

March 26, 1999

Distribution w/encs:

Docket File
PUBLIC
PD3-2 Reading
ACRS
GGrant, RIII
CNorsworthy
(SE, only)

GHill (2)
OGC
WBeckner, TSB
JWermiel

Mr. Lew W. Myers
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. NPF-58 - PERRY
NUCLEAR POWER PLANT, UNIT 1 (TAC NO. MA3990)

Dear Mr. Myers:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 104 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit 1. This amendment revises the Technical Specifications (TSs) in response to your application dated October 27, 1998 (PY-CEI/NRR-2325L).

This amendment revises the minimum critical power ratio (MCPR) safety limit contained in TS 2.1.1.2. In addition, the amendment removes a note to TS 2.1.1.2 and a footnote to TS 5.6.5.b that references MCPR safety limit values as cycle specific.

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:

Douglas V. Pickett, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

[Handwritten signature]

Docket No. 50-440

Enclosures: 1. Amendment No. 104 to
License No. NPF-58
2. Safety Evaluation

DOCUMENT NAME: G:\PERRY\PD3-3\A3390AMD.wpd

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

OFFICE	PM:PDIII-2	E	LA:PDIII-2	E	SC:SRXB		OGC	D:PDIII-2
NAME	DPickett		EBarnhill	EB	JLyons*		WYoung	SRichards
DATE	03/5/99		03/5/99		02/19/99		03/21/99	03/26/99

*See 02/19/99 memo from JLyons to DPickett

OFFICIAL RECORD COPY

[Handwritten initials]

9904020276 990326
PDR ADDCK 05000440
PDR

FILE CENTER COPY

CP-1

March 26, 1999

Mr. Lew W. Myers
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

Distribution w/encls:

Docket File
PUBLIC
PD3-2 Reading
ACRS
GGrant, RIII
CNorsworthy
(SE, only)

GHill (2)
OGC
WBeckner, TSB
JWermiel

SUBJECT: AMENDMENT NO.104 TO FACILITY OPERATING LICENSE NO. NPF-58 - PERRY
NUCLEAR POWER PLANT, UNIT 1 (TAC NO. MA3990)

Dear Mr. Myers:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 104 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit 1. This amendment revises the Technical Specifications (TSs) in response to your application dated October 27, 1998 (PY-CEI/NRR-2325L).

This amendment revises the minimum critical power ratio (MCPR) safety limit contained in TS 2.1.1.2. In addition, the amendment removes a note to TS 2.1.1.2 and a footnote to TS 5.6.5.b that references MCPR safety limit values as cycle specific.

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:
Douglas V. Pickett, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosures: 1. Amendment No.104 to
License No. NPF-58
2. Safety Evaluation

DOCUMENT NAME: G:\PERRY\PD3-3\A3390AMD.wpd

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

OFFICE	PM:PDIII-2	<input checked="" type="checkbox"/>	LA:PDIII-2	<input checked="" type="checkbox"/>	SC:SRXB	<input type="checkbox"/>	OGC	<input checked="" type="checkbox"/>	D:PDIII-2
NAME	DPickett		EBarnhill	<input checked="" type="checkbox"/>	JLyons*		WYoung	<input checked="" type="checkbox"/>	SRichards
DATE	03/5/99		03/5/99		02/19/99		03/24/99		03/26/99

*See 02/19/99 memo from JLyons to DPickett

OFFICIAL RECORD COPY

SP
C



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

March 26, 1999

Mr. Lew W. Myers
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

**SUBJECT: AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. NPF-58 -
PERRY NUCLEAR POWER PLANT, UNIT 1 (TAC NO. MA3990)**

Dear Mr. Myers:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 104 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit 1. This amendment revises the Technical Specifications (TSs) in response to your application dated October 27, 1998 (PY-CEI/NRR-2325L).

This amendment revises the minimum critical power ratio (MCPR) safety limit contained in TS 2.1.1.2. In addition, the amendment removes a note to TS 2.1.1.2 and a footnote to TS 5.6.5.b that references MCPR safety limit values as cycle specific.

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 black ink, reading "Douglas V. Pickett".

