

May 23, 1989

Docket No. 50-440

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Mr. Alvin Kaplan, Vice President
 Nuclear Group
 The Cleveland Electric Illuminating
 Company
 10 Center Road
 Perry, Ohio 44081

Dear Mr. Kaplan:

SUBJECT: AMENDMENT NO. 21 TO FACILITY OPERATING LICENSE NO. NPF-58
 (TAC NO. 71913)

The Commission has issued the enclosed Amendment No. 21 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment revises the Technical Specifications in response to your application dated January 18, 1989.

This amendment adds two containment isolation valves to Table 3.6.4-1, Containment Isolation Valves, and one valve control switch to Table 3.3.7.4-1, Division 1 Remote Shutdown System Controls.

Copies of the Safety Evaluation and of the notice of issuance are also enclosed. The notice of issuance has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

Timothy G. Colburn, Sr. Project Manager
 Project Directorate III-3
 Division of Reactor Projects - III, IV, V
 & Special Projects
 Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 21 to License No. NPF-58
2. Safety Evaluation
3. Notice of issuance

cc w/enclosures:

See next page

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 Date: 5/14/89

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The Cleveland Electric
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Perry Nuclear Power Plant
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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. 21
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, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated January 18, 1989 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:

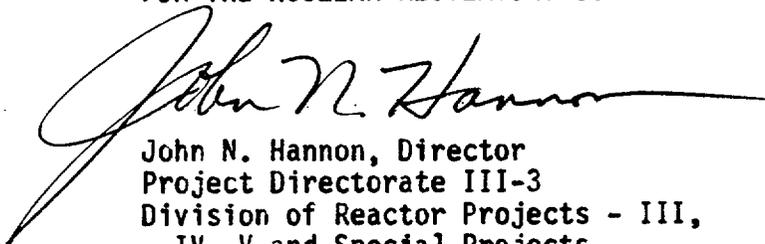
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PDR ADICK 05000440
P PDC

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 21 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. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 23, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 21

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. Overleaf pages are provided to maintain document completeness.

Remove

3/4 3-75
(Table 3.3.7.4-1 (continued)
Remote Shutdown System Controls)

3/4 6-30 (Table 3.6.4-1
Containment Isolation Valves)

Insert

3/4 3-75
(Table 3.3.7.4-1 (continued)
Remote Shutdown System Controls)

3/4 6-30 (Table 3.6.4-1
Containment Isolation Valves)

TABLE 3.3.7.4-1 (Continued)
REMOTE SHUTDOWN SYSTEM CONTROLS

CONTROL	MINIMUM CHANNELS OPERABLE	
	Division 1	Division 2
ESW Pump	1	1
ESW Pump Discharge Valve	1	1
RHR HX's ESW Inlet/Outlet Valves	1(a)	1(a)
RHR HX's Inlet/Outlet/Bypass Valves	2(a)	2(a)
RHR Pump	3(a)	3(a)
RHR to Containment Shutoff Valve	1	1
RHR Pump Suppression Pool Suction Valve	1	1
LPCI Injection Valve	1	1
RHR A Shutdown Cooling Suction Valve	1	1
RHR Upper Pool Cooling Isolation Valve	1	NA
RHR Head Spray Isolation Valve	1	1
RHR HX's Dump Valve	1	NA
Containment Spray First Shutoff	1	1
Shutdown Cooling to Feedwater Shutoff	1	1
RHR Test Valve to Suppression Pool	1	1
Shutdown Cooling Outboard Suction Isolation Valve	1	1
RHR A to Radwaste Second Isolation Valve	1	NA
Steam Condensing Shutoff Valve to RCIC	1	NA
RHR HX's Steam Shutoff Valve	1	1
RHR Pump Minimum Flow Valve	1	1
ECC Pump	1	1
RCIC Turbine Gland Seal Compressor	1	1
RHR & RCIC Steam Supply Outboard Isolation Valve	1	NA
RCIC Second Test Valve to CST	1	NA
RCIC Turbine Trip	1	NA
RCIC Steam Shutoff Valve	1	NA
RCIC First Test Valve to CST	1	NA
RCIC Pump CST Suction Valve	1	NA
RCIC Injection Valve	1	NA
RCIC Pump Suppression Pool Suction Isolation Valve	1	NA
RCIC Turbine Trip Throttle Valve	1	NA
RCIC Pump Minimum Flow Valve	1	NA
RCIC Turbine Exhaust Shutoff Valve	1	NA
RCIC Exhaust Vacuum Breaker Outboard Isolation Valve	1	NA
RCIC Pump Discharge to L.O. Cooler Valve	1	NA
RCIC Exhaust Vacuum Breaker Inboard Isolation Valve	NA	1*
RHR B Shutdown Cooling Suction Valve	NA	1*
Shutdown Cooling Inboard Suction Isolation Valve	NA	1*
RHR & RCIC Steam Supply Inboard Isolation Valve	NA	1*
RHR & RCIC Steam Supply Warmup Isolation Valve	NA	1*
Safety Relief Valves	3(a)	3(a)
Control Room to Shutdown Panel Transfer Switches	14	2*
APRM Power Supply Breakers	1**(b)	1**(b)
Inboard Main Steam Isolation Valve	NA	2(c)*
Diesel Generator Room Fan 1A Temperature Controller	1	NA
Suppression Pool Cleanup Isolation Valve	1	NA

