

January 31, 1994

Docket Nos. 50-334  
and 50-412

Mr. J. D. Sieber, Senior Vice President  
and Chief Nuclear Officer  
Nuclear Power Division  
Duquesne Light Company  
Post Office Box 4  
Shippingport, Pennsylvania 15077

**DISTRIBUTION:**

Docket File  
NRC & Local PDRs  
PDI-3 Reading  
SVarga  
JCalvo  
WButler  
GEdison  
SLittle  
OGC

DHagan  
GHill (4)  
CGrimes 11E22  
ACRS (10)  
OPA  
OC/LDFCB  
JRogge, RI  
TFarnholtz

Dear Mr. Sieber:

**SUBJECT: ISSUANCE OF AMENDMENT NOS. 179 AND 59 TO FACILITY OPERATING LICENSES DPR-66 AND NPF-73, IN RESPONSE TO CHANGE REQUEST NOS. 197/64, PRESSURIZER SPRAY DIFFERENTIAL TEMPERATURE (TAC NOS. M85903 AND M85904)**

The Commission has issued the enclosed Amendment Nos. 179 and 59 to Facility Operating License Nos. DPR-66 and NPF-73 for the Beaver Valley Power Station, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 19, 1993.

The amendments revise the Appendix A TSs 3.4.9.1, 3.4.9.2, and 4.4.9.2 relating to pressurizer surge line stratification.

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

Sincerely,  
original signed by  
Gordon E. Edison, Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

**Enclosures:**

1. Amendment No. 179 to DPR-66
2. Amendment No. 59 to NPF-73
3. Safety Evaluation

cc w/enclosures:  
See next page

OFFICE	PDI-3:LA	PDI-3:PM	PDI-3:PM	OGC	D:PDI-3
NAME	SLittle	JHare	GEdison:mw	hmb	WButler
DATE	1/12/94	1/13/94	1/13/94	1/28/94	1/13/94

OFFICIAL RECORD COPY  
FILENAME: A:\BVM85903.AMD

9402030245 940131  
PDR ADOCK 05000334  
PDR

010065

DF01  
" " &



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

January 31, 1994

Docket Nos. 50-334  
and 50-412

Mr. J. D. Sieber, Senior Vice President  
and Chief Nuclear Officer  
Nuclear Power Division  
Duquesne Light Company  
Post Office Box 4  
Shippingport, Pennsylvania 15077-0004

Dear Mr. Sieber:

SUBJECT: ISSUANCE OF AMENDMENT NOS. 179 AND 59 TO FACILITY OPERATING LICENSES  
DPR-66 AND NPF-73, IN RESPONSE TO CHANGE REQUEST NOS. 197/64,  
PRESSURIZER SPRAY DIFFERENTIAL TEMPERATURE (TAC NOS. M85903  
AND M85904)

The Commission has issued the enclosed Amendment Nos. 179 and 59 to Facility Operating License Nos. DPR-66 and NPF-73 for the Beaver Valley Power Station, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 19, 1993.

The amendments revise the Appendix A TSs 3.4.9.1, 3.4.9.2, and 4.4.9.2 relating to pressurizer surge line stratification.

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

Sincerely,

A handwritten signature in cursive script that reads "Gordon E. Edison".

Gordon E. Edison, Senior Project Manager  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 179 to DPR-66
2. Amendment No. 59 to NPF-73
3. Safety Evaluation

cc w/enclosures:  
See next page

**Mr. J. D. Sieber  
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, Pennsylvania 15077**

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

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

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

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

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

**Mayor of the Borough of  
Shippingport  
Post Office Box 3  
Shippingport, Pennsylvania 15077**

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

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

**George S. Thomas  
Vice President, Nuclear Services  
Nuclear Power Division  
Duquesne Light Company  
Post Office Box 4  
Shippingport, Pennsylvania 15077**



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

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

DOCKET NO. 50-334

BEAVER VALLEY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 179  
License No. DPR-66

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duquesne Light Company, et al. (the licensee) dated February 19, 1993, 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.

9402030251 940131  
PDR ADOCK 05000334  
P PDR

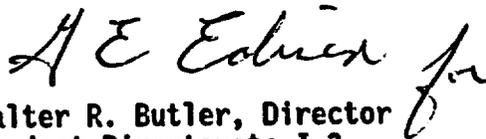
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 179, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 31, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 179

FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

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 4-22  
3/4 4-27

Insert

3/4 4-22  
3/4 4-27

DPR-66  
REACTOR COOLANT SYSTEM

3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

---

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown on Figure 3.4-2 and Figure 3.4-3 during heatup, cooldown, criticality, and inservice leak and hydrostatic testing with:

- a. A maximum heatup of 100°F in any one hour period,
- b. A maximum cooldown of 100°F in any one hour period, and
- c. A maximum temperature change of less than or equal to 5°F in any one hour period, during hydrostatic testing operations above system design pressure.

