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Docket No. 50-334

Mr. C. N. Dunn, Vice President
Operations Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

signed / February 2, 1981

FEB 02 1981

Dear Mr. Dunn:

The Commission has issued the enclosed Amendment No. 37 to Facility Operating License No. DPR-66 for the Beaver Valley Nuclear Power Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated November 17, 1977.

The amendment revises Technical Specification Figures 3.6-1, 3.6-2, and Limiting Condition for Operation statement 3.6.1.5. These changes involve limiting conditions for containment pressure and temperature and the limiting temperature for both the river water and the RWST water during normal operation.

The effect of these limiting conditions on the calculated NPSH has previously been reviewed and approved by the staff (see Amendment 28 to the Beaver Valley Operating License). We have reviewed the effect of these limiting conditions on the peak calculated containment pressure and the ECCS containment backpressure calculation.

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

Sincerely,

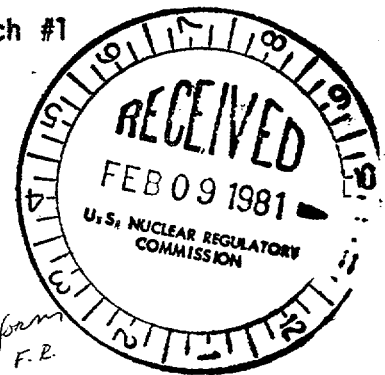
Original signed by
S. A. Varga

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

Enclosures:

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

cc: w/enclosures
See next page



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Docket



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

February 2, 1981

Docket No. 50-334

Mr. C. N. Dunn, Vice President
Operations Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Dunn:

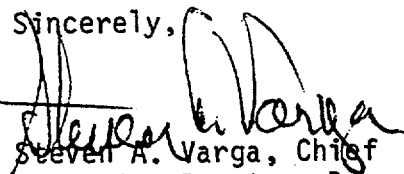
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Sincerely,


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

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1. Amendment No. 37 to DPR-66
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

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Duquesne Light Company

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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. 37
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 November 17, 1977, 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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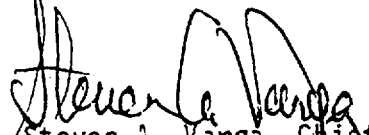
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 37, 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.

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: February 2, 1981

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Revise Appendix A as follows:

