

March 30, 2000

Template # NRR-058

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Mr. John K. Wood
 Vice President - Nuclear, Perry
 FirstEnergy Nuclear Operating Company
 P.O. Box 97, A200
 Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT 1 - ISSUANCE OF AMENDMENT
 RE: NINE MINOR MISCELLANEOUS CHANGES TO THE TECHNICAL
 SPECIFICATIONS (TAC NO. MA6462)

Dear Mr. Wood:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 111 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 September 9, 1999 (PY-CEI/NRR-2430L), as supplemented by submittal dated February 28, 2000 (PY-CEI/NRR-2451L).

This amendment includes nine minor, unrelated revisions to the TSs. These revisions, which are minor in both content and safety significance, include clarifications and editorial changes to the TSs.

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

Sincerely,

/RA/

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

Docket No. 50-440

- Enclosures: 1. Amendment No. 111 to License No. NPF-58
 2. Safety Evaluation

DOCUMENT NAME: G:\PERRY\PDIII-2\NINE MISCELLANEOUS CHANGES A6462AMD.WPD

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NAME	DPickett		THarris <i>TH</i>	RWeisman <i>RW</i>			AMendoza
DATE	03/14/00		03/14/00	03/24/00	03/24/00		03/28/00

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J. Wood
FirstEnergy Nuclear Operating Company

Perry Nuclear Power Plant, Units 1 and 2

cc:

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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.111
License No. NPF-58

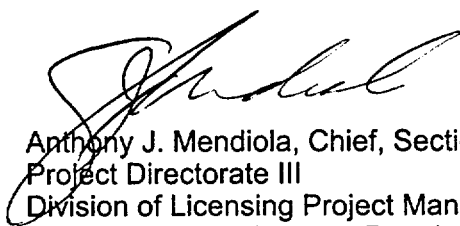
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the FirstEnergy Nuclear Operating Company (the licensee) dated September 9, 1999, as supplemented by submittal dated February 28, 2000, complies with the standards and requirements of the 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:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 111 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



Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 30, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 111

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

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

<u>Remove</u>	<u>Insert</u>
3.3-36	3.3-36
3.3-41	3.3-41
3.3-47	3.3-47
3.3-57	3.3-57
3.5-4	3.5-4
3.5-8	3.5-8
3.5-9	3.5-9
3.6-31	3.6-31
3.6-34	3.6-34
3.6-35	3.6-35
3.8-21	3.8-21
5.0-8	5.0-8
5.0-16	5.0-16
5.0-17	5.0-17
5.0-19	5.0-19
5.0-20	5.0-20

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.</p>	<p>E.1 -----NOTES----- 1. Only applicable in MODES 1, 2, and 3. 2. Only applicable for Functions 1.f, 1.g, and 2.e. ----- Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.</p> <p><u>AND</u></p> <p>E.2 Restore channel to OPERABLE status.</p>	<p>1 hour from discovery of loss of initiation capability for feature(s) in both divisions</p> <p>7 days</p>
<p>F. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.</p>	<p>F.1 Declare Automatic Depressurization System (ADS) valves inoperable.</p> <p><u>AND</u></p> <p>F.2 Place channel in trip.</p>	<p>1 hour from discovery of loss of ADS initiation capability in both trip systems</p> <p>96 hours from discovery of inoperable channel concurrent with HPCS or reactor core isolation cooling (RCIC) inoperable</p> <p><u>AND</u></p> <p>8 days</p>

(continued)

Table 3.3.5.1-1 (page 3 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI B and LPCI C Subsystems (continued)					
e. LPCI Pump B and LPCI Pump C Discharge Flow—Low (Bypass)	1,2,3, 4(a),5(a)	1 per pump	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1450 gpm
f. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA
3. High Pressure Core Spray (HPCS) System					
a. Reactor Vessel Water Level—Low, Level 2	1,2,3, 4(a),5(a)	4(e)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 127.6 inches
b. Drywell Pressure—High	1,2,3	4(e)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 1.88 psig
c. Reactor Vessel Water Level—High, Level 8	1,2,3, 4(a),5(a)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 221.7 inches
d. Condensate Storage Tank Level—Low	1,2,3, 4(c),5(c)	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 90,300 gallons
e. Suppression Pool Water Level—High	1,2,3	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 18 ft 6 inches

(continued)

- (a) When associated subsystem(s) are required to be OPERABLE.
- (c) When HPCS is OPERABLE for compliance with LCO 3.5.2, "ECCS—Shutdown," and aligned to the condensate storage tank while tank water level is not within the limits of SR 3.5.2.2.
- (e) Also required to initiate the associated diesel generator.

