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

April 25, 2000

Mr. L. W. Meyers
Senior Vice President
Beaver Valley Power Station
Post Office Box 4
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENT RE: REVISED TECHNICAL SPECIFICATION REQUIREMENTS FOR EMERGENCY DIESEL GENERATORS (TAC NOS. MA7337 AND MA7338)

Dear Mr. Meyers:

The Commission has issued the enclosed Amendment No. 230 to Facility Operating License No. DPR-66 and Amendment No. 109 to Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and BVPS-2). These amendments consist of changes to the Technical Specifications (TSs) in response to the application dated November 23, 1999, filed by Duquesne Light Company, as the then licensee for Beaver Valley, which submitted License Amendment Request Nos. 274 and 148.

For BVPS-1, the amendment modifies Surveillance Requirement (SR) 4.8.1.1.2.b.3.b by reducing the emergency diesel generator (EDG) frequency band. For BVPS-2, SR 4.8.1.1.2.f is revised to clarify that the EDGs are required to achieve a minimum voltage and frequency in $\leq$ 10 seconds. The EDGs are then required to maintain specified voltages and frequencies during steady state operation.

On December 3, 1999, DLC's ownership interests in both BVPS-1 and BVPS-2 were transferred to the Pennsylvania Power Company, and DLC's operating authority for BVPS-1 and BVPS-2 was transferred to FirstEnergy Nuclear Operating Company (FENOC). By letter dated December 13, 1999, FENOC requested that the Nuclear Regulatory Commission (NRC) continue to review and act upon all requests before the NRC which had been submitted by DLC.

By letter dated February 22, 2000, FENOC provided a supplemental submittal for the proposed BVPS-2 amendment. Specifically, the supplemental submittal updated BVPS-2 SR 4.8.1.1.2.f to include changes to the frequency values that were approved on February 11, 2000, and issued as Amendment 105.

A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

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

Docket Nos. 50-334 and 50-412

Enclosures: 1. Amendment No. 230 to DPR-66
2. Amendment No. 109 to NPF-73
3. Safety Evaluation

cc w/encls: See next page

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

PENNSYLVANIA POWER COMPANY

OHIO EDISON COMPANY

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-334

BEAVER VALLEY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 230
License No. DPR-66

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

   A. The application for amendment by FirstEnergy Nuclear Operating Company, et al. (the licensee) dated November 23, 1999, as supplemented February 22, 2000, 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. 230 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

T/S Colburn for

Marsha Gamberoni, Acting Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: April 25, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 230

FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Replace the following pages of Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 8-4a	3/4 8-4a
B 3/4 8-3	B 3/4 8-3
B 3/4 8-4	------

SURVEILLANCE REQUIREMENTS (Continued)

3. Simulating a loss of offsite power in conjunction with a safety injection signal, and:

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts from standby conditions on the auto-start signal, energizes the emergency busses with permanently connected loads in ≤ 10 seconds, energizes the auto-connected emergency loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the emergency loads. After energization of these loads, the steady state voltage(3) and frequency(3) shall be maintained at ≥ 4106 volts and ≤ 4368 volts, and ≥ 60.0 Hz and ≤ 60.4 Hz.

4. Verifying that on a loss of power to the emergency busses, all diesel generator trips, except engine overspeed, generator differential and overcurrent, are automatically disabled,

5. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2750 kw,

6. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2850 kw, and

7. Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value.

c. Check for and remove accumulated water:

   1. From the day tank, at least once per 31 days and after each operation of the diesel where the period of operation was greater than 1 hour, and

   2. From the fuel oil storage tank, at least once per 92 days.

(3) The values for voltage and frequency are analysis values. These value bands shall be appropriately reduced to account for measurement uncertainties.

BASES

A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 3.8-1 is permitted for up to 7 days. During this 7 day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than .020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than .040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

Note (1) provides clarification of Specification 3.8.1.1 action requirements when the diesel generators are inoperable as a result of Surveillance Requirements 4.8.1.1.2.d.2 and 4.8.1.1.2.e in accordance with Regulatory Guide 1.137 Revision 1 Regulatory Position C.2.a.