Douglas V. Pickett, Senior Project Manager
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosures: 1. Amendment No. 104 to
License No. NPF-58
2. Safety Evaluation

cc w/encls: See next page

L. Myers
FirstEnergy Nuclear Operating Company

cc:

Mary E. O'Reilly
FirstEnergy Corporation
76 South Main St.
Akron, OH 44308

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
P.O. Box 331
Perry, OH 44081-0331

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

Sue Hiatt
OCRE Interim Representative
8275 Munson
Mentor, OH 44060

Henry L. Hegrat
Regulatory Affairs Manager
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, A210
Perry, OH 44081

William R. Kanda, Jr., Plant Manager
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, SB306
Perry, OH 44081

Mayor, Village of North Perry
North Perry Village Hall
4778 Lockwood Road
North Perry Village, OH 44081

Donna Owens, Director
Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Operations & Maintenance
6606 Tussing Road
P. O. Box 4009
Reynoldsburg, OH 43068-9009

Perry Nuclear Power Plant, Units 1 and 2

James R. Williams
Chief of Staff
Ohio Emergency Management Agency
2855 West Dublin Granville Road
Columbus, OH 43235-7150

Mayor, Village of Perry
P.O. Box 100
Perry, OH 44081-0100

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

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

Chairman
Perry Township Board of Trustees
3750 Center Road, Box 65
Perry, OH 44081

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



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

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 104
License No. NPF-58

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the FirstEnergy Nuclear Operating Company (the licensee, formerly The Cleveland Electric Illuminating Company, Centerior Service Company, Duquesne Light Company, Ohio Edison Company, OES Nuclear, Inc., Pennsylvania Power Company, and Toledo Edison Company) dated October 27, 1998, 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:

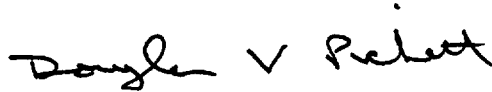
9904020277 990326
PDR ADOCK 05000440
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 104 are hereby incorporated into this license. The FirstEnergy Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. 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



Douglas V. Pickett, Senior Project Manager
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 26, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 104

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

Insert

2.0-1

2.0-1

5.0-18

5.0-18

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

- 2.1.1.1 With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow:

THERMAL POWER shall be \leq 25% RTP

- 2.1.1.2 With the reactor steam dome pressure \geq 785 psig and core flow \geq 10% rated core flow:

MCPR shall be \geq 1.09 for two recirculation loop operation or \geq 1.11 for single recirculation loop operation.

- 2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be \leq 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed:

- 2.2.1 Within 1 hour, notify the NRC Operations Center, in accordance with 10 CFR 50.72.

- 2.2.2 Within 2 hours:

2.2.2.1 Restore compliance with all SLs; and

2.2.2.2 Insert all insertable control rods.

- 2.2.3 Within 24 hours, notify the plant manager and the corporate executive responsible for overall plant nuclear safety.

(continued)

5.6 Reporting Requirements

5.6.5 Core Operating Limits Report (COLR) (continued)

4. LCO 3.3.1.1, RPS Instrumentation (SR 3.3.1.1.14);
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC in NEDE-24011-P-A, General Electric Standard Application for Reactor Fuel. (The approved revision at the time reload analyses are performed shall be identified in the COLR.)
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Special Reports

Special Reports shall be submitted in accordance with 10 CFR 50.4 within the time period specified for each report.

The following Special Reports shall be submitted:

- a. Violations of the requirements of the fire protection program described in the USAR which would have adversely affected the ability to achieve and maintain safe shutdown in the event of a fire shall be reported via the Licensee Event Report system.
-



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. NPF-58

FIRSTENERGY NUCLEAR OPERATING COMPANY

PERRY NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated October 27, 1998, the FirstEnergy Nuclear Operating Company (the licensee) proposed changes to the current Technical Specifications (TSs) for the Perry Nuclear Power Plant (PNPP). The proposed changes would modify the existing Minimum Critical Power Ratio (MCPR) Safety Limit contained in TS 2.1.1.2. Specifically, the change would apply additional conservatism by modifying the MCPR Safety Limit values, as calculated by General Electric (GE), by maintaining the limit of 1.09 for two recirculation loop operation and by increasing the limit from 1.10 to 1.11 for single recirculation loop operation.