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, Level 2	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ 127.6 inches
2. Reactor Vessel Water Level — High, Level 8	4	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≤ 221.7 inches
3. Condensate Storage Tank Level — Low	2	D	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ 90,300 gallons
4. Suppression Pool Water Level — High	2	D	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≤ 18 ft 6 inches
5. Manual Initiation	1	C	SR 3.3.5.2.5	NA

Primary Containment and Drywell Isolation Instrumentation
3.3.6.1

Table 3.3.6.1-1 (page 4 of 6)
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. RCIC System Isolation (continued)					
g. Main Steam Line Pipe Tunnel Temperature Timer	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 30 minutes
h. RHR Equipment Area Ambient Temperature—High	1,2,3	1 per area	F	SR 3.3.6.1.1 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 159.9°F
i. RCIC Steam Line Flow—High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 55.6 inches water
j. Drywell Pressure—High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.88 psig
k. Manual Initiation	1,2,3	1	G	SR 3.3.6.1.5	NA
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow—High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 77.1 gpm
b. Differential Flow—Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 10.85 minutes
c. RWCU Heat Exchanger Room Temperature—High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 138.9°F
(continued)					

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY												
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days												
SR 3.5.1.2	<p>-----NOTE----- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the residual heat removal cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. -----</p> <p>Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	31 days												
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	31 days												
SR 3.5.1.4	<p>Verify each ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor-to-containment wetwell differential pressure.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>SYSTEM</th> <th>FLOW RATE</th> <th>REACTOR-TO-CONTAINMENT WETWELL DIFFERENTIAL PRESSURE</th> </tr> </thead> <tbody> <tr> <td>LPCS</td> <td>≥ 6110 gpm</td> <td>≥ 128 psid</td> </tr> <tr> <td>LPCI</td> <td>≥ 7100 gpm</td> <td>≥ 24 psid</td> </tr> <tr> <td>HPCS</td> <td>≥ 6110 gpm</td> <td>≥ 200 psid</td> </tr> </tbody> </table>	SYSTEM	FLOW RATE	REACTOR-TO-CONTAINMENT WETWELL DIFFERENTIAL PRESSURE	LPCS	≥ 6110 gpm	≥ 128 psid	LPCI	≥ 7100 gpm	≥ 24 psid	HPCS	≥ 6110 gpm	≥ 200 psid	In accordance with the Inservice Testing Program
SYSTEM	FLOW RATE	REACTOR-TO-CONTAINMENT WETWELL DIFFERENTIAL PRESSURE												
LPCS	≥ 6110 gpm	≥ 128 psid												
LPCI	≥ 7100 gpm	≥ 24 psid												
HPCS	≥ 6110 gpm	≥ 200 psid												

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.2 Verify, for the required High Pressure Core Spray (HPCS) System, the:</p> <p> a. Suppression pool water level is \geq 16 ft 6 in; or</p> <p> b. Condensate storage tank water volume is \geq 249,700 gal.</p>	<p>12 hours</p>
<p>SR 3.5.2.3 Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p>	<p>31 days</p>
<p>SR 3.5.2.4 -----NOTE----- One low pressure coolant injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable. -----</p> <p>Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	<p>31 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE			FREQUENCY											
SR 3.5.2.5	<p>Verify each required ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor to containment wetwell differential pressure.</p> <table border="1"> <thead> <tr> <th><u>SYSTEM</u></th> <th><u>FLOW RATE</u></th> <th><u>REACTOR TO CONTAINMENT WETWELL DIFFERENTIAL PRESSURE</u></th> </tr> </thead> <tbody> <tr> <td>LPCS</td> <td>≥ 6110 gpm</td> <td>≥ 128 psid</td> </tr> <tr> <td>LPCI</td> <td>≥ 7100 gpm</td> <td>≥ 24 psid</td> </tr> <tr> <td>HPCS</td> <td>≥ 6110 gpm</td> <td>≥ 200 psid</td> </tr> </tbody> </table>	<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>REACTOR TO CONTAINMENT WETWELL DIFFERENTIAL PRESSURE</u>	LPCS	≥ 6110 gpm	≥ 128 psid	LPCI	≥ 7100 gpm	≥ 24 psid	HPCS	≥ 6110 gpm	≥ 200 psid	In accordance with the Inservice Testing Program
<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>REACTOR TO CONTAINMENT WETWELL DIFFERENTIAL PRESSURE</u>												
LPCS	≥ 6110 gpm	≥ 128 psid												
LPCI	≥ 7100 gpm	≥ 24 psid												
HPCS	≥ 6110 gpm	≥ 200 psid												
SR 3.5.2.6	<p>-----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>	18 months												

3.6 CONTAINMENT SYSTEMS

3.6.1.11 Containment Vacuum Breakers

LCO 3.6.1.11 Three containment vacuum breakers shall be OPERABLE and four containment vacuum breakers shall be closed.

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

-----NOTE-----
Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment-Operating" when the containment vacuum relief subsystem leakage results in exceeding overall containment leakage acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Separate Condition entry is allowed for each containment vacuum breaker. -----</p> <p>One or two containment vacuum breakers not closed.</p> <p><u>OR</u></p> <p>One required containment vacuum breaker inoperable for other reasons.</p>	<p>A.1 Close the associated motor operated isolation valve.</p> <p><u>AND</u></p> <p>A.2 Restore required containment vacuum breaker to OPERABLE status.</p>	<p>4 hours</p> <p>72 hours</p>

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.1.12 Containment Humidity Control

LCO 3.6.1.12 Containment average temperature-to-relative humidity shall be maintained within limits.

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of LCO not met.	A.1 Restore containment average temperature-to-relative humidity to within limits.	8 hours

(continued)

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENT

SURVEILLANCE	FREQUENCY
SR 3.6.1.12.1 Verify containment average temperature-to-relative humidity to be within limits.	24 hours

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more DGs with fuel oil level:</p> <p>1. For Div 1 and Div 2, < 73,700 gal and ≥ 65,100 gal; and</p> <p>2. For Div 3, < 36,700 gal and ≥ 32,000 gal.</p>	<p>A.1 Restore fuel oil level to within limits.</p>	48 hours
<p>B. One or more DGs with lube oil inventory:</p> <p>1. For Div 1 and Div 2, < 374 gal and ≥ 350 gal; and</p> <p>2. For Div 3, < 260 gal and ≥ 236 gal.</p>	<p>B.1 Restore lube oil inventory to within limits.</p>	48 hours

(continued)

5.5 Programs and Manuals (continued)

5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in 10 CFR 20, Appendix B, Table 2, Column 2;
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from the unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current quarter and current year in accordance with the methodology and parameters in the ODCM at least every 31 days;

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.6 Reporting Requirements

The following reports shall be submitted in accordance with 10 CFR 50.4.

5.6.1 Occupational Radiation Exposure Report

A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors), for whom monitoring was required, receiving exposures > 100 mrem/yr and their associated man rem exposure according to work and job functions, (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). This tabulation supplements the requirements of 10 CFR 20.2206. The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling < 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources should be assigned to specific major work functions.

The Occupational Radiation Exposure Report covering the activities of the unit for the previous year shall be submitted by April 30 of each year.

5.6.2 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated

(continued)

5.6 Reporting Requirements

5.6.2 Annual Radiological Environmental Operating Report (continued)

results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

The Radioactive Effluent Release Report covering the operation of the unit during the previous year shall be submitted by May 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and process control program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the main steam safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 Core Operating Limits Report (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
1. LCO 3.2.1, Average Planar Linear Heat Generation Rate (APLHGR),
 2. LCO 3.2.2, Minimum Critical Power Ratio (MCPR),
 3. LCO 3.2.3, Linear Heat Generation Rate (LHGR), and

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.7 High Radiation Area

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601(a), each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., radiation protection technicians) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.
- c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the health physics supervisor in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose ≥ 1000 mrem shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the shift supervisor on duty or the radiation protection supervisor. Doors shall remain locked except during periods of access by personnel under an approved RWP.