(a) 1 per valve

(b) One breaker constitutes one channel for ATWS Division 1 and Division 2.

(c) One switch for Solenoid "A" per 4 valves, one switch for Solenoid "B" per 4 valves.

* These Division 2 controls are physically located on the Division 1 panel.

** These breakers are physically located on ATWS Distribution Panels 1R14-S014 and 1R14-S015.

TABLE 4.3.7.4-1

REMOTE SHUTDOWN SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. Reactor Vessel Pressure	M	R
2. Reactor Vessel Water Level	M	R
3. Safety/Relief Valve Position	M	NA
4. Suppression Pool Water Level	M	R
5. Suppression Pool Water Temperature	M	R
6. Drywell Pressure	M	R
7. Drywell Temperature	M	R
8. RHR System Flow	M	R
9. Emergency Service Water Flow to RHR Heat Exchanger	M	R
10. Emergency Service Water Flow to Emergency Closed Cooling Heat Exchanger	M	R
11. RCIC System Flow	M	R
12. RCIC Turbine Speed	M	R
13. Emergency Closed Cooling System Flow	M	R
14. Inboard MSIV Position	M	NA

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each isolation valve shown in Table 3.6.4-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.

4.6.4.2 Each automatic isolation valve shown in Table 3.6.4-1 shall be demonstrated OPERABLE at least once per 18 months by verifying that on an isolation test signal each automatic isolation valve actuates to its isolation position.

4.6.4.3 The isolation time of each power operated or automatic valve shown in Table 3.6.4-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

Table 3.6.4-1 Containment Isolation Valves

a. CONTAINMENT AUTOMATIC ISOLATION VALVES

Valve Number	Penetration Number	Valve Group ^(c)	Maximum Isolation Time (Seconds)	Secondary Containment Bypass Path (Yes/No)	Test Pressure (Psig)
1B21-F016	P423	6	20	Yes	11.31
1B21-F019	P423	6	20	Yes	11.31
1B21-F022A	P124	6	5(g)	No	11.31
1B21-F022B	P416	6	5(g)	No	11.31
1B21-F022C	P122	6	5(g)	No	11.31
1B21-F022D	P415	6	5(g)	No	11.31
1B21-F028A	P124	6	5(g)	No	11.31
1B21-F028B	P416	6	5(g)	No	11.31
1B21-F028C	P122	6	5(g)	No	11.31
1B21-F028D	P415	6	5(g)	No	11.31
1B21-F067A	P124	6	22.5*	No	11.31
1B21-F067B	P416	6	22.5*	No	11.31
1B21-F067C	P122	6	22.5*	No	11.31
1B21-F067D	P415	6	22.5*	No	11.31
1D17-F071A	P201	1	3	Yes	11.31
1D17-F071B	P201	1	3	Yes	11.31
1D17-F079A	P201	1	3	Yes	11.31
1D17-F079B	P201	1	3	Yes	11.31
1D17-F081A	P317	1	3	Yes	11.31
1D17-F081B	P317	1	3	Yes	11.31
1D17-F089A	P317	1	3	Yes	11.31
1D17-F089B	P317	1	3	Yes	11.31
1E12-F008	P421	4	33	No ^(h)	11.31
1E12-F009	P421	4	33	No	11.31
1E12-F011A	P105	2	60*	No	(b)
1E12-F011B	P407	2	60*	No	(b)
1E12-F021	P408	2	90	No ^(h)	11.31
1E12-F023	P123	4	90*	No ^(h)	11.31
1E12-F024A	P105	2	90	No	(b)
1E12-F024B	P407	2	90	No	(b)
1E12-F037A	P113	4	180*	No	11.31
1E12-F037B	P412	4	180*	No	11.31
1E12-F609	P105	1	30*	No	(b)
1E12-F610	P105	1	30*	No	(b)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 21 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 letter dated January 18, 1989, The Cleveland Electric Illuminating Company, et al. (licensees) requested an amendment to Facility Operating License NPF-58 for the Perry Nuclear Power Plant, Unit 1. The proposed amendment would revise Technical Specification Table 3.6.4-1, Containment Automatic Isolation Valves, by adding two additional automatic containment isolation valves to the Table and one valve control switch to the Division 1 Remote Shutdown Panel, Technical Specification Table 3.3.7.4-1. This Technical Specification change would allow use of the Suppression Pool Cleanup (SPCU) System without resulting in one of the Residual Heat Removal (RHR) subsystems becoming unavailable for performance of its safety functions.

