

May 12, 1999

Mr. J. E. Cross
President-Generation Group
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 1 - ISSUANCE OF
AMENDMENT RE: REVISED CONTROL ROOM RADIOLOGICAL DOSE
CALCULATIONS FOR WASTE GAS SYSTEM LINE BREAK ACCIDENT
ANALYSIS (TAC NO. MA0622)

Dear Mr. Cross:

The Commission has issued the enclosed Amendment No. 222 to Facility Operating License No. DPR-66 for the Beaver Valley Power Station, Unit No. 1 (BVPS-1). This amendment consists of changes to the Updated Final Safety Analysis Report (UFSAR) for BVPS-1 in response to your application dated January 17, 1998, as supplemented by letters dated February 10, 1998, November 9, 1998, February 8, 1999, and February 26, 1999, which submitted License Amendment Request No. 250.

The requested changes to the BVPS-1 UFSAR reflect revisions to the control room radiological dose calculations for the waste gas system line break accident analysis. This revision was required in order to correct a mathematical error in the previous calculation. You requested Nuclear Regulatory Commission authorization of these changes because you considered them to be unreviewed safety questions in accordance with 10 CFR 50.59. This amendment authorizes these changes to the BVPS-1 UFSAR, and requires that the changes be submitted with the next update of the UFSAR pursuant to 10 CFR 50.71(e).

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:
Daniel S. Collins, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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PDR ADOCK 05000334
P PDR

Docket No. 50-334

Enclosures: 1. Amendment No. 222 to DPR-66
2. Safety Evaluation

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DATE	4/29/99	4/15/99	03/12/99	5/3/99	5/5/99

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NAME	DCollins:lcc	MO'Brien	SE dtd	SE Tule	SBajwa
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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 12, 1999

Mr. J. E. Cross
President-Generation Group
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

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Sincerely,

A handwritten signature in black ink that reads "Daniel S. Collins".

Daniel S. Collins, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-334

Enclosures: 1. Amendment No. 222 to DPR-66
2. Safety Evaluation

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Beaver Valley Power Station, Units 1 and 2

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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. 222
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 January 17, 1998, as supplemented by letters dated February 10, 1998, November 9, 1998, February 8, 1999, and February 26, 1999, 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, Facility Operating License No. DPR-66 is hereby amended to approve changes to the Updated Final Safety Analysis Report (UFSAR) to reflect revisions to the control room radiological dose calculations for the waste gas system line break accident analysis as set forth in the application by the licensee dated January 17, 1998. The licensee shall submit the changes authorized by this amendment with the next update of the UFSAR in accordance with 10 CFR 50.71(e).
3. This license amendment is effective as of its date of issuance and shall be implemented as specified in (2) above.

FOR THE NUCLEAR REGULATORY COMMISSION



S. Singh Bajwa, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Date of Issuance: May 12, 1999



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 222 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

1.0 INTRODUCTION

By letter dated January 17, 1998, as supplemented by letters dated February 10, 1998, November 9, 1998, February 8, 1999, and February 26, 1999, the Duquesne Light Company (the licensee) submitted a request for changes to the Beaver Valley Power Station, Unit No. 1 (BVPS-1) Updated Final Safety Analysis Report (UFSAR). Specifically, the requested changes to the BVPS-1 UFSAR reflect revisions to the control room radiological dose calculations for the Waste Gas System Line Break (WGSLB) accident analysis. This revision is required in order to correct a mathematical error in the previous calculation. The February 10, 1998, November 9, 1998, February 8, 1999, and February 26, 1999, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination or expand the amendment request beyond the scope of the initial notice.

As a result of issues involving control room habitability, the licensee re-evaluated Beaver Valley Power Station, Unit Nos. 1 and 2, control room dose calculations for Design Basis Accidents (DBAs) which credited isolation of the control room during the DBA. When analyses associated with the WGSLB were reviewed, an arithmetic error was discovered in the control room dose calculations for BVPS-1 which resulted in the associated values listed in the BVPS-1 UFSAR being incorrect.

The proposed action would authorize changes to the BVPS-1 UFSAR to reflect revision of the control room radiological dose calculations for the waste gas system line break analysis. The BVPS-1 UFSAR would be revised as follows: in Table 11.3-7, the reported Gamma (whole body) dose value would be revised from 0.0031 REM to less than 0.01 REM; the reported Beta dose value would be revised from 0.013 REM to less than 1.0 REM; and Table 14.2-8 would be revised to reflect the assumptions that (1) the fraction of fuel with defects is one percent, and (2) the control room radiation monitors will not initiate control room isolation, which were used in the reanalysis.

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2.0 EVALUATION

2.1 Assessment of Radiological Consequences

The licensee performed an assessment of the radiological dose consequences of a WGS LB in support of its request to modify the BVPS-1 UFSAR. The NRC staff reviewed the licensee's UFSAR, amendment request, and letters associated with the proposed change. Using the input and assumptions given in these letters and the UFSAR, the NRC staff performed confirmatory calculations of the control room operators' whole body dose for the WGS LB. No assessment of offsite dose consequences was performed since the proposed change is the result of a correction/revision of the control room dose calculations for the WGS LB and does not impact offsite dose consequences. The parameters which were utilized in the Nuclear Regulatory Commission (NRC) staff's assessment are presented in the attached Tables 1 and 2. The radiological dose to the control room operators is given in Table 3.

The results of the NRC staff's calculations described above were used to confirm the acceptability of the licensee's analysis methodology. Based on comparisons of results, the NRC staff finds the licensee's analysis to be acceptable.

2.2 Conclusion

The NRC staff concludes, based upon the considerations above, that the proposed changes to the BVPS-1 UFSAR are acceptable. The NRC staff has determined that reasonable assurance exists, in the event of a postulated WGS LB, that the postulated control room operator doses would continue to be less than the criteria of 10 CFR Part 50, Appendix A, General Design Criteria 19.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the Federal Register on April 19, 1999 (64 FR 19204). Accordingly, based upon the environmental assessment, the staff has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

5.0 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.

- Attachments:
1. Table 1, Input Parameters for Beaver Valley Unit 1,
Evaluation of Waste Gas System Line Break
 2. Table 2, Source Term Parameters for Beaver Valley Unit 1,
Evaluation of a Waste Gas System Line Break
 3. Table 3, Calculated Dose for Beaver Valley Unit 1,
Evaluation of Waste Gas System Line Break

Principal Contributors: D. Collins
W. M. Blumberg

Date: May 12, 1999

TABLE 1
INPUT PARAMETERS FOR BEAVER VALLEY UNIT 1
EVALUATION OF A WASTE GAS SYSTEM LINE BREAK

Parameter	Units	Value
Letdown flow rate	gallons per min.	120
Time of release from broken line	hour	1
Temperature of the degasifier	degrees F	219
Control Room (CR) normal intake flow rate (pre- actuation)	ft ³ /min.	500
CR pressurization rate (bottles)	ft ³ /min.	0 ¹
CR unfiltered inleakage	ft ³ /min.	10
CR pressurization rate (Fans)	ft ³ /min.	0
CR occupancy factor (0-24 hr)		1
CR occupancy factor (24 - 96 hr)		0.6
CR occupancy factor (96 - 720 hr)		0.4
CR 0 - 8 hr atmospheric dispersion factor	sec/m ³	4.3E-03
CR volume	ft ³	1.73E+05

¹ No control room emergency ventilation is assumed.

TABLE 2
SOURCE TERM PARAMETERS FOR BEAVER VALLEY UNIT 1
EVALUATION OF A WASTE GAS SYSTEM LINE BREAK

Nuclide	Line Release (Ci)	Charcoal Delay Bed (Ci)
Kr-85m	52	3.0
Kr-85	290	106
Kr-87	33	3.8E-4
Kr-88	85	8.3E-1
Xe-133m	82	15
Xe-133	710	66
Xe-135m	30	0
Xe-135	85	18
Xe-138	18	0

**TABLE 3
CALCULATED DOSE FOR BEAVER VALLEY UNIT 1
WASTE GAS SYSTEM LINE BREAK**

Control Room	Dose (Rem)
Whole Body*	0.005

* 10 CFR Part 50 Appendix A, GDC 19 Acceptance Criterion = 5 rem whole body