In addition to the proposed changes to the MCPR Safety Limit, the proposed amendment removes a note to TS 2.1.1.2 and a footnote to TS 5.6.5.b that references MCPR Safety Limit values as cycle-specific. The removal of these notes will avert the review and approval of subsequent license amendments when the MCPR Safety Limit does not require modification.

2.0 EVALUATION

GE Nuclear Energy (GENE) has submitted topical reports for staff review and approval as references in license applications for the determination of MCPR Safety Limits. Specifically, these topical reports include (1) the description of the procedures used to account for the reload-specific core design and operation in determining the cycle-specific MCPR Safety Limit in NEDC-32601P; (2) the power distribution uncertainty for the new GE 3D-MONICORE core surveillance system in NEDC-32694P; and (3) the methodology and uncertainties required for the implementation of cycle-specific MCPR Safety Limits in Amendment 25 to NEDE-24011-P-A. By letter dated March 11, 1999, from Frank Akstulewicz, NRC, to Glen Watford, GE, the staff found the topical reports to be acceptable for referencing in license applications.

2.1 TS 2.1.1.2

The licensee does not propose to change the MCPR Safety Limit of 1.09 for two recirculation loop operation but proposes to change the value for single recirculation loop operation from 1.10

to 1.11 when the reactor steam dome pressure is ≥ 785 psig and core flow $\geq 10\%$ rated core flow. The licensee also proposes to remove the note to TS 2.1.1.2, "only applicable for Cycle 7 operation."

The MCPR Safety Limit analysis for the Perry facility was performed by GENE using the plant- and cycle-specific fuel and core parameters, NRC approved methodologies including GESTAR-II (NEDE-24011-P-A, Sections 1.1.5 and 1.2.5), NEDO-10958-A, January 1977 and Amendment 25 to NEDE-24011-P-A. Amendment 25 to NEDE-24011-P-A provides the cycle-specific MCPR Safety Limits that replace the former generic, bounding values.

The staff has reviewed the following: (1) the justification for the MCPR Safety Limit value of 1.09 for two recirculation loop operation and 1.11 for single loop operation, (2) the relevant information provided in Amendment 25 to GESTAR-II, NEDE-24011, and (3) the relevant information provided in NEDC-32601 which was cited in the February 4, 1999, conference call with the licensee and GENE as the basis for the rounding technique used for the SLMCPR calculation.

Based on our review of the submittal and the relevant portions of the topical reports, the staff has concluded that the MCPR Safety Limit analysis for PNPP using the plant- and cycle-specific calculation in conjunction with the approved method is acceptable for PNPP. The MCPR Safety Limit will ensure that 99.9% of the fuel rods in the core will not experience boiling transition which satisfies the requirements of General Design Criterion 10 of Appendix A to 10 CFR Part 50 regarding acceptable fuel design limits. Therefore, the staff has concluded that the justification for analyzing and determining the SLMCPR value of 1.09 for two loop and 1.11 for single loop operation is acceptable since approved methodologies were used. The proposed removal of a cycle-specific footnote is also acceptable since the analysis is already performed using plant- and cycle-specific parameters and the procedures specified in Amendment 25 to GESTAR-II, NEDE-24011-P-A, which is an approved methodology that is acceptable for use at Perry for this and future cycles.

2.2 TS 5.6.5.b

The proposed TS change is to eliminate the asterisk at the end of the sentence 5.6.5.b and to remove the footnote at the bottom of the same page, Page 5.0-18, which reads, "For Cycle 7, as approved in the NRC Safety Evaluation Report dated November 7, 1997." By letter dated March 11, 1999, from Frank Akstulewicz, NRC, to Glen Watford, GE, the staff approved the methodology in Amendment 25 to GESTAR-II, NEDE-24011-P-A, which includes cycle-specific analysis for the MCPR Safety Limit. Therefore, the proposed removal of the asterisk and the cycle specific footnote is acceptable since use of the approved methodology will ensure that values for cycle specific parameters are determined such that all applicable limits of the plant safety analysis are met.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

This 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 or changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (63 FR 66603). The amendment also changes record keeping or reporting requirements. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

The staff 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Huang

Date: March 26, 1999