(continued)

5.7 High Radiation Area

5.7.2 (continued)

Individuals qualified in radiation protection procedures (e.g., radiation protection technicians) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 3000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

5.7.3 In addition to the requirements of Specification 5.7.1, for individual high radiation areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose ≥ 1000 mrem that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that are not continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.7.4 In addition to the requirements and exemptions of Specifications 5.7.1 and 5.7.2 for individual areas accessible to personnel such that a major portion of the body could receive in 1 hour a dose > 3000 mrem, entry shall require an approved RWP which will specify dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, continuous surveillance, direct or remote, such as use of closed circuit TV cameras, may be made by personnel qualified in radiation protection procedures to provide positive exposure control over activities within the areas.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 111 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 application dated September 9, 1999, as supplemented by submittal dated February 28, 2000, FirstEnergy Nuclear Operating Company (the licensee), proposed nine unrelated revisions to the technical specifications for the Perry Nuclear Power Plant, Unit 1 (PNPP). These changes, which are minor in both content and safety significance, include clarifications and editorial changes to the technical specifications (TSs).

The supplemental information contained clarifying information and did not change the initial no significant hazards consideration determination and did not expand the scope of the original application.

2.0 EVALUATION

2.1 Condensate Storage Tank Level Instrumentation

The condensate storage tank (CST) provides the primary source of water for both the high pressure core spray (HPCS) system and the reactor core isolation cooling (RCIC) system. When the CST reaches a predetermined low water level, suction for both the HPCS and RCIC systems are automatically switched to the suppression pool. The CST low water level is designed to provide sufficient head to preclude vortexing when the HPCS and RCIC pumps are taking suction from the CST. The TS Allowable Value requirement for the CST low water level is 59,700 gallons and is identified as Function 3.d of TS Table 3.3.5.1-1, "Emergency Core Cooling System Instrumentation."

During the Safety System Functional Inspection (SSFI) performed during the spring of 1997, Nuclear Regulatory Commission (NRC) inspectors questioned the assumptions of the calculated Allowable Value for the CST low water level. Specifically, the inspectors questioned the conservatism of the HPCS flow rate used in the vortexing calculation. Subsequently, the licensee has revised the vortexing calculation assuming HPCS pump runout conditions which has resulted in the need to increase the TS Allowable Value requirement for the CST low water level from 59,700 gallons to 90,300 gallons. In addition, in order to ensure that a sufficient volume of water is being maintained in the CST, the licensee has increased the minimum volume of water stored in the CST from $\geq 220,000$ gallons to $\geq 249,700$ gallons. This latter value is found in TS Surveillance Requirement 3.5.2.2 (ECCS - Shutdown).

The licensee's proposed changes increases the minimum amount of water in the CST prior to switching HPCS and RCIC pump suction from the CST to the suppression pool (TS Table 3.3.5.1-1, Function 3.d) and it increases the minimum overall amount of water required to be in the CST during normal plant operation (TS Surveillance Requirement 3.5.2.2). The changes were made to provide greater margin against the possibility of vortex formation in the CST. The staff agrees that these changes provide greater assurance that the HPCS and RCIC systems will function as designed and finds the proposed changes acceptable.

2.2 Emergency Core Cooling System Pump Differential Pressure

TS Surveillance Requirements (SRs) 3.5.1.4 and 3.5.2.5 include requirements to "Verify each ECCS pump develops the specified flow rate with the specified pump differential pressure." The SRs provide flow rates for each ECCS pump and an associated value identified as "Pump Differential Pressure."

The values listed as "Pump Differential Pressure" in the SRs are not the traditional differential pressure measured between the pump suction and pump discharge. Rather, the values listed in the SRs only represent the differential pressure between the reactor vessel and the containment wetwell area at the time that the ECCS systems are assumed to begin injecting. In addition to this differential pressure, the pumps must also overcome the elevation head losses between the pump suction and vessel discharge, and the piping friction losses. The staff notes that the "Pump Differential Pressure" heading is potentially misleading in that it could be misinterpreted to represent total pump differential pressure.

The licensee has proposed to revise the wording of the SRs to more accurately describe what the values represent. Both SR 3.5.1.4 and SR 3.5.2.5 have the following requirement:

Verify each ECCS pump develops the specified flow rate with the specified pump differential pressure.

This statement will be replaced with the following:

Verify each ECCS pump develops the specified flow rate with sufficient pump total head to overcome the total system resistance which includes the specified reactor to containment wetwell differential pressure.

In addition, the column currently labeled as "Pump Differential Pressure," will be revised to "Reactor to Containment Wetwell Differential Pressure."

The staff concurs that the proposed wording better describes that the differential pressure test in the SRs demonstrates sufficient pump head is available to overcome total system resistance. The actual surveillance testing will not change and the overall differential pump pressures that must be verified are also not being changed. The staff concludes that there is no safety significance to the proposed change, the proposed change adds clarity and understanding to the surveillances, and it is, therefore, acceptable.