Remove Pages

3/4 6-7

3/4 6-8

3/4 6-9

Insert Pages

3/4 6-7

3/4 6-8

3/4 6-9

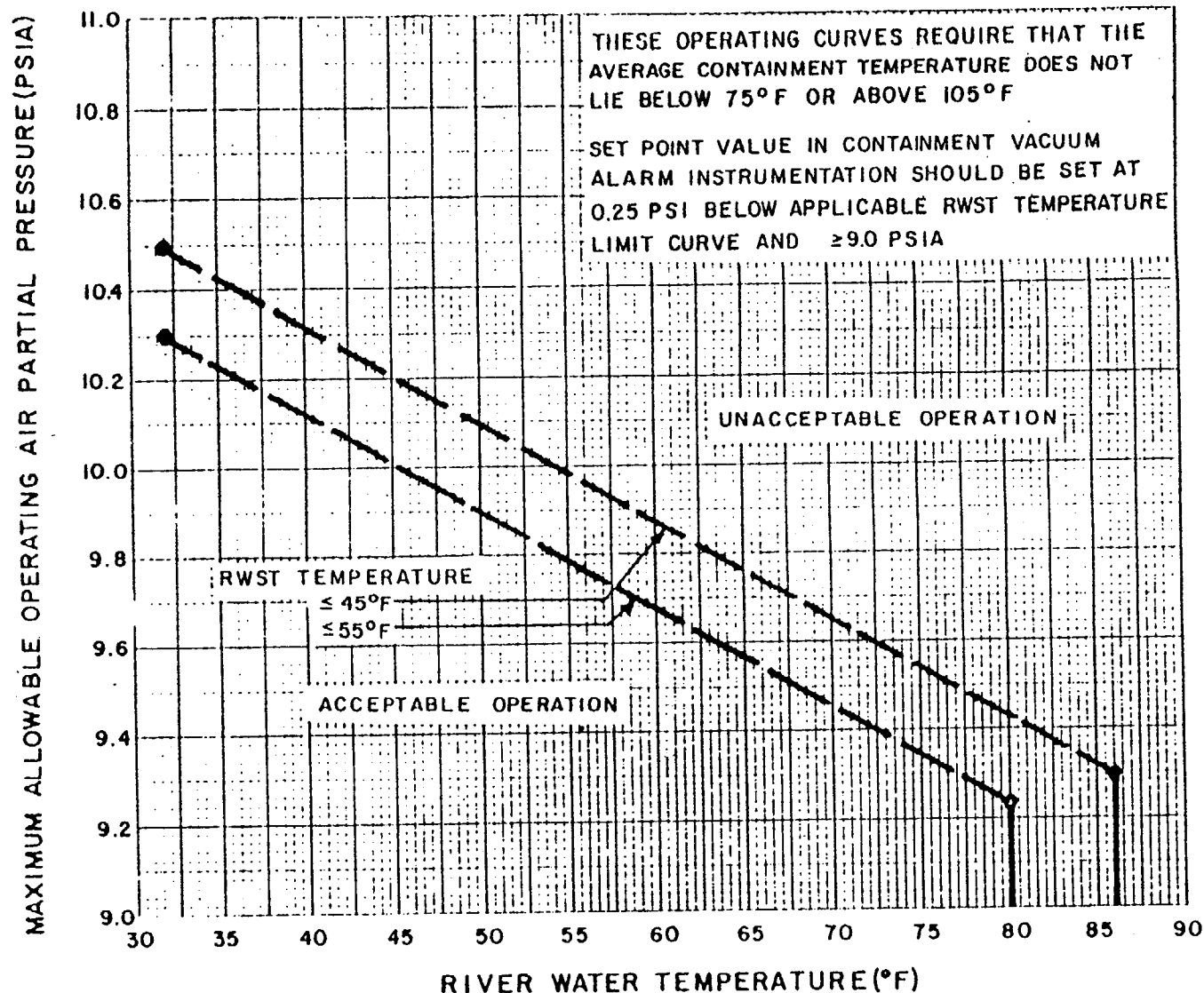


FIGURE 3.6-1 MAXIMUM ALLOWABLE PRIMARY CONTAINMENT AIR PRESSURE VERSUS RIVER WATER TEMPERATURE AND RWST WATER TEMPERATURE

CONTAINMENT SYSTEMS

AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.6.1.5 Primary containment average air temperature shall be maintained $\leq 105^{\circ}\text{F}$ and $\geq 75^{\circ}\text{F}$.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the containment average air temperature $> 105^{\circ}\text{F}$ or $< 75^{\circ}\text{F}$ restore the average air temperature to within the limit within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.5 The primary containment average maximum and minimum air temperatures shall be the arithmetical average of the temperatures at the following locations and shall be determined at least once per 24 hours. The nearest alternate thermocouple may be used for temperature determination up to a maximum of one per location.

Location

- a. Reactor Head Storage Area - Elev. 802
- b. Pressurizer Cubicle - Elev. 740
- c. Annulus - Elev. 777
- d. RHR Heat Exchanger - Elev. 730
- e. Annulus - Elev. 701

Figure 3.6-2

This Figure has been deleted.

The technical specification for Initial Average Containment Temperature has been incorporated into 3.6.1.5 (Page 3.6-8) and Figure 3.6-1 (Page 3.6-7).



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 37 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 to the licensee dated August 27, 1980 (Reference 1), the NRC issued Amendment No. 28 to Facility Operating License No. DPR-66 for the Beaver Valley Power Station, Unit 1. The amendment reflected modifications made to alleviate Net Positive Suction Head (NPSH) problems with the Low Head Safety Injection and Recirculation Spray Pumps.

Along with the hardware modifications, the licensee proposed changes to Technical Specification Figures 3.6-1 (Maximum Allowable Primary Containment Air Pressure versus River Water Temperature and RWST Water Temperature), 3.6-2 (Minimum Allowable Primary Containment Average Air Temperature versus River Water Temperature), and Limited Condition for Operation statement 3.6.1.5.