APPLICABILITY: MODES 1, 2<sup>(1)</sup>, 3, 4 and 5.

ACTION:

With any of the above limits exceeded:

- a. Restore the temperature and/or pressure to within the limit within 30 minutes, and
- b. Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System within 72 hours, and
- c. Determine, from Action b above, that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the RCS  $T_{avg}$  and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

---

(1) See Special Test Exception 3.10.3.

DPR-66  
REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

- 3.4.9.2 The pressurizer temperature shall be limited to:
- a. A maximum heatup of 100°F in any one hour period,
  - b. A maximum cooldown of 200°F in any one hour period, and
  - c. A maximum spray water temperature differential of 320°F.

APPLICABILITY: At all times.

ACTION:

With the pressurizer temperature limits in excess of any of the above limits:

- a. Restore the temperature to within the limits within 30 minutes, and
- b. Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer within 72 hours, and
- c. Determine, from Action b above, that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.2.1 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown.

4.4.9.2.2 The normal spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during system heatup or cooldown.

4.4.9.2.3 The auxiliary spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during auxiliary spray operation.



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. 59  
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 February 19, 1993, 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.

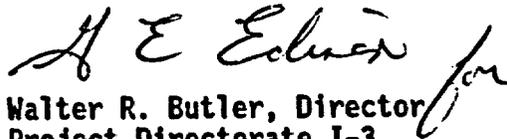
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-73 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 59, 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director  
Project Directorate I-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 31, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 59

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 4-30  
----  
3/4 4-34

Insert

3/4 4-30  
3/4 4-30a  
3/4 4-34

NPF-73  
REACTOR COOLANT SYSTEM

3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown on Figures 3.4-2 and 3.4-3 during heatup, cooldown, criticality, and inservice leak and hydrostatic testing with:

- a. A maximum heatup of 60°F in any one hour period,
- b. A maximum cooldown of 100°F in any one hour period, and
- c. A maximum temperature change of less than or equal to 5°F in any one hour period during hydrostatic testing operations above system design pressure.

APPLICABILITY: MODES 1, 2, 3, 4, and 5.

ACTION:

With any of the above limits exceeded:

- a. Restore the temperature and/or pressure to within the limit within 30 minutes, and
- b. Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System within 72 hours, and
- c. Determine, from Action b above, that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the RCS  $T_{avg}$  and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.1

- a. The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.
- b. The Reactor Coolant System temperature and pressure conditions shall be determined to be to the right of the criticality limit line within 15 minutes prior to achieving reactor criticality.

**NPF-73**  
**REACTOR COOLANT SYSTEM**

**SURVEILLANCE REQUIREMENTS (Continued)**

---

**4.4.9.1 (Continued)**

- c. The reactor vessel material irradiation surveillance specimens shall be removed and examined in accordance with 10 CFR 50, Appendix H, to determine changes in material properties. The results of these examinations shall be used to update Figures 3.4-2 and 3.4-3.**

NPF-73  
REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

- 3.4.9.2 The pressurizer temperature shall be limited to:
- a. A maximum heatup of 100°F in any one hour period,
  - b. A maximum cooldown of 200°F in any one hour period,
  - c. A maximum normal spray water temperature differential of 320°F, and
  - d. A maximum auxiliary spray water temperature differential of 380°F.

APPLICABILITY: At all times.

ACTION:

With the pressurizer temperature limits in excess of any of the above limits:

- a. Restore the temperature to within the limits within 30 minutes, and
- b. Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer within 72 hours, and
- c. Determine, from Action b above, that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.2.1 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown.

4.4.9.2.2 The normal spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during system heatup or cooldown.

4.4.9.2.3 The auxiliary spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during auxiliary spray operation.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. DPR-66  
AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. NPF-73

DUQUESNE LIGHT COMPANY  
OHIO EDISON COMPANY  
PENNSYLVANIA POWER COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
THE TOLEDO EDISON COMPANY

BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-334 AND 50-412

**1.0 INTRODUCTION**

By letter dated February 19, 1993, the Duquesne Light Company (the licensee) proposed changes to the Technical Specifications (TSs) for the Beaver Valley Power Station, Unit Nos. 1 and 2. The changes would: (1) replace the action statement of TS 3.4.9.1 and 3.4.9.2 with a list of specifications actions to be taken if the requirements of the limiting condition for operation are not met, (2) modify TS surveillance requirement 4.4.9.2 by separating the requirements into 4.4.9.2.1 and 4.4.9.2.2, and by adding 4.4.9.2.3, and (3) modify Unit No. 2 TS 3.4.9.2 by revising the auxiliary spray water temperature differential requirement, and adding a normal spray water temperature differential requirement. The maximum spray water temperature differential requirement found in TS 3.4.9.2 for Unit No. 1 remains unchanged.

