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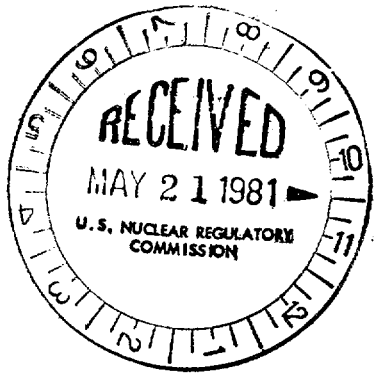

MAY 15 1981

Docket No. 50-334

Mr. J. J. Carey, Vice President
Nuclear Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Carey:

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. DPR-66 for the Beaver Valley Power Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated March 13, 1981, as supplemented April 8, 1981.

The amendment revises the Technical Specifications to allow a deviation of ± 16 steps between rod demand and analog rod position indicators for operation during Cycle 2.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by:
S. A. Varga
Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:
1. Amendment No. 42 to DPR-66
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

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Concurrences as to Amdt. and FR Notice only as req'd

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OFFICE	ORB#1:DL	ORB#1:DL	ORB#1:DL	AD/OR:DL	OELD		
SURNAME		DChaney:ds	SVarga	TNovak	BWBerdenick		
DATE	5/.../81	5/8/81	5/11/81	5/14/81	5/13/81		

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S. A. Varga
Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:
1. Amendment No. 42 to DPR-66
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

Concurrences as to Amdt. & PR Notice only as req'd

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DATE	5/ /81	5/8/81	5/11/81	5/14/81	5/12/81		

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY ★ USGPO: 1980—329-824

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

May 15, 1981

Docket No. 50-334

Mr. J. J. Carey, Vice President
Nuclear Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Carey:

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. DPR-66 for the Beaver Valley Power Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated March 13, 1981, as supplemented April 8, 1981.

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Sincerely,

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:
1. Amendment No. 42 to DPR-66
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

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Bureau of Administrative Enforcement
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Westinghouse Electric Corporation
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Utility Counsel
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Pittsburgh, Pennsylvania 15219

Mr. John A. Levin
Public Utility Commission
P. O. Box 3265
Harrisburg, Pennsylvania 17120

Irwin A. Popowsky, Esquire
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, Pennsylvania 17120

Charles E. Thomas, Esquire
Thomas and Thomas
212 Locust Street
Box 999
Harrisburg, Pennsylvania 17108

Resident Inspector
U. S. Nuclear Regulation Commission
Post Office Box 298
Shippingport, Pennsylvania 15077

Mr. J. J. Carey
Duquesne Light Company

cc: Department of Environmental
Resources
ATTN: Director, Office of
Radiological Health
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Harrisburg, Pennsylvania 17105

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Mayor of the Burrough of
Shippingport
P. O. Box 26
Shippingport, Pennsylvania 15077

Pennsylvania Power Company
Ray E. Sempler, President
One E. Washington Street
New Castle, Pennsylvania 16103

Ohio Environmental Protection Agency
Division of Planning
Environmental Assessment Section
P. O. Box 1049
Columbus, Ohio 43216

Office of the Governor
State of West Virginia
Charleston, West Virginia 25305

Mr. Carl Frasure
Committee of State Officials on
Suggested State Legislation
Department of Political Science
West Virginia University
Morgantown, West Virginia 26505

Mr. Joseph H. Mills, Acting Commissioner
State of West Virginia Department
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1900 Washington Street
East Charleston, West Virginia 25305

N. H. Dyer, M. D.
State Director of Health
State Department of Health
State Office Building No. 1
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Charleston, West Virginia 25305

Director, Criteria and Standards
Division
Office of Radiation Programs
(ANR-460)
U. S. Environmental Protection
Agency
Washington, D. C. 20460

U. S. Environmental Protection
Agency
Region III Office
ATTN: EIS COORDINATOR
Curtis Building - 6th Floor
Philadelphia, Pennsylvania 19106

Governor's Office of State Planning
and Development
ATTN: Coordinator, Pennsylvania
State Clearinghouse
P. O. Box 1323
Harrisburg, Pennsylvania 17120

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

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. 42
License No. DPR-66

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company (the licensees) dated March 13, 1981, supplemented April 8, 1981, 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.

3. 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 Appendices A and B, as revised through Amendment No. 42 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

4.. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 15, 1981

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 1-18	3/4 1-18
3/4 1-19	3/4 1-19
3/4 1-20	3/4 1-20
3/4 1-20A	3/4 1-20A

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full length (shutdown and control) rods which are inserted in the core shall be OPERABLE and positioned within ± 16[1] steps (determined in accordance with Specification 3.1.3.2 of their group step counter demand position.

APPLICABILITY: MODES 1* and 2*

ACTION:

a. With one or more full length rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.

b. With more than one full length rod INOPERABLE or indicated to be misaligned from any other rod in its group by more than ± 16[1] steps (determined in accordance with Specification 3.1.3.2), be in HOT STANDBY within 6 hours.

c. With one full length rod inoperable or indicated to be misaligned from its group step counter demand height by more than ± 16[1] steps (determined in accordance with Specification 3.1.3.2), POWER OPERATION may continue provided that within one hour either:

1. The rod is restored to OPERABLE status within the above alignment requirements, or

2. The rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that:

a) An analysis of the potential ejected rod worth is performed within 3 days and the rod worth is determined to be $\leq$ 0.95% Δk at zero power and $\leq$ 0.20% Δk at RATED THERMAL POWER for the remainder of the fuel cycle, and

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours, and

* See Special Test Exceptions 3.10.2 and 3.10.4

1. For Cycle 2 Operation only.

LIMITING CONDITION FOR OPERATION (Continued)

c) The THERMAL POWER level is reduced to ≤ 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to ≤ 85% of RATED THERMAL POWER, or

d) The remainder of the rods in the group with the inoperable rod are aligned to within ± 16[1] steps of the inoperable rod within one hour while maintaining the rod sequence and insertion limits of Figures 3.1-1 and 3.1-2; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.5 during subsequent operation.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each full length rod not fully inserted shall be determined to be OPERABLE by movement of at least 10 steps in any one direction at least once per 31 days.

1. For Cycle 2 Operation only.

POSITION INDICATOR CHANNELS

LIMITING CONDITION FOR OPERATION

3.1.3.2 For Cycle 2 operation, all shutdown and control rod position indicator channels and the demand position indication system shall be OPERABLE and capable of determining the control rod positions within $\pm 16^{1}$ steps by direct analog indication or as a backup by measurement of channel detector primary voltages. If a rod position indicator analog channel indicates 16^{1} steps or more deviation from the group demand indicator, rod positions for the affected rods shall be determined by measuring detector primary voltages, as follows:

a. immediately,

b. if associated rods move greater than 8^{1} steps (greater than 16^{1} steps if all rods in the group have been determined to be within 8^{1} steps of the group demand indicator by primary voltage measurements within the previous 4 hours),

c. at 4 hour intervals if the affected rod(s) are not fully inserted or fully withdrawn,

d. at 24 hour intervals if the affected rod(s) are fully inserted or fully withdrawn.

When the rod position indicator channel is INOPERABLE, the position of not more than three control rods per bank which are not fully inserted or fully withdrawn may be determined by use of the detector primary voltage measurements.*

APPLICABILITY: Modes 1 and 2*

ACTION:

a. If greater than 3 rod position indicators per bank, for banks not fully withdrawn or fully inserted, are INOPERABLE, then declare the rod position indicator system to be INOPERABLE and be in HOT STANDBY within 1 hour after the allowed 1 hour stabilization period and in COLD SHUTDOWN in the following 30 hours. Submit a Special Report to the NRC by telephone and in writing within 24 hours or by the close of the next business day, whichever is later. Restore all affected Rod Position Indicators to OPERABLE status prior to entry to Mode 2.

b. If the position of a maximum of one rod cannot be determined by either the direct reading of the rod position indicators or by reading primary detector voltage measurements, either:

1. Determine the position of the non-indicating rod indirectly by the movable incore detectors immediately and at least once per 8 hours and immediately after any motion of the non-indicating rod which exceeds 32^{1} steps in one direction since the last determination of the rod's position, or

2. Reduce THERMAL POWER TO < 50% of RATED THERMAL POWER within 8 hours.

1. For Cycle 2 Operation only.

ACTION: (Continued)

c. With a maximum of one demand position indicator per bank inoperable, either:

1. Verify that all rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within a maximum of 16[1] steps of each other immediately after rod motion greater than 8[1] steps (greater than 16[1] steps if all rods in the group have been determined to be within 8[1] steps of the group demand indicator by voltage measurements within the previous 4 hours) and at least once per 8 hours, or