2.3 RCIC/RHR Steam Line Flow Instrumentation

The original PNPP design included a steam condensing cooling mode of the residual heat removal (RHR) system. Piping from the "A" main steam line branches into the steam supply line to the RCIC steam-driven turbine and to both the "A" and "B" RHR heat exchangers for the steam condensing cooling mode of RHR. Leak detection instruments monitoring for high flow in this steam line is called "RCIC/RHR Steam Line Flow - High," and is included as Function 3.i of TS Table 3.3.6.1-1, "Primary Containment and Drywell Isolation Instrumentation."

Since the staff never approved use of the RHR steam condensing cooling mode, the licensee eliminated this option by capping the RHR piping and installing blind flanges. Thus, the leak detection instruments for this steam line are no longer connected to the RHR system. Therefore, the licensee has proposed to change the nomenclature of Function 3.i of TS Table 3.3.6.1-1 by eliminating the reference to the RHR system. The licensee has proposed to rename this instrumentation to "RCIC Steam Line Flow - High." The staff recognizes that this change reflects the existing plant configuration and does not involve any safety significance. Therefore, the staff finds the proposed change acceptable.

2.4 Containment Average Temperature-To-Relative-Humidity Control

TS 3.6.1.12, "Containment Humidity Control," requires that containment average temperature-to-relative-humidity be maintained within limits. The APPLICABILITY statement for TS 3.6.1.12 includes MODES 1, 2, and 3 as well as during movement of recently irradiated fuel, and during operations with a potential for draining the reactor vessel (OPDRVs).

As currently written, Condition A only addresses restoration of containment temperature/humidity conditions while operating in Modes 1, 2, and 3. Condition A does not address restoration of containment temperature/humidity conditions during movement of recently irradiated fuel or during OPDRVs. However, Condition C addresses actions to be taken if Condition A cannot be met during movement or recently irradiated fuel or during OPDRVs. Thus, the wording of Condition C implies that Condition A applies during all conditions of the APPLICABILITY statement.

In order to prevent any confusion regarding applicability, the licensee has proposed to delete the words "in MODE 1, 2, or 3" in Condition A. This action will ensure that Condition A is applicable for all conditions of the APPLICABILITY statement and therefore match with the logic of Condition C.

In addition, the licensee has proposed to delete the word "or" in Condition B. Condition B is intended to be the standard followup action to be taken if Condition A cannot be met during MODES 1, 2, and 3. The insertion of the word "or" appears to be an editorial error introduced during the conversion to the improved standard technical specifications and does not serve any purpose.

The staff concludes that the proposed changes provides proper clarification to the TS. Condition A applies to all the APPLICABILITY conditions (i.e., MODES 1, 2, and 3 as well as during movement of irradiated fuel and during OPDRVs). Conditions B and C are the standard followup actions to be taken if Condition A cannot be met during MODES 1, 2, and 3 or during

movement of irradiated fuel and during OPDRVs, respectively. These changes clarify the intended effect of TS 3.6.1.12, do not involve safety significance, and are acceptable to the staff.

2.5 Containment Vacuum Breakers

The PNPP design includes four containment vacuum breakers to relieve vacuum when the primary containment depressurizes below outside atmospheric pressure. Such conditions could exist upon inadvertent actuation of the containment spray system. The containment vacuum relief system consists of four 24-inch vacuum relief lines with a simple check valve inside containment and a motor-operated butterfly valve outside containment. During normal operation, the check valves are required to be closed (to prevent bypass leakage during accident conditions) and the butterfly valves are maintained open. The containment vacuum relief system is designed such that only two of the four vacuum relief lines are necessary to relieve system pressure.

TS 3.6.1.11, "Containment Vacuum Breakers," requires that three containment vacuum breakers shall be OPERABLE and that all four containment vacuum breakers shall be closed. Condition A of TS 3.6.1.11 provides the required actions if one or two containment vacuum breakers are not closed or if one required containment vacuum breaker is inoperable for other reasons. Upon entry into Condition A, Required Action A.1 states "Close the associated motor operated isolation valve" within 4 hours followed by Required Action A.2 which states "Restore containment vacuum breaker to OPERABLE status," within 72 hours.

As stated in the limiting condition for operation (LCO) and the TS Bases, only three containment vacuum breakers are required to be OPERABLE. However, the Required Actions of TS 3.6.1.11 could be interpreted to preclude continued operation with one containment vacuum breaker inoperable. Therefore, the licensee has proposed inserting the word "required" into Required Action A.2 to clearly permit continued plant operation with an inoperable containment vacuum breaker. TS Required Action A.2 would read "Restore required containment vacuum breaker to OPERABLE status."

The proposed change supports both the intent of the TS and the system design. Only three containment vacuum breakers are required to remain operable. Thus, the TS should clearly permit continued plant operation when one containment vacuum breaker is inoperable. The proposed change clarifies the intended effect of TS 3.6.1.11, does not involve safety significance, and is acceptable to the staff.

2.6 Administrative Controls Reporting Requirement

TS 5.6.1, "Occupational Radiation Exposure Report," provides the reporting requirements for all plant personnel for whom radiation monitoring is required. Included in TS 5.6.1 is the following statement:

The Occupational Radiation Exposure Report covering the activities of the unit for the previous calendar year shall be submitted by March 31 of each year.

The licensee believes that the above statement could be interpreted to mean that "calendar year" ends at midnight on December 31. The definition of a year in 10 CFR 20.1003 provides greater operational flexibility in determining reporting requirements. 10 CFR 20.1003 states:

Year means the period of time beginning in January used to determine compliance with the provisions of this part. The licensee may change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

The licensee has proposed to modify TS 5.6.1 by deleting the word "calendar" to avoid any potential confusion of reporting requirements and to take advantage of the operational flexibility intended by 10 CFR 20.1003.

Using the equivalent justification, the licensee has also proposed to delete the word "calendar" from TS 5.5.4, "Radioactive Effluent Controls Program," TS 5.6.2, "Annual Radiological Environmental Operating Report," and TS 5.6.3, "Radioactive Effluent Release Report."

The staff concludes that changing the way a year is defined will have no substantive effect on reporting requirements, has no safety significance, and is acceptable.

In addition, TS 5.6.1 requires that the Occupational Radiation Exposure Report be submitted by March 31 of each year. The licensee has proposed to change the submittal date from March 31 to April 30. Changing the report submittal date makes it consistent with Revision 1 of NUREG-1434, the Standard Technical Specifications for the BWR/6 facilities. The staff concludes that there is no safety significance in delaying the report by one month and that there is no reporting impact since the entire yearly reporting period is included. Therefore, the staff finds the proposed change in submittal date acceptable.

2.7 High Radiation Area Administrative Controls

TS 5.7, "High Radiation Area," is being revised to update titles of individuals responsible for radiation protection. The licensee has proposed to replace the term "health physics" with "radiation protection" in order to be consistent with plant terminology. The TS will be revised accordingly in three separate locations within TS 5.7.

The staff concludes that changing the terminology as described has no impact on the effectiveness of the licensee's administrative controls, has no safety significance, and therefore, is acceptable.

2.8 ECCS Instrumentation TS 3.3.5.1

The licensee has proposed modifying Required Action E.1 NOTE 1 of TS 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation." NOTE 1 currently reads:

Only applicable MODES 1, 2, and 3.

In order to make the TS consistent with other specifications, the licensee has proposed inserting the word "in" such that NOTE 1 will read:

Only applicable in MODES 1, 2, and 3.

The staff concludes that the proposed change is editorial in nature, has no safety significance, and is, therefore, acceptable.

2.9 Continuation to Next Page

The standard format of the improved TSs includes the word "continued" on the lower right-hand corner of a page to indicate that the specification does not end on that page and that additional information follows. Page 3.8-21 of the PNPP TSs inadvertently omitted the word "continued" in the lower right-hand corner of the page. The licensee has proposed to insert this word in order to be consistent with the remainder of the PNPP TSs.

The staff concludes that the proposed change is editorial in nature, has no safety significance, and is, therefore, acceptable.

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

With the exception of the changes to TS 5.6.1 and TS 5.7, 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 surveillance requirements. The staff has determined that this portion of 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 (64 FR 59803). Accordingly, this portion of the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). With respect to the changes proposed for TS 5.6.1 and TS 5.7, this amendment also relates to changes in record keeping, reporting, or administrative procedures or requirements. Accordingly, with respect to these items, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(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: Douglas Pickett, NRR

Date: March 30, 2000