%
Core Fission Product Inventories per TID-14844	
<u>Receptor Point Variables</u>	
<u>Exclusion Area Boundary**</u>	
Atmospheric Relative Concentration, X/Q (sec/m ³) 0-2 hours	4.9 x 10 ⁻⁴
<u>Low Population Zone**</u>	
Atmospheric Relative Concentration, X/Q (sec/m ³) 0-8 hours	5.8 x 10 ⁻⁵
<u>Control Room</u>	
Atmospheric Relative Concentration, X/Q (sec/m ³)	4.5 x 10 ⁻³
Control Room Volume, cubic feet	3.44 x 10 ⁵
Maximum Infiltration Rate, ft ³ /min	1173
Geometry Factor	15.8
Iodine Protection Factor	19.6

Note: Dose conversion factors from ICRP-30 were utilized for all calculations

* Regulatory Guide 1.25

** Perry Nuclear Power Plant, Units 1 & 2 SER