For the purposes of SR 4.8.1.1.2.a.5 and SR 4.8.1.1.2.b.3.b testing, the diesel generators are started from standby conditions. Standby conditions for a diesel generator mean that the diesel engine oil is being continuously circulated and engine coolant and oil temperatures are being maintained consistent with manufacturer recommendations.

The frequency of 66.2 Hz specified in Surveillance Requirement 4.8.1.1.2.b.2 corresponds to 993 rpm.

UNITED STATES
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WASHINGTON, D.C. 20555-0001

PENNSYLVANIA POWER COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-412

BEAVER VALLEY POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 109
License No. NPF-73

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

   A. The application for amendment by FirstEnergy Nuclear Operating Company, et al. (the licensee) dated November 23, 1999, as supplemented February 22, 2000, 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. 109 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. FENOC 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Marsha Gamberoni, Acting Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: April 25, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 109

FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

Replace the following page of Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
3/4 8-5b	3/4 8-5b

SURVEILLANCE REQUIREMENTS (Continued)

f. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting from standby conditions(6) both diesel generators simultaneously, during shutdown, and verifying that each diesel generator achieves:

1. in ≤ 10 seconds, voltage(8) ≥ 3994 volts and frequency(8) ≥ 59.9 Hz, and

2. steady state, voltage(3) ≥ 3994 volts and ≤ 4368 volts, and frequency(3) ≥ 59.9 Hz and ≤ 60.3 Hz.

g. At least once per 10 years by draining each main fuel oil storage tank, removing the accumulated sediment, and cleaning the tank using a sodium hypochlorite solution or other appropriate cleaning solution.

(3) The values for voltage and frequency are analysis values. These value bands shall be appropriately reduced to account for measurement uncertainties.

(6) All diesel generator starts may be preceded by an engine prelube period.

(8) The values for voltage and frequency are analysis values. These values shall be appropriately increased to account for measurement uncertainties.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 230 AND 109 TO FACILITY OPERATING

LICENSE NOS. DPR-66 AND NPF-73

PENNSYLVANIA POWER COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

FIRSTENERGY NUCLEAR OPERATING COMPANY

BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

By letter dated November 23, 1999, the Duquesne Light Company (DLC) submitted a request for changes to the Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and BVPS-2), Technical Specifications (TSs). For BVPS-1, the proposed TS amendment would modify Surveillance Requirement (SR) 4.8.1.1.2.b.3.b by reducing the emergency diesel generator (EDG) frequency band to be $\geq$ 60.0 Hz and $\leq$ 60.4 Hz. In addition, Footnote (6) and the associated Bases would be deleted. For BVPS-2, the proposed SR 4.8.1.1.2.f would be revised to clarify that the EDGs are required to achieve a minimum voltage and frequency in $\leq$ 10 seconds. The EDGs would then be required to maintain voltages of $\geq$ 3994 volts and $\leq$ 4368 volts and frequencies $\geq$ 58.8 Hz and $\leq$ 61.2 Hz during steady state operation.

When the amendment was requested on November 23, 1999, DLC was the licensed operator for BVPS-1 and BVPS-2. On December 3, 1999, DLC's ownership interests in both BVPS-1 and BVPS-2 were transferred to the Pennsylvania Power Company, and DLC's operating authority for BVPS-1 and BVPS-2 was transferred to FirstEnergy Nuclear Operating Company (FENOC). By letter dated December 13, 1999, FENOC requested that the Nuclear Regulatory Commission (NRC) continue to review and act upon all requests before the NRC which had been submitted by DLC.

By letter dated February 22, 2000, FENOC provided a supplemental submittal for the proposed BVPS-2 amendment. Specifically, the supplemental submittal updated BVPS-2 SR 4.8.1.1.2.f to include the changes to the frequency values from $\geq$58.8 Hz and $\leq$61.2 Hz to $\geq$ 59.9 Hz and $\leq$60.3 Hz that were approved on February 11, 2000, and issued as Amendment No. 105. The February 22, 2000, letter did not change the initial proposed no significant hazards consideration determination or expand the amendments beyond the scope of the March 8, 2000, Federal Register notice.

2.0 BACKGROUND

BVPS-1 and 2 have two sets of EDGs fully dedicated to each unit. The Unit 1 EDGs were manufactured by General Motors Electromotive Division. The Unit 2 EDGs were manufactured by Fairbanks Morse Engine Division of Colt Industries.

