Docket No. 50-334

July 10, 1985

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Mr. J. J. Carey, Vice President
Nuclear Group
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

Dear Mr. Carey:

SUBJECT: ISSUANCE OF AMENDMENT (LICENSING ACTION TAC NOS. 57342, 57343 AND 57344)

The Commission has issued the enclosed Amendment No.95 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 21, 1985.

The amendment changes the Technical Specifications for Beaver Valley Unit No. 1 as follows: (1) Section 3.5.5, "Refueling Water Storage Tank", is deleted and the same requirements are incorporated into Section 3.1.2.8.b, "Borated Water Sources", (2) Table 4.12-1 is revised to correct an editorial error, and (3) Section 6.13, "Environmental Qualification", is deleted to comply with the Commission's final rule for removal of the June 30, 1982 deadline for qualification of all safety-related electrical equipment.

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

/s/PTam

Peter S. Tam, Project Manager
Operating Reactors Branch No. 1
Division of Licensing

Enclosures:
1. Amendment No.95 to DPR-66
2. Safety Evaluation

cc w/enclosures:
See next page

ORB#1:DL	ORB#1:DL	BC-ORB#1:DL	OELD	AD:OR:DL
CParrish	PTam;ps	SVarga		GLainas
6/25/85	6/25/85	6/25/85	6/3/85	6/9/85

cc:
Mr. W. S. Lacey
Station Superintendent
Duquesne Light Company
Beaver Valley Power Station
Post Office Box 4
Shippingport, Pennsylvania 15007

Mr. K. Grada, Superintendent
of Licensing and Compliance
Duquesne Light Company
Post Office Box 4
Shippingport, Pennsylvania 15077

Mr. John A. Levin
Public Utility Commission
Post Office Box 3265
Harrisburg, Pennsylvania 17120

Gerald Charnoff, Esquire
Jay E. Silberg, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, DC 20036

Karin Carter, Esquire
Special Assistant Attorney General
Bureau of Administrative Enforcement
5th Floor, Executive House
Harrisburg, Pennsylvania 17120

Marvin Fein
Utility Counsel
City of Pittsburgh
313 City-County Building
Pittsburg, Pennsylvania 15219

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

Department of Environmental Resources
ATTN: Director, Office of
Radiological Health
Post Office Box 2063
Harrisburg, Pennsylvania 17105

Mr. Thomas J. Czerpah
Mayor of the Burrough of
Shippingport
Post Office Box 26
Shippingport, Pennsylvania 15077

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

Ohio Environmental Protection Agency
Division of Planning
Environmental Assessment Section
Post Office Box 1049
Columbus, Ohio 43216

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

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

Irwin A. Popwsky, Equire
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, Pennsylvania 17120

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

Mr. Jess T. Shumate, Commissioner
State of West Virginia Department
of Labor
1900 Washington Street, East
Charleston, West Virginia 25305

cc:
David K. Heydinger, M.D.
State Director of Health
State Department of Health
1800 Washington Street, East
Charleston, West Virginia 25305

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Thomas M. Gerusky, Director
Bureau of Radiation Protection
Pennyslvania Department of
Environmental Resources
P.O. Box 2063
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. 95
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 21, 1985, 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. DPR-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 95, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This amendment is effective upon issuance, to be implemented within 30 days of 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: July 10, 1985

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 95 TO FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Revise Appendix A as follows:

Remove Pages	Insert Pages
V	V
XII	XII
XVIIa	XVIIa
3/4 1-16	3/4 1-16
3/4 5-8	----------
3/4 5-9	----------
3/4 12-8	3/4 12-8
B3/4 1-2	B3/4 1-2
B3/4 5-2	B3/4 5-2
6-25	6-25
6-26	----------

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REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 As a minimum, the following borated water source(s) shall be OPERABLE as required by Specification 3.1.2.2.

a. A boric acid storage system with:

1. A minimum contained volume of 11,336 gallons,

2. Between 7000 and 7700 ppm of boron, and

3. A minimum solution temperature of 65°F.

b. The refueling water storage tank with:

1. A contained volume between 439,050 gallons and 441,100 gallons of borated water,

2. A boron concentration between 2000 and 2100 ppm, and

3. A minimum solution temperature of 43°F.

APPLICABILITY: MODES 1, 2, 3 & 4.

ACTION:

a. With the boric acid storage system inoperable, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F within the next 6 hours; restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 Each borated water source shall be demonstrated OPERABLE:

TABLE 4.12-1 (Continued)

TABLE NOTATION

a. The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ S_b}{(E)\ (V)\ (2.22)\ (Y)\ \exp(-\lambda\Delta T)}$$

where:

LLD is the lower limit of detection as defined above (as pCi per unit mass or volume);

S_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute);

E is the counting efficiency (as counts per transformation);

V is the sample size (in units of mass or volume);

2.22 is the number of transformations per minute per picocurie;

Y is the fractional radiochemical yield (when applicable);

λ is the radioactive decay constant for the particular radionuclide;

ΔT is the elapsed time between sample collection (or end of the sample collection period) and time of counting (for environmental samples, not plant effluent samples).

The value of S_b used in the calculation of the LLD for a detection system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance. In calculating the LLD for a radionuclide determined by gamma-ray spectrometry, the background shall include the typical contributions of other radionuclides normally present in the samples (e.g., potassium-40 in milk samples). Typical values of E, V, Y and ΔT should be used in the calculations.

