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 FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
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 MANGAN,C.V. Niagara Mohawk Power Corp.
 RECIPIENT NAME RECIPIENT AFFILIATION
 SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards position on Rev 2 to Reg Guide 1.75 re physical independence of electric sys. Info will be included in next FSAR amend.

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October 26, 1984
(NMP2L 0220)

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Schwencer:

Re: Nine Mile Point Unit 2
Docket No. 50-410

Attached is the Nine Mile Point Unit 2 position on Regulatory Guide 1.75, Revision 2 (September 1978). This Regulatory Guide deals with the physical independence of electric systems.

This information will be included in the next Final Safety Analysis Report Amendment.

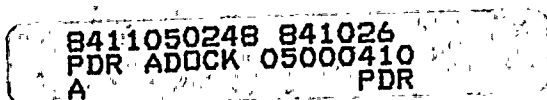
Very truly yours,

C. V. Mangan

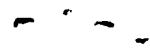
C. V. Mangan
Vice President

Nuclear Engineering & Licensing

DS:ja
Attachment
xc: R. Gramm, NRC Resident Inspector
Project File (2)



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
Niagara Mohawk Power Corporation)
(Nine Mile Point Unit 2))

Docket No. 50-410

AFFIDAVIT

C. V. Mangan, being duly sworn, states that he is Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

C. V. Mangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 26 day of October, 1984.

Janis M. Macro
Notary Public in and for
Onondaga County, New York

My Commission expires:
JANIS M. MACRO

Notary Public in the State of New York
Qualified in Onondaga County No. 4784555
My Commission Expires March 30, 1985...



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Nine Mile Point Unit 2 FSAR

Table 1.8-1 (Cont)

Regulatory Guide 1.75, Revision 2 (September 1978)

Physical Independence of Electric Systems

FSAR Sections 7.1.2, 7.6.2, 8.3.1, Question F421.47

Position

The Unit 2 project complies with the Regulatory Position (Paragraph C) of this guide through the alternate approach described below and in Section 7.6.2 and 8.3.1. and FSAR response F421.47.