**2.0 BACKGROUND**

The action statements associated with TS 3.4.9.1 and 3.4.9.2 for both units, prior to this amendment request, contained several requirements including the requirement to perform an analysis to determine the effects of an out-of-limit temperature condition on the reactor coolant system or pressurizer. No time limit was specified for the completion of this analysis. This amendment request specifies a time limit of 72 hours for the completion of the engineering evaluation, formally called an analysis. In addition, the amendment request changes the format of the original action statements by separating the individual actions required and listing them as "a," "b," and "c."

The surveillance requirements associated with TS 4.4.9.2.2 for both units, prior to this amendment request, contained two requirements including the requirement to determine that the pressurizer spray water temperature differential, both normal and auxiliary, is within the limit at least once per 12 hours during steady state operation. This amendment request changes this

9402030255 940131  
PDR ADDOCK 05000334  
PDR

requirement by specifying that the normal spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during system heatup or cooldown, and that the auxiliary spray water temperature differential shall be determined to be within the limit at least once per 30 minutes during auxiliary spray operation. In addition, the amendment request changes the format of the original surveillance requirements by separating the individual requirements and listing them as TS 4.4.9.2.1 (pressurizer temperature), TS 4.4.9.2.2 (normal spray water temperature differential), and TS 4.4.9.2.3 (auxiliary spray water temperature differential).

The Unit No. 1 TS 3.4.9.2 places a limit on the maximum pressurizer spray water temperature differential, either normal or auxiliary, of 320 °F. This limit is not being changed by this amendment request. The Unit No. 2 TS 3.4.9.2, prior to this amendment request, placed a limit on the maximum auxiliary spray water temperature differential of 625 °F. No limit on the normal spray water temperature differential was given in the original Unit No. 2 TS 3.4.9.2. This amendment request changes Unit No. 2 TS 3.4.9.2 to lower the limit for the auxiliary spray water temperature differential to 380 °F and establishes a limit for the normal spray water temperature differential of 320 °F. The change came about as a result of the investigation of the Beaver Valley Unit No. 2 pressurizer surge line thermal stratification issue and the leak-before-break analysis associated with the large bore snubber removal.

### 3.0 EVALUATION

The change in format of the action statements in TS 3.4.9.1 and 3.4.9.2 is administrative in nature and does not reduce the scope of the required actions to be taken by the licensee in the event of an out-of-limit condition. The 72-hour time limit for the performance of the engineering evaluation is not specified in NUREG-0452, Standard Technical Specifications (STSS), but is included in this amendment request as an additional requirement and is consistent with typical TS action times for performing certain actions prior to beginning a plant shutdown. Therefore, we find these proposed changes to be acceptable.

During steady state operation, the pressurizer normal spray water temperature differential would not be expected to approach the limit of 320 °F. However, this limit could be approached during system heatup or cooldown evolutions when reactor coolant system temperatures are low. Revising the surveillance requirements in TS 4.4.9.2 to require monitoring the pressurizer temperature and the normal spray water temperature differential at least every 30 minutes during heatup and cooldown greatly reduces the probability that the temperature differential limit will be exceeded during these evolutions and, therefore, will not subject the pressurizer surge line to excessive thermal cycling during the life of the plant. The same holds true for the additional requirement concerning the auxiliary spray water temperature differential when this system is in operation. Therefore, we find these proposed changes to be acceptable.

Revising Unit No. 2 TS 3.4.9.2 by establishing a limit for the normal spray water temperature differential of 320 °F is consistent with the STSs and WCAP-112093, "Evaluation of Thermal Stratification for the Beaver Valley Unit 2 Pressurizer Surge Line," and serves to limit the effects of thermal cycling of the pressurizer surge line during the life of the plant. Lowering the limit of the Unit No. 2 auxiliary spray water temperature differential from 625 °F to 380 °F is consistent with the design analysis. These TS changes further restrict the spray water temperature differential limits, thereby further minimizing the effects of thermal fatigue. Therefore, we find these proposed changes to be 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 amendments change 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 amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 25854). Accordingly, the amendments meet 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 amendments.

#### 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Farnholtz  
Date: January 31, 1994