**Duquesne Light Company** Beaver Valley Power Station
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March 30, 1990

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Reference: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Supplemental Response to Station Blackout Rule - 10CFR50.63

Gentlemen:

By letter from NUMARC dated January 4, 1990, each licensee was requested to review their response to the Station Blackout (SBO) Rule, 10CFR50.63, and supporting documentation in light of concerns by the NRC staff regarding proper documentation and consistent implementation of NUMARC 87-00 guidance.

DLC has evaluated the supplemental guidance from the NUMARC letter and the NRC guidance provided on March 6, 1990 via NRC meeting minutes, and determined that changes are necessary to our original submittal of April 14, 1989 in response to the SBO issue. The following is a summary of the changes with a brief explanation:

1. Condensate Inventory For Decay Heat Removal

   Condensate inventory for decay heat removal during a SBO for the required 4-hour coping duration has been recalculated taking into account the cooldown phase ( 547°F to 350°F, hot shutdown conditions), and determined from Section 7.2.1 of NUMARC 87-00 to be 87,604 gallons. The minimum permissible condensate storage tank level per Technical Specifications provides 140,000 gallons of water for Unit 1 and 127,000 gallons of water for Unit 2, which exceeds the required quantity for coping with a 4-hour SBO.

2. Effects of Loss of Ventilation

   The following BVPS Unit 1 and 2 areas, containing equipment required to cope with SBO, were evaluated for loss of ventilation concerns:



A050
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- Auxiliary Feedwater (AFW) Pump Room (Unit 1 & 2)
- Control Room (Unit 1 & 2)
- Battery Rooms (Unit 1 & 2)
- Intake Structure Pump Cubicles (Unit 1 & 2)
- Emergency Switchgear Rooms (Unit 1 & 2)
- Charging Pump Cubicles (Unit 1 & 2)
- Process Instrument Room (Unit 1 & 2)
- Main Steam Valve Room (Unit 1 & 2)

Previously identified areas of our original submittal have been excluded as dominant areas of concern based on the following:

- Unit 1 and 2 AFW Pump Room temperatures were calculated to be less than 120°F which, based on the NUMARC Supplemental guidance, establishes reasonable assurance of equipment operability without further analysis (Q/A 2.2).

- Unit 2 Process Instrument Room temperature was recalculated utilizing the additional surface area of the Control Building which is separated only by a partial height wall which would allow heat to be distributed between areas. The inclusion of this additional surface area has resulted in a steady-state room temperature of 115°F.

- Unit 1/2 River Water Pump Cubicles were excluded from the list as a result of the revised Alternate AC (AAC) Emergency Diesel Generator load management scheme for the unaffected unit. Previously, the ventilation system was not included in the AAC loading scheme. Since these pump cubicles are common for both Unit 1 and Unit 2, each having a separate ventilation system, the loss of one system for the blacked-out unit would not jeopardize the unaffected unit's ventilation system or equipment required for safe shutdown.

It has been determined that the only dominant area of concern is the Unit 1 Main Steam Valve Room (MSVR). The HVAC system serving this area is not assumed to be available during a SBO event. The steady state temperature was calculated taking into account the effects of opening the ventilation louvers located in the ceiling of the Unit 1 MSVR, which exhausts air out the roof top. The applicable steady state room temperature was determined to be 121.5°F.

Reasonable assurance of the operability of station blackout response equipment in the dominant area of concern (Unit 1 Main Steam Valve Room) have been assessed using Appendix F to NUMARC 87-00 and the Topical Report. In addition, plant specific equipment qualifications data were used, as applicable. No modifications are required to provide reasonable assurance for equipment operability.

3. Control Room HVAC

As a result of the AAC load management scheme, the Control Room HVAC will be available for the unaffected Unit. Since the Units have a joint Control Room complex with separate HVAC systems for each Control Room, the complex will be provided with forced air cooling from the unaffected unit and forced air heat removal from the blacked out unit via the Control Room supply and exhaust fans powered from the AAC power source. Irrespective of the above supplemental cooling, the AAC power source was assumed to not be available for the first hour after a SBO event, and both Control Rooms were evaluated for a complete loss of ventilation during a SBO. Both Control Rooms were found not to exceed 120°F steady state temperature and therefore, are not dominant areas of concern.

4. Reactor Coolant Inventory

The ability to maintain adequate reactor coolant system inventory to ensure that the core is cooled has been assessed for the 4-hour coping duration. The generic analyses listed in Section 2.5.2 of NUMARC 87-00 were used for this assessment and are applicable to the specific design of Beaver Valley Unit 1 and 2. The expected rates of reactor coolant inventory loss of 25 gpm per pump under SBO conditions do not result in core uncovery in a SBO of 4 hours.

5. AAC Configuration

Based on the NUMARC supplemental guidance, our AAC configuration has been revised from our previous submittal (see attached Figure 1). The AAC configuration will utililize a single cross-tie between the Unit 1 and Unit 2 normal 4 KV busses. This change was necessary to meet criterion B.8(e) of NUMARC 87-00 which requires that there be no single point vulnerability whereby a single active failure could disable any portion of the on-site emergency AC power source and simultaneously fail the AAC power source.

The modifications and procedure changes associated with the AAC cross-tie will be completed within two years after the notification provided by the Director, Office of Nuclear Reactor Regulation in accordance with 10CFR50.63(c)(3). Since our Alternate AC (AAC) power source will involve cross-tieing busses between Units 1 and 2, installation and testing will require refueling outages at both units to fully implement the cross-tie capability. Therefore, the schedule for completion may need to be extended, dependent on the NRC approval date and the scheduled refueling outage dates for both Unit 1 and 2. Presently, the schedule for Unit 2's 3rd Refueling Outage is March 1992, and Unit 1's 9th Refueling Outage is September, 1992.

6. Emergency Diesel Generator (EDG) Reliability

We understand the NUMARC 87-00 document is in the process of being revised to expand on Appendix D "EDG Reliability Program", to offer guidance for monitoring EDG reliability, comparing actual reliability to EDG target reliability, and considerations for instances where the EDG target reliability is not met. DLC will follow the guidance issued by NUMARC on EDG reliability and understands that the EDG target reliability at BVPS (0.975) is to be maintained in accordance with the NUMARC guidance.

7. EDG Load Management Scheme

A meeting with the NRC staff regarding the use of our EDG's as an AAC source was held on February 22, 1990. As a result of this meeting, additional clarification and guidance was provided concerning the use of EDG's as AAC sources at multi-unit sites. We are currently re-evaluating our EDG load management methodology based on this additional guidance. This could have significant impact on the utilities that are sharing diesels between two units as an AAC design. We, therefore, request an additional 90 days to work with NUMARC and the utilities affected by this position. We will identify any additional changes to our AAC approach and SBO rsponse at that time.

If there are any questions on this matter, please contact my office.

Very truly yours,

J. D. Sieber
Vice President
Nuclear Group

cc: Dr. T. Murley, Director of Office of NRR
Mr. J. Beall, Sr. Resident Inspector
Mr. W. T. Russell, NRC Region I Administrator
Mr. P. Tam, Sr. Project Manager
Mr. R. Saunders (VEPCO)
NUMARC

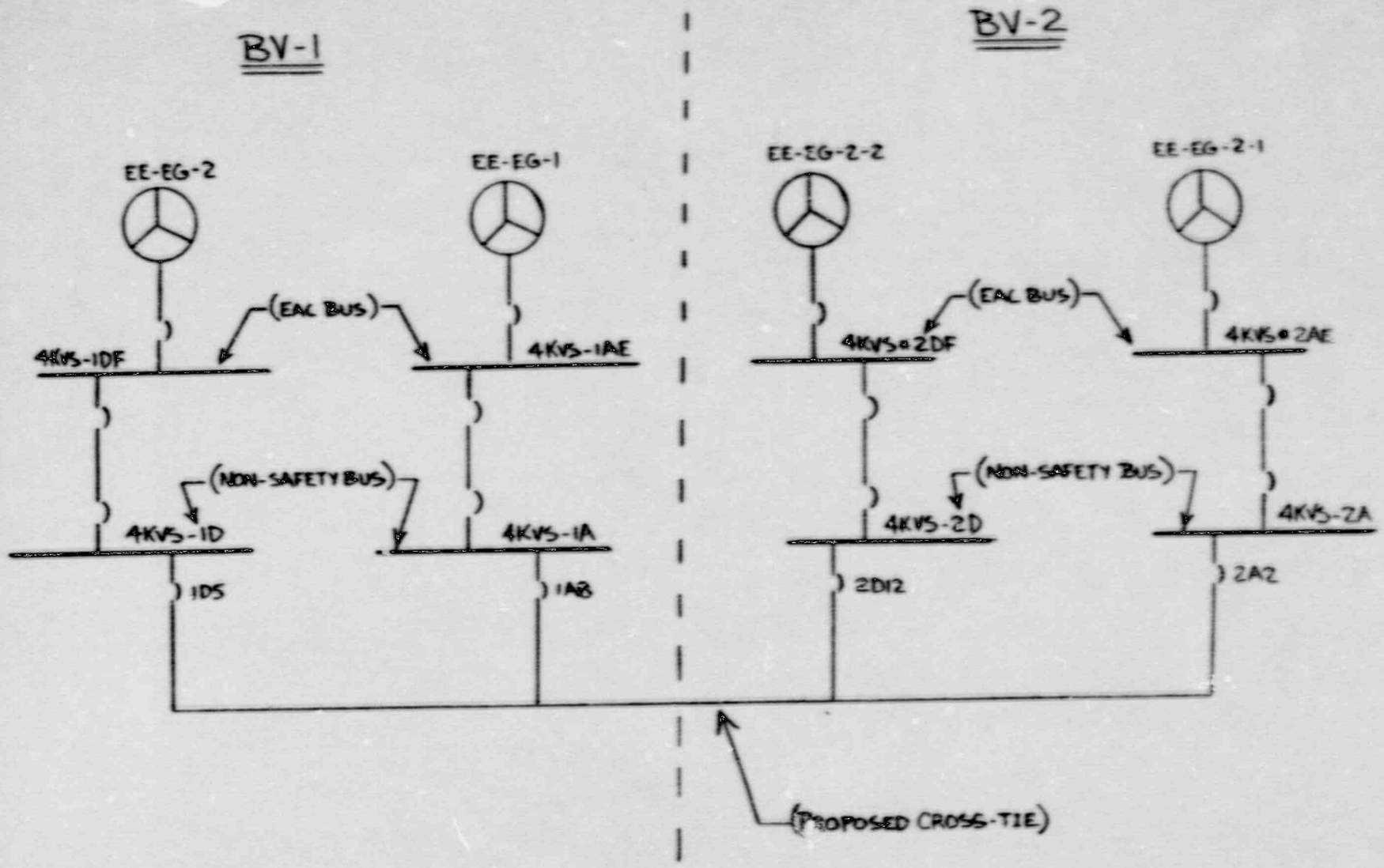


Figure 1
SVPS Unit 1 & 2
AAC Cross-tie

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF BEAVER )

On this 30th day of March, 1990, before me, Tracey A. Baczek a Notary Public in and for said Commonwealth and County, personally appeared J. D. Sieber, who being duly sworn, deposed, and said that (1) he is Vice President - Nuclear of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge, information and belief.

Tracey A. Baczek

Notarial Seal
Tracey A. Baczek, Notary Public
Shippingport Boro, Beaver County
My Commission Expires Aug. 16, 1993

Member, Pennsylvania Association of Notaries