

ust 25, 1995

Mr. J. E. Cross
Senior Vice President and
Chief Nuclear Officer
Nuclear Power Division
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 2 (TAC NO. M92194)

Dear Mr. Cross:

The Commission has issued the enclosed Amendment No. 73 to Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated April 26, 1995.

This amendment adds a requirement to TS 4.5.2.a to periodically verify that the High Head Safety Injection (HHSI) pump minimum flow valve, 2CHS*MOV373, is maintained open during plant operation in Modes 1, 2, and 3. Valve 2CHS*MOV373, must be maintained open to provide a minimum flowpath for the HHSI pumps thereby minimizing the likelihood of HHSI pump damage due to pump operation with insufficient flow. The amendment allows flexibility for local verification of valve position or flow indication if the control room indication is not available. Several editorial changes to TS 3/4.5.2 are also being made to provide consistent format with other TSs.

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

Sincerely,

original signed by
Donald S. Brinkman, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosures: 1. Amendment No. 73 to NPF-73
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script that reads "Donald S. Brinkman".

Donald S. Brinkman, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosures: 1. Amendment No. 73 to NPF-73
2. Safety Evaluation

cc w/encls: See next page

J. E. Cross
Duquesne Light Company

Beaver Valley Power Station
Units 1 & 2

cc:

Jay E. Silberg, Esquire
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW.
Washington, DC 20037

Nelson Tonet, Manager
Nuclear Safety
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

Commissioner Roy M. Smith
West Virginia Department of Labor
Building 3, Room 319
Capitol Complex
Charleston, WVA 25305

John D. Borrows
Director, Utilities Department
Public Utilities Commission
180 East Broad Street
Columbus, OH 43266-0573

Director, Pennsylvania Emergency
Management Agency
Post Office Box 3321
Harrisburg, PA 17105-3321

Ohio EPA-DERR
ATTN: Zack A. Clayton
Post Office Box 1049
Columbus, OH 43266-0149

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803

Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
ATTN: R. Barkanic
Post Office Box 2063
Harrisburg, PA 17120

Mayor of the Borough of
Shippingport
Post Office Box 3
Shippingport, PA 15077

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Resident Inspector
U.S. Nuclear Regulatory Commission
Post Office Box 181
Shippingport, PA 15077

George S. Thomas
Vice President, Nuclear Services
Nuclear Power Division
Duquesne Light Company
P.O. Box 4
Shippingport, PA 15077



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

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

DOCKET NO. 50-412

BEAVER VALLEY POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 73
License No. NPF-73

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Duquesne Light Company, et al. (the licensee) dated April 26, 1995, 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.

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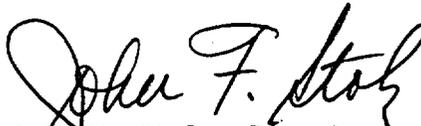
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-73 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 73 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. DLCO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 25, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 73

FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

Replace the following pages of Appendix A Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

3/4 5-3

3/4 5/4

Insert

3/4 5-3

3/4 5-4

EMERGENCY CORE COOLING SYSTEMS3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350^{\circ}F$ LIMITING CONDITION FOR OPERATION

3.5.2 Two separate and independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE centrifugal charging pump,
- b. One OPERABLE low head safety injection pump,
- c. One OPERABLE recirculation spray pump⁽¹⁾ capable of supplying the safety injection flow path during recirculation phase, and
- d. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.⁽²⁾

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a.1. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operator control circuits disconnected by removal of the plug in the lock out circuit from each circuit:

(1) Recirculation spray pump 2RSS-P21C or 2RSS-P21D.

(2) The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into MODE 3 for the centrifugal charging pumps declared inoperable pursuant to Specification 4.5.3.2 provided the centrifugal charging pumps are restored to OPERABLE status within 4 hours or prior to the temperature of one or more of the RCS cold legs exceeding 375°F, whichever comes first.

EMERGENCY CORE COOLING SYSTEMSSURVEILLANCE REQUIREMENTS (Continued)

	<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
a.	2SIS-MOV 8889	LHSI to hot legs	Closed
b.	2SIS-MOV 869A	HHSI to hot leg	Closed
c.	2SIS-MOV 869B	HHSI to hot leg	Closed
d.	2SIS-MOV 841	HHSI to cold leg	Open
e.	2CHS-MOV 8132A	HHSI pump disch x-conn	Open
f.	2CHS-MOV 8132B	HHSI pump disch x-conn	Open
g.	2CHS-MOV 8133A	HHSI pump disch x-conn	Open
h.	2CHS-MOV 8133B	HHSI pump disch x-conn	Open

- a.2. By verifying that 2CHS*MOV373, HHSI pump minimum flow valve, is open by:
- At least once per 12 hours, verifying flow through the minimum flow path using control room indication⁽³⁾ and that the motor operator is de-energized by the absence of valve position indicator lights.
 - At least once per 31 days, energizing the line starter and checking valve indicator lights indicate open, then de-energizing.
- b. By verifying that each of the following pumps develop the required differential pressure on recirculation flow when tested pursuant to Specification 4.0.5.
- Centrifugal charging pump ≥ 2437 psid
 - Low head safety injection pump ≥ 103 psid
- c. At least once per 31 days by:
- Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
 - Verifying that each ECCS subsystem is aligned to receive electrical power from separate OPERABLE emergency buses.

(3) If control room indication is not available, local verification of stem position or flow using temporary instruments may be performed.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 73 TO FACILITY OPERATING

LICENSE NO. NPF-73

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

BEAVER VALLEY POWER STATION, UNIT 2

DOCKET NO. 50-412

1.0 INTRODUCTION

By letter dated April 26, 1995, the Duquesne Light Company (the licensee) submitted a request for changes to the Beaver Valley Power Station, Unit 2 (BVPS-2), Technical Specifications (TSs). The requested changes would add a requirement to TS 4.5.2.a to periodically verify that the High Head Safety Injection (HHSI) pump minimum flow valve, 2CHS*MOV373, is maintained open during plant operation in Modes 1, 2, and 3. Valve 2CHS*MOV373, must be maintained open to provide a minimum flowpath for the HHSI pumps and thereby minimize the likelihood of HHSI pump damage due to operating the pumps with insufficient flow. The proposed change would allow flexibility for local verification of valve position or flow indication if the control room indication is not available. The proposed amendment would also make several editorial changes to TS 3/4.5.2 for consistent format with other TSs.

2.0 BACKGROUND

The subject valve is located in the alternate minimum flow system (AMFS). The AMFS was implemented at BVPS-2 to prevent "deadheading" and consequent damage to the high head safety injection (HHSI) pumps during periods of high reactor coolant system (RCS) pressure accompanying such events as a main steam line or feedwater line break. This scenario could occur when the safety injection (SI) signal triggered by the event automatically closes the minimum flow valve and, at the same time, starts the HHSI pumps. The AMFS averts this problem by ensuring the proper alignment of the minimum flow valve when minimum flow capability is needed.

NRC Information Notice (IN) 92-61, "Loss of High Head Safety Injection," informed licensees of a waterhammer event in the AMFS at another facility which resulted in a loss of HHSI function. To preclude the occurrence of a similar event at BVPS-2 and to ensure that minimum flow was available to the HHSI pumps at all times, the licensee retired the AMFS in place by keeping the subject valve in the open position and removing its SI closure signal. However, this modification did not consider a single failure in an electrical system and therefore did not satisfy NRC Branch Technical Position (BTP) ICSB 18, "Application of the Single Failure Criterion to Manually-Controlled Electrically-Operated Valves."

Because this BTP was part of the BVPS-2 licensing basis, the licensee proposed corrective actions to meet the intent of the BTP. These actions included de-energizing the valve's motor operator and locking the manual operator in the open position, thereby removing the valve from active status. Since the BVPS-2 TSs list all electrically-operated valves to which the requirement for removal of electrical power is applied to satisfy the single failure criterion, the proposed revisions to TS 3/4.5.2 add the subject valve to this list. In addition, the revisions specify the surveillance needed to ensure that this valve remains open at all times.

3.0 EVALUATION

In support of the proposed locking open and de-energizing of minimum flow valve 2CHS*MOV373 and the associated revisions to TS 3/4.5.3, new safety analyses were performed by the licensee. These analyses assumed that the subject valve remained open during all postulated accident conditions and did not close on an SI signal. The effect of reduced injection flow due to partial flow diversion from the SI header to the (now open) minimum flow line and the attendant reduction in cooling during RCS high pressure conditions following events such as secondary side line breaks was examined. It was found that sufficient flow to the core would be maintained during these events and that the HHSI pumps would remain capable of performing their safety function with the minimum flow line kept open. Because the now open minimum flow line would carry recirculated water from the containment sump through certain safeguards areas of the plant, the effect of increased dose levels on equipment qualification and post-accident personnel access routes was also examined. No adverse impact was found.

The proposed surveillance requirements of revised TS 3/4.5.2 are consistent with the guidance in BTP ICSB 18 and ensure that the subject valve remains in the open position, as assumed in the revised safety analyses, and is not vulnerable to single failure.

Based on the above evaluation, we find that the de-energizing and locking open of minimum flow valve 2CHS*MOV373, and the surveillance requirements added to TS 3/4.5.2 to ensure that this valve remains open at all times, are acceptable.

4.0 STATE CONSULTATION

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

5.0 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 and changes surveillance requirements. 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 involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 29874). 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.

6.0 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.

Principal Contributor: H. Abelson

Date: August 25, 1995