3/4.1.1.4 MODERATOR TEMPERATURE COEFFICIENT (MTC) (Continued)

fuel cycle. The surveillance requirement for measurement of the MTC at the beginning and near the end of each fuel cycle is adequate to confirm the MTC value since this coefficient changes slowly due principally to the reduction in RCS boron concentration associated with fuel burnup.

3/4.1.1.5 MINIMUM TEMPERATURE FOR CRITICALITY

This specification ensures that the reactor will not be made critical with the Reactor Coolant System average temperature less than 541°F. This limitation is required to ensure 1) the moderator temperature coefficient is within its analyzed temperature range, 2) the pressurizer is capable of being in an OPERABLE status with a steam bubble, 3) the reactor pressure vessel is above its minimum NDTT temperature and 4) the protective instrumentation is within its normal operating range.

3/4.1.2 BORATION SYSTEMS:

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include 1) borated water sources, 2) charging pumps, 3) separate flow paths, 4) boric acid transfer pumps, 5) associated heat tracing systems, and 6) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

The required volume of water in the refueling water storage tank for reactivity considerations while operating is 424,000 gallons. The associated technical specification limit on the refueling water storage tank has been established at 441,100 gallons to account for reactivity considerations and the NPSH requirements of the ECCS system.

The OPERABILITY of the RWST as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analysis.

BORON INJECTION SYSTEM (Continued)

The analysis of a main steam pipe rupture is performed to demonstrate that the following criteria are satisfied:

1. Assuming a stuck rod cluster control assembly, with or without offsite power, and assuming a single failure in the engineered safeguards, there is no consequential damage to the primary system and the core remains in place and intact.

2. Energy release to containment from the worst steam pipe break does not cause failure of the containment structure.

3. Radiation doses are not expected to exceed the guidelines of the 10CFR100.

The limits on injection tank minimum volume and boron concentration ensure that the assumptions used in the steam line break analysis are met.

Verification of 120°F in the injection flow path assures an 8-hour margin to the time at which precipitation of a 7700 ppm boric acid solution would occur without benefit of the building heating system.

Verifying the recirculation flow path and stagnant piping temperatures, when the Boron Injection Flow Path temperature is less than 120°F and greater than 65°F, by monitoring the ambient air temperatures in the building areas containing that piping provides assurance that boron precipitation will not occur.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 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 Radiological Work Permit* or Radiological Access Control Permit. 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 which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which 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 level in the area has been established and personnel have been made knowledgeable of them.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by a facility health physics supervisor in the Radiological Work Permit or Radiological Access Control Permit.

6.12.2 The requirements of 6.12.1, above, also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or a facility health physics supervisor.

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* Health physics personnel, or personnel escorted by health physics personnel in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 95 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

By letter dated March 21, 1985, Duquesne Light Company (the licensee) submitted a proposed amendment to the Technical Specifications (Appendix A of Operating License No. DPR-66) for Beaver Valley Power Station, Unit No. 1, to consolidate requirements for the Refueling Water Storage Tank (RWST), to correct an editorial error in Table 4.12-1, and to delete the superseded requirements for equipment environmental qualification. We have reviewed the requested changes, and the results are as follows.

EVALUATION AND DISCUSSION

Currently, Section 3.1.2.8.b specifies the Limiting Conditions for Operation (LCOs) for the Refueling Water Storage Tank (RWST) as part of Reactivity Control Systems, while Section 3.5.5 specifies the LCOs for the RWST as part of Emergency Core Cooling Systems. However, although the LCO's applicability, the LCO's action, and the associated surveillance requirements are the same, the LCOs themselves are not the same, as Section 3.5.5 specifies maximum contained water volume and boron concentration requirements, but Section 3.1.2.8.b does not. The licensee proposes to eliminate the duplication of requirements and the potential for confusion due to this duplication by consolidating the RWST LCOs into Section 3.1.2.8.b. The licensee also proposes to consolidate the bases for the RWST. The licensee states that these changes are administrative, as only duplicated requirements are to be eliminated. The proposed consolidation of RWST requirements is acceptable.

Currently, note a. to Table 4.12-1, Maximum Values for the Lower Limits of Detection (LLD), provides the equation for determining LLD. However, due to an editorial error, the term S_b was omitted from the numerator when the note was added in Amendment 66. The equation is accurately described in NUREG 0472. The licensee proposes to correct this editorial error by adding the term S_b to the numerator. The proposed correction is acceptable.

Currently, Section 6.13, Environmental Qualification, specifies requirements for the environmental qualification of safety related electrical equipment. However, these requirements have been superseded by the requirements of 10 CFR 50.49, which were issued in the Federal Register (48 FR 2729 dated January 21, 1983 and 49 FR 45571 dated November 19, 1984). The licensee proposes to delete the superseded environmental qualification requirements. The proposed change is acceptable.

In a May 30, 1985, telephone conversation, licensee representatives, J. Vasselo and R. Ireland, agreed to editorial changes, modifying the Table of Contents to reflect the above changes (Pages V, XII and XVIIa).

We have evaluated the proposed changes to the Technical Specifications and conclude that these changes are administrative and do not involve any physical change to the plant's safety-related structures, systems or components. Further, these changes do not increase the likelihood of a malfunction of safety-related equipment, or increase the consequences of an accident previously analyzed or create the possibility of a malfunction different from those previously evaluated. Therefore, we find the licensee's requested changes to be acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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 this amendment.

CONCLUSION

We have 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.

Date: July 10, 1985

Principal Contributor:
Glenn W. Meyer