The modification would be completed during the first refueling outage. The licensee requested the NRC approval of this change prior to May 12, 1989 in order to support the preparation for startup originally scheduled for May 22, 1989. The outage has been delayed due to emergent work and is currently scheduled to end in late June 1989.

2.0 EVALUATION

Currently, the return line of the Suppression Pool Cleanup System (G42) ties into either loop A or B of the RHR (E12) system upstream of the respective suppression pool isolation valve (E12-F024A/B). (See Figure 1). During Suppression Pool Cleanup operations, it requires the opening of isolation valve E12-F024A/B. This drops the pressure in either A or B loop of the RHR system below the system low pressure alarm setpoint, rendering that loop inoperable.

A modification is proposed for the first refueling outage to relocate the return of the Suppression Pool Cleanup System to a point on the A loop of the RHR System between the isolation valve (E12-F024A) and the suppression pool, thus allowing the E12-F024A valve to remain shut during Suppression Pool Cleanup operations (See Figure 2). Both RHR loops could then remain operable throughout Train A SPCU System operations (preferred configuration).

The proposed return line utilizes the same existing containment penetration and adds two automatic containment isolation valves (1E12-F609 and 1E12-F610) to the line. (See Figure 2). Both valves will be located in the Auxiliary Building as close as possible to the outside of the containment, receiving Valve Group 1 containment isolation signals (Reactor Pressure Vessel low level 2, and high drywell pressure). The proposed isolation signal is more conservative than the existing isolation signal on Level 1 for valve 1E12-F024A. The power supplies to the valves are independent (1E Division 1 power goes to 1E12-F609, and 1E Division 2 power goes to 1E12-F-610) so that any single failure would not prevent containment isolation.

Since the Suppression Pool Cleanup System Control will be operated from the control room, a control switch for Division 1 Valve 1E12-F609 will be added to the Remote Shutdown Panel to close the new isolation valve in case of the need to perform a remote shutdown while the SPCU System is operating. This will prevent any possible interactions between RHR suppression pool cooling and the SPCU System following a control room evacuation. The modification will be installed in accordance with ASME Section III Class 2 up through both containment isolation valves, which are 6 inch 300 psig, ANSI rated carbon steel gate valves. The normal operational pressure for this line is approximately 20 psig, with a design pressure of 150 psig. The design pressure of the proposed additional isolation valves is consistent with the previously-approved suppression pool cleanup system design. The valve closure times of 30 seconds are the same as the standard gate valve closure time. The staff finds this 30-seconds closure time acceptable because the previously-approved isolation valve (E12-F024A) on the system has a closure time of 90 seconds. Also, the staff finds that the combination of the two automatic outside containment isolation valves, along with the piping inside containment submerged below the suppression pool, is an acceptable alternative to satisfy General Design Criterion (GDC) 56, of 10 CFR Part 50, Appendix A per Standard Review Plan (SRP) Section 6.2.4.II. These new valves (1E12-F609 and 1E12-F610) are to be classified as "normally closed" and open only during operation of the SPCU System. Based on the above review, the staff finds that the proposed modification meets the acceptance criteria of GDC 54 and 56 of Appendix A to 10 CFR Part 50 as required by SRP Section 6.2.4.II.