BVPS-1 EDGs are equipped with Woodward UG-8 mechanical governors and are designed to permit the engine to initially obtain a speed of approximately 450 rpm when started manually for monthly loading runs. Full engine speed of approximately 900 rpm is obtained by manually increasing the governor setting. The generator is then manually field flashed to obtain a voltage output.

In the emergency mode of operation, the governor setting causes the EDG output frequency to drop as load is increased. The present setting is such that the EDG is at approximately 62.5 Hz while at zero load and approximately 60.6 Hz at full load. The present control system and governor cannot be adjusted to provide operation at constant speed independent of the load and support the monthly loading runs. To allow independent operation at the desired nominal of 60 Hz, DLC is planning to modify the governor control system so that the EDG will operate in either isochronous mode (maintaining constant EDG speed independent of the load) or droop mode (engine speed and generator frequency are not constant with load). The governor modification was completed during BVPS-1's 13th refueling outage.

The licensee proposed a change to SR 4.8.1.1.2.b.3.b. to reduce the EDG frequency band.

3.0 EVALUATION

The proposed change of SR 4.8.1.1.2.b.3.b., associated with the modification to the governor, revises the frequency range from $\geq$ 58.8 Hz and $\leq$ 61.2 Hz to $\geq$ 60.0 Hz and $\leq$ 60.4 Hz. This is necessary to ensure that the EDG maximum loading does not exceed the Updated Final Safety Analysis Report (UFSAR) limit of 2745 KW for mitigation of a design basis accident (DBA). This value is based on the guidance of safety guide 9 and represents 90 percent of the 30-minute EDG rating. Maintaining the new output frequency values will restore the EDG maximum loading to $\leq$ 2745 KW. The licensee proposes to delete Footnote (6) to SR 4.8.1.1.2.b.3.b. pertaining to the EDG frequency limits. With the governor modification, the EDG will no longer operate in the droop mode while the EDG is available for the emergency mode of operation. The footnote will no longer be required because the EDG frequency will not be dependent on the EDG loading. The Bases associated with Footnote (6) will be deleted since it no longer is applicable. Because the proposed change would be more restrictive than the current TS requirements and would ensure that EDG operation is bounded by the licensee's safety analysis, the NRC staff finds this change acceptable

For Unit 2, the licensee proposed to clarify SR 4.8.1.1.2.f. In a supplemental letter dated February 22, 2000, FENOC updated SR 4.8.1.1.2.f to read as follows:

f. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting from standby conditions(6) both diesel generators simultaneously, during shutdown, and verifying that each diesel generator achieves:

1. in ≤10 seconds, voltage(8) ≥ 3994 volts and frequency(8) ≥59.9 Hz, and

2. steady state, voltage(3) ≥3994 volts and ≤4368 volts, and frequency(3) ≥59.9 Hz and ≤60.3 Hz.

This proposed change to the BVPS-2 TSs is a clarification of the existing requirement that the EDGs achieve the specified minimum voltage and frequency in ≤10 seconds. The EDGs are then required to maintain the specified voltage and frequency bands during steady-state operations. This is consistent with NUREG 1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, dated April 1995, as modified by Technical Specification Task Force, Change 163, Revision 2. Because this proposed change merely clarifies the surveillance necessary to verify (1) the time to reach minimum voltage and frequency, and (2) steady-state voltage and frequency, the NRC staff finds this change acceptable.

In addition to the proposed changes to SR 4.8.1.1.2.f discussed above, the licensee has proposed addition of a footnote (footnote 8) to the SR to clarify that the required voltages and frequencies specified in the SR are analysis values and that these values must be increased to adequately account for measurement uncertainties. The NRC staff concludes that this is an appropriate clarification to ensure that the minimum requirements will be met. Therefore, this proposed change is acceptable.

Therefore, on the basis of the above evaluation, the staff finds the proposed amendments to the BVPS-1 and BVPS-2 TSs acceptable.

3.0 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.

4.0 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 change 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 (65 FR 12292). 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.

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

Principal Contributor: S. Saba

Date: April 25, 2000