Although the staff incorporated both the hardware modifications and the proposed Technical Specification changes regarding limiting pressures and temperature in the NPSH review, the Safety Evaluation Report stated that the staff had not completed its review of the proposed Technical Specifications identified above and that these proposed changes would be addressed through a separate and subsequent review. That review has verified that by using the Limiting Conditions for Operation, found in the proposed Technical Specifications, the facility will not (1) Exceed the containment design pressure following the design basis accident or (2) Violate the minimum containment pressure analysis calculated for the ECCS performance evaluation.

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Evaluation

The initial containment pressure and temperature is important when calculating containment pressure transients. Maximizing the initial vapor temperature and the partial pressure due to air will result in the maximum calculated pressure and vice versa.

The revised Technical Specifications tend to increase the minimum vapor temperature and decrease the maximum partial pressure due to air for lower river water temperatures. These two effects tend to cancel out. In addition, for higher river water temperatures, the revised Technical Specifications tend to decrease the minimum vapor temperature and increase the partial pressure due to air. Again, these two effects tend to cancel each other. Plugging nozzles in the spray header, however, tends to decrease the containment heat removal rate which increases both the peak calculated containment pressure and the containment depressurization time (subatmospheric containments are required to depressurize and return to subatmospheric conditions within one hour following a design basis accident).

The licensee identified the postulated hot leg DER with minimum ESF as being the break which results in the highest calculated containment pressure. The licensee calculated a peak containment pressure of 38.97 psig. The containment design pressure is 55.0 psig.

Using the CONTEMPT-LT/028 computer code, we have performed several confirmatory analyses of the hot leg DER with minimum ESF using various combinations of limiting conditions of operation from the proposed Technical Specification Figures. Our analyses are in good agreement with those performed by the licensee and we conclude that the proposed changes will not result in a postulated pipe break exceeding the containment design pressure. The worst case for containment depressurization was reviewed and found acceptable in Reference 1.

When performing the ECCS evaluation as required by Appendix K to 10 CFR 50, a minimum containment backpressure must be assumed. The core flooding rate is directly affected by the ability of the ECCS water to displace the steam generated in the reactor vessel during the core reflooding period. For PWR plants, the core flooding rate decreases with decreasing containment backpressure which in turn allows for a greater heat-up of the reactor fuel. Therefore, it is conservative to assume a minimum containment backpressure for this evaluation.

The licensee calculated the minimum containment backpressure for the ECCS evaluation by assuming maximum operation of all heat removal systems. Reference 2 discusses the staff's evaluation and approval of the licensee's model.

The modifications proposed by the licensee to improve the available NPSH to the Low Head Safety Injection and Recirculation Spray Pumps decreases the total heat removal systems. Part of the modifications consisted of diverting cold quench spray water to the suction side of the recirculation spray pumps. Nozzles in the quench spray header were plugged to account for the diverted water. The result of this modification is a reduction in the total spray flow rate and a subsequent reduction in the total containment heat removal rate. Reducing the total containment heat removal rate increases the calculated containment backpressure thereby assuring that the containment backpressure assumed in the ECCS performance evaluation has not been violated. Changes in the initial containment pressure and temperature have been judged to have negligible effects on the containment backpressure.

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: February 2, 1981

REFERENCES:

1. C. N. Dunn to R. W. Reid letter dated November 17, 1977, proposed permanent modifications to correct NPSH inadequacies.
2. D. Eisenhut to C. N. Dunn letter dated August 27, 1980, transmitted Amendment 28 to Operating License No. DPR-66.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-334DUQUESNE LIGHT COMPANYOHIO EDISON COMPANYPENNSYLVANIA POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 37 to Facility Operating License No. DPR-66 issued to Duquesne 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 reflect changes involving limiting conditions for containment pressure and temperature and the limiting temperature for river water and RWS water during normal operation.

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.

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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 November 17, 1977, (2) Amendment No. 37 to License No. DPR-66, (3) the Commission's related Safety Evaluation and (4) Amendment No. 28 dated August 27, 1980. 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), (3) and (4) 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 2nd day of February, 1981

FOR THE NUCLEAR REGULATORY COMMISSION


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