The proposed piping and valves are designed to seismic Category I, in accordance with Regulatory Guide 1.29. The previous interconnection tee to the RHR System will be removed and replaced with a pipe segment in accordance with the established RHR System design criterion. The staff finds this to be acceptable in meeting the requirements of GDC 1, 2, and 4 of Appendix A to 10 CFR Part 50 as required by SRP Section 6.2.4.II.

The new containment isolation valves will be tested with water at a pressure of 1.10 Pa in accordance with Technical Specification 3.6.1.2.e. This return line terminates below the minimum suppression pool drawdown level. Therefore, a water seal will be maintained in the pipe for at least a 30-day period between the new valves and containment atmosphere throughout the accident scenario.

These added valves are outside the scope of 10 CFR Part 50, Appendix J. This means that E12-F609 and E12-F610 valves will be tested with water, and the leakage will be limited to that specified in TS 3.6.1.2.e and will not be added to the Type B and C total. This is consistent with the present leak rate testing being performed on the 1E12-F024A valve and other valves using this penetration. Also, since a water seal will be maintained as described above, there is no potential for secondary bypass leakage through the two new containment isolation valves. The staff finds this to be acceptable in meeting GDC 16 of Appendix A to 10 CFR Part 50 as required by SRP Section 6.2.4.II to provide a leak-tight barrier against the uncontrolled release of radioactivity to the environment.

Based on the above review and evaluation, the staff finds that the proposed additional isolation valves and piping provide single failure proof, seismic Category I quality, appropriate valve closure time, remote control shutdown capability and leak tight barrier by a water seal for at least 30 days during an accident. Therefore, the staff has determined that the proposed modification to the system design meets SRP Section 6.2.4.II. acceptance criteria in satisfying GDC 1, 2, 4, 16, 54, and 56 to 10 CFR Part 50, Appendix A and that the proposed Technical Specification change is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35 an environmental assessment and finding of no significant impact has been prepared and published in the Federal Register on May 23, 1989 (54 FR 22386). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 CONCLUSION

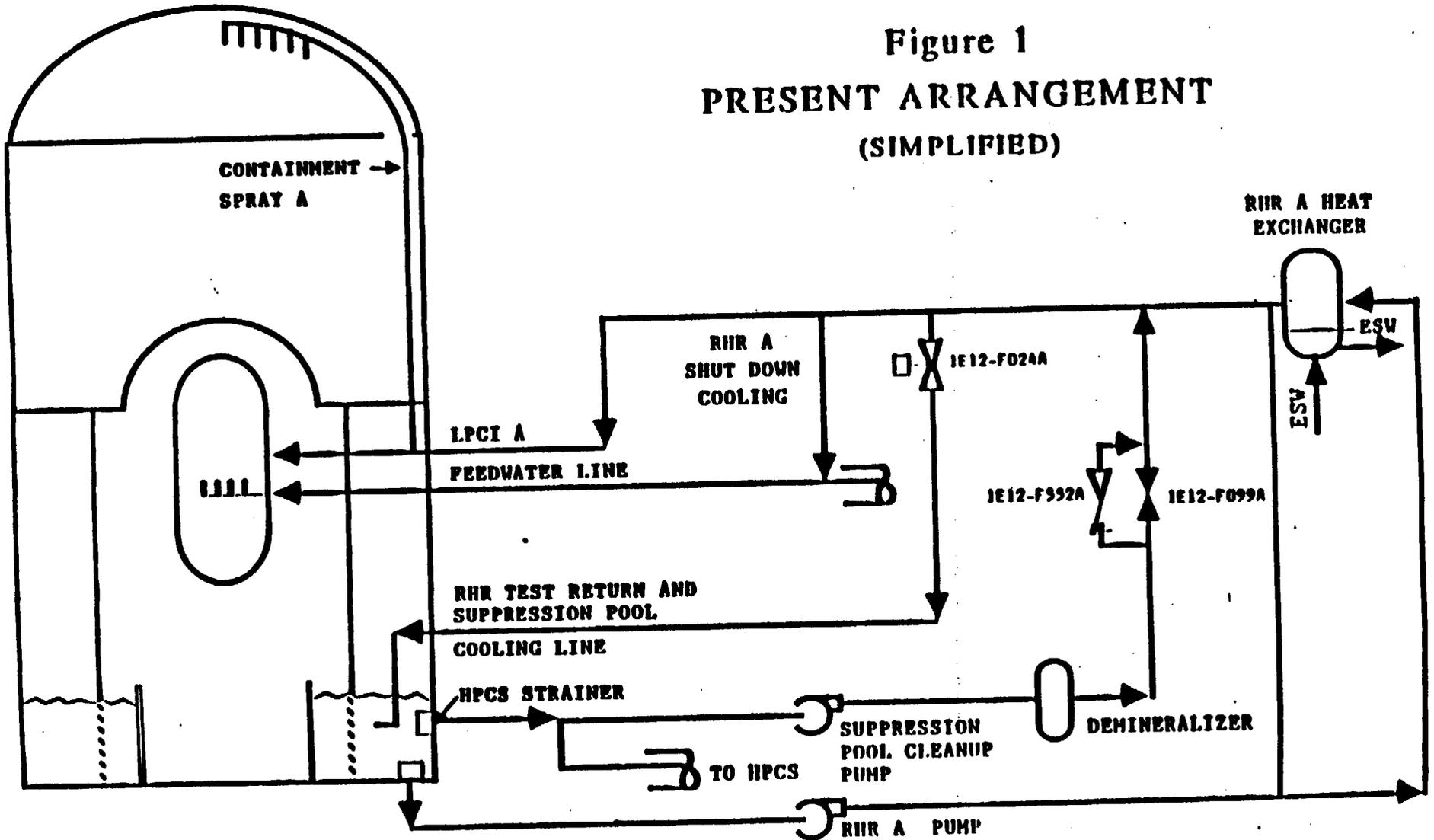
The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations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

Attachments:
Figures 1 and 2

Principal Contributor: A. Chu

Dated: May 23, 1989

Figure 1
PRESENT ARRANGEMENT
(SIMPLIFIED)



UNITED STATES NUCLEAR REGULATORY COMMISSION
THE CLEVELAND ELECTRICAL ILLUMINATING COMPANY, ET AL.
DOCKET NO. 50-440
NOTICE OF ISSUANCE OF AMENDMENT TO
FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 21 to Facility Operating License No. NPF-58, issued to The Cleveland Electric Illuminating Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company and Toledo Edison Company (the licensees), which revised the Technical Specifications for operation of the Perry Nuclear Power Plant, Unit No. 1, located in Lake County, Ohio. The amendment was effective as of the date of issuance.

The amendment modified the Technical Specifications to add two valves to Table 3.6.4-1, Containment Isolation Valves, and one valve control switch to Table 3.3.7.4-1 Division 1 Remote Shutdown System Controls. This is as a result of a system modification adding two valves to the Suppression Pool Cleanup System to avoid making one leg of the Residual Heat Removal System inoperable while in suppression pool cleanup.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

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PDR ADOCK 05000440
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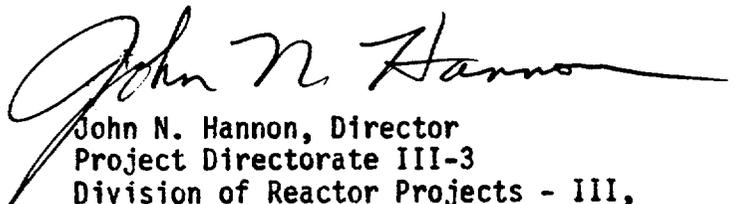
Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on March 20, 1989 (54 FR 11463). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the environmental assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment.

For further details with respect to the action see (1) the application for amendment dated January 18, 1989, (2) Amendment No. 21 to License No. NPF-58, (3) the Commission's related Safety Evaluation dated May 23, 1989 and (4) the Environmental Assessment dated May 16, 1989. All of these items are available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street NW, and at the Perry Public Library, 3753 Main Street, Perry, Ohio 44081. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects III, IV, V and Special Projects.

Dated at Rockville, Maryland this 23rd day of May 1989.

FOR THE NUCLEAR REGULATORY COMMISSION



John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation