



Nuclear Construction Division
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July 10, 1985

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412

Gentlemen:

For your information, we are proceeding with the revision to the installation specification 2BVS-931 and the appropriate engineering documents, field construction procedures and inspection plans to incorporate the separation criteria submitted to the NRC with our letter 2NRC-6-081, dated June 4, 1985.

This revision contains the revised criteria for internal panel wiring separation as well as that for cable in raceway and in free air (drop outs) external to panels. The separation requirement for electrical color separation within equipment to be included in the revisions to the appropriate documents are detailed in Attachment 1.

We will be proceeding with the implementation of this criteria based on the flow chart attachment 1 that was submitted to the NRC with our letter 2NRC-4-151 dated September 24, 1984 (attachment 2).

In order to assist your review of the results of the WYLE Test Report, we suggest that a meeting be held with your reviewers at your earliest convenience. This would permit completion of the case 3 consequential work effort as referenced in our (2NRC-4-151) September 24, 1984 letter.

DUQUESNE LIGHT COMPANY

By

J. J. Carey
J. J. Carey
Vice President

JFK/caw
Attachment
RO/JFK/NRC

SUBSCRIBED AND SWORN TO BEFORE ME THIS

10th DAY OF July, 1985.

Anita Elaine Reiter

Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY

MY COMMISSION EXPIRES OCTOBER 20, 1986

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COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

Anita Elaine Riita
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

ATTACHMENT 1

ELECTRICAL COLOR SEPARATION WITHIN EQUIPMENT

1. Low Voltage Equipment

1a. The minimum separation distances between wire groups within Low Voltage equipment are:

1.a.1 1 in between wire groups or

1.a.2 1 in between wire groups and contacts or

1.a.3 6 in between contacts

1b. The following protection methods or combination of methods may be used to reduce the distance specified in Section 1a.

1.b.1 One wire group or contacts (A) protected as shown in (A) below when separated by distance (C) from wire group (B) as shown in (B) below. Open wire groups are groups with no protection.

| WIRE GROUP (A) | DISTANCE (C) | WIRE GROUP (B) |
|-----------------------|--------------|----------------|
| Preferred Method-Open | 1" | Open |
| Conduit* | 1" | Open |
| Conduit* | 0" | Conduit* |
| Conduit* | 0" | Wrap |
| Preferred Method-Wrap | 0" | Wrap |

* No future conduit installation is anticipated. Any conduit presently installed and analyzed will be left as is.

1.b.2 One wire group or contacts separated from another wire group or contacts by a barrier may have the total distance between wire groups reduced to 1 inch plus the thickness of the barrier. If either group, separated by a barrier, is enclosed in a wrap or conduit, the distance between the groups and the barrier can be reduced to 0 inches. (The non-enclosed group may touch the barrier and the enclosed group may also touch the barrier.)

NOTE: Barriers shall extend a minimum of 1 inch beyond exposed terminals and shall be designed of with sufficient strength to withstand misuse of testing equipment and maintenance tools. Barriers less than 1 inch from terminals shall be nonconducting, seismically supported.

2. Medium Voltage Equipment

2a. The minimum separation distances between wire groups within medium voltage equipment are:

2.a.1 6 in between wire groups or

2.a.2 6 in between wire groups and contacts or

2.a.3 6 in between contacts.

2b. The following protection methods or combination of methods may be used to reduce the distance specified in Section 2.a.

2.b.1. One group or contacts (A) protected as shown in (A) below when separated by distance (D) from wire group (B) as shown in (B) below. Open wire groups are groups with no protection.

| WIRE GROUP (A) | DISTANCE (D) | WIRE GROUP (B) |
|--------------------------------|--------------|----------------|
| Preferred Method-Open | 6" | Open |
| Conduit Method* | 1" | Open |
| Preferred Method-Wrap Conduit* | 1" | Conduit* |

* No future conduit installation is anticipated. Any conduit presently installed and analyzed will be left as is.

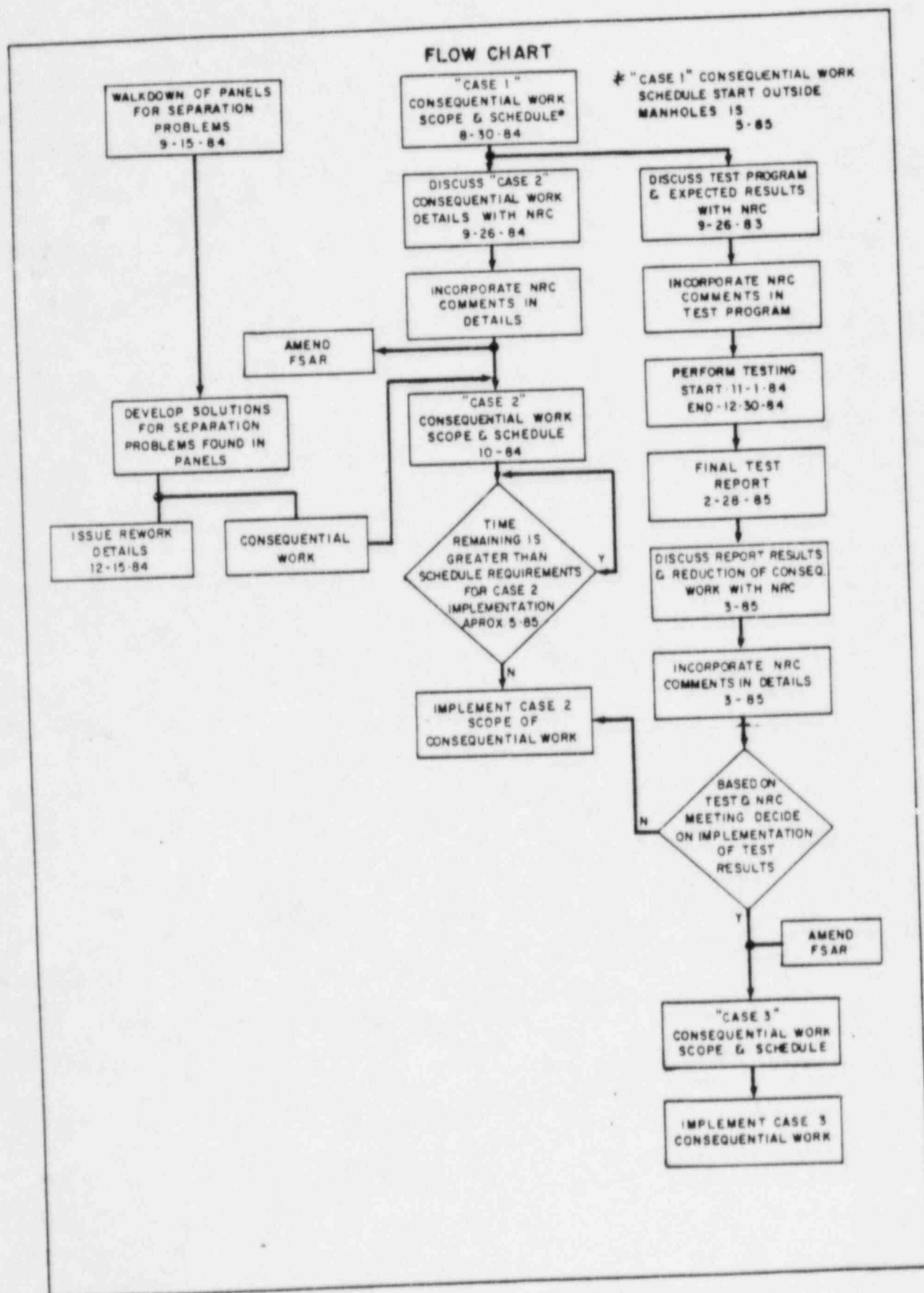
2.b.2 One wire group or contacts separated from another wire group or contacts by a barrier may have the total distance between wire groups reduced to 1 inch plus the thickness of the barrier.

NOTE: Barriers shall extend a minimum of 1 inch beyond exposed terminals and shall be designed of with sufficient strength to withstand misuses of testing equipment and maintenance tools terminals shall be nonconducting, seismically supported.

4. Where wire groups are not adequately separated and a solution as outlined in 1 and 2 above is not possible. The Contractor shall request Engineering authorization prior to termination.

5. The color group of internal wiring is determined by the external cable connecting with or as an extension to it. Wiring diagrams should be used for making this determination. In case of difficulty in determining the group color of the wire group for internal wiring the engineer should be requested to provide resolution.

ATTACHMENT 1





Duquesne Light

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September 24, 1984

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Electrical Separation R.G. 1.75 Information

Gentlemen:

The status of the BVPS-2 program to achieve compliance with its commitment to Regulatory Guide 1.75 Rev. 2 and IEEE-384-74 was presented to the NRC during a site meeting on August 30, 1984. Copies of the conference notes and presentation slides were submitted to the NRC with our letter 2NRC-4-143 dated September 14, 1984.

During the August 30 meeting, NRC representatives requested a description of the relationship between our implementation scope and plan for consequential work and future test program results, future licensing (FSAR) submittals and future walkdowns of electrical separation within panels. The attached flow chart (Attachment 1) has been developed to identify the relationships among these four (4) efforts.

It should be noted, as shown on Attachment 1, that "Case 1" is the consequential work scope and schedule that was discussed at our August 30, 1984 meeting and was included in our September 14, 1984 submittal. Case 1 is based upon the consequential work details presented during our December 20, 1983 meeting.

"Case 2" consequential work scope and schedule, as shown on Attachment 1, will be based upon implementation of the additional types of consequential work details that have already been found acceptable to the NRC.

"Case 3" consequential work scope and schedule, as shown on Attachment 1, will be based on test results that substantiate the bases for NRC acceptance of further reductions in the quantity of consequential work.

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Since we have already established that Case 1 can be accommodated within the existing plant schedule, and since Cases 2 and 3 will reduce the quantity of consequential work required to be performed, we believe that the attached flow chart describes a positive system for resolution of the electrical separation issue that is in our mutual best interest to complete.

DUQUESNE LIGHT COMPANY

By E. J. Woolever
E. J. Woolever
Vice President

HMS/nml
Attachment

cc: Mr. C. Anderson, Region 1 (3) (w/attachment)
Mr. J. Knox (w/attachment)
Ms. M. Ley, Project Manager (w/attachment)
Mr. G. Walton, Resident Inspector (w/attachment)

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 24th day of September, 1984, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. J. Woolever, who being duly sworn, deposed and said that (1) he is Vice President 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.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

United States Nuclear Regulatory Commission
Mr. George W. Knighton, Chief
Page 3

HMS/nml
NR/NRC/REG/175
Attachment

bcc: W. T. Wardzinski (w/o/attachment)
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E. F. Kurtz, Jr. "
J. H. Latshaw "
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