2. Reduce THERMAL POWER TO < 50% of RATED THERMAL POWER within 8 hours.

d. If the position of more than one rod cannot be determined by either the direct reading of the rod position indicators or by reading primary detector voltage measurements, then Specification 3.0.3 is applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.2 Each rod position indicator channel shall be determined to be OPERABLE by verifying the demand position indication system and the rod position indicator channels agree within 16[1] steps at least once per 12 hours (except during time intervals when the Rod Position Deviation Monitor is INOPERABLE or is in a continuous state of alarm), then compare the demand position indication system and the rod position indicator channels at approximately 4 hour intervals, as follows:

a. If an individual rod position indicator analog channel does not settle to within ± 16[1] steps within 1 hour, then declare that channel INOPERABLE.

b. For any INOPERABLE channel, no repairs or adjustments shall be permitted without being followed immediately by a full range calibration.

* For Core PHYSICS TESTING in Mode 2, primary detector voltage measurements may be used to determine the position of rods in shutdown banks A and B and control banks A and B for the purpose of satisfying Specification 3.1.3.2. During Mode 2 operations, rod position indicators for shutdown banks A and B and control banks A and B may deviate from the group demand indicators by greater than ± 16[1] steps during reactor startup and shutdown operations, while rods are being withdrawn or inserted. If the rod position indicators for shutdown banks A and B and control banks A and B deviate by greater than ± 16[1] steps from the group demand indicator, rod withdrawal or insertion may continue until the desired group height is achieved.

1. For Cycle 2 Operation only.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-66

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

BEAVER VALLEY POWER STATION, UNIT NO. 1

DOCKET NO. 50-334

Introduction

In a letter dated March 13, 1981 Duquesne Light Company (the licensee) requested changes to the Beaver Valley Power Station, Unit No. 1 Technical Specifications to allow a deviation between rod demand indicators and analog rod position indicators of ± 16 steps and to allow the individual rod position indication system inaccuracy to be increased to ± 16 steps. These quantities are currently limited to ± 12 steps generically for all operating Westinghouse reactors. The limits have caused an operational problem at Beaver Valley, and other reactors. As a result of our verbal request, the licensee submitted detailed results of his analysis of ± 32 step rod misalignments in a letter dated April 8, 1981. The analysis was performed for Cycle 2 operation only, and the licensee has proposed these Technical Specification changes for this cycle only.

Evaluation

To investigate the potential effects of ± 32 step misalignments, the analysis, performed by Westinghouse, used coarse mesh 3D-TURTLE calculations with 3D-TURTLE peaking factors coarse mesh corrected to discrete 2D-TURTLE. Calculations were made at various power levels with control rods positioned at the appropriate insertion limits. This is conservative for the full power case, where DNB would be of most concern and where the control rods are essentially always maintained substantially further withdrawn than the insertion limits allow. Each rod in banks D and C (only these banks may be inserted during power operation) was misaligned by ± 32 steps and the resulting effects on peaking factors was determined. This included the radial peaking factor, F_{xy}, the enthalpy rise peaking factor, $F_{\Delta H}$, and the total core peaking factor, F_Q.

The calculations were performed at 150 MWD/MTU because peaking is a maximum at that burnup. At higher exposures, the x-y peaking factors tend to decrease because of burnup. The calculations assumed equlibrium xenon except at zero power where no xenon was assumed.

The results of the analysis show that the peaking factor penalties resulting from misalignments of ± 32 steps are small at significant power levels and are within the conservatism used in the Cycle 2 design of Beaver Valley Unit 1. The penalties are larger at lower power, but DNB is not a concern at low power and the peaking factor limits are larger. Therefore, with a rod misalignment of 32 steps the predicted maximum peaking factors will be below the limits allowed by the Technical Specifications. We therefore conclude all of the proposed Technical Specification changes in the licensee's March 13, 1981 letter do not result in a loss of safety margins and are acceptable for Cycle 2 operation. These changes allow a deviation of ± 16 steps between rod demand indicators and analog rod indication system inaccurancy to be increased to ± 16 steps.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Date: May 15, 1981

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-334

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 42 to Facility Operating License No. DPR-66 issued to Duquesnse Light Company, Ohio Edison Company, and Pennsylvania Power Company (the licensees), which revised Technical Specifications for operation of the Beaver Valley Power Station, Unit No. 1 (the facility) located in Beaver County, Pennsylvania. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications to allow a deviation of ± 16 steps between rod demand and analog rod position indicators for operation during cycle 2.

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. Prior public notice of this amendment was not required since this amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 13, 1981, supplemented April 8, 1981, (2) Amendment No. 42 to License No. DPR-66 and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 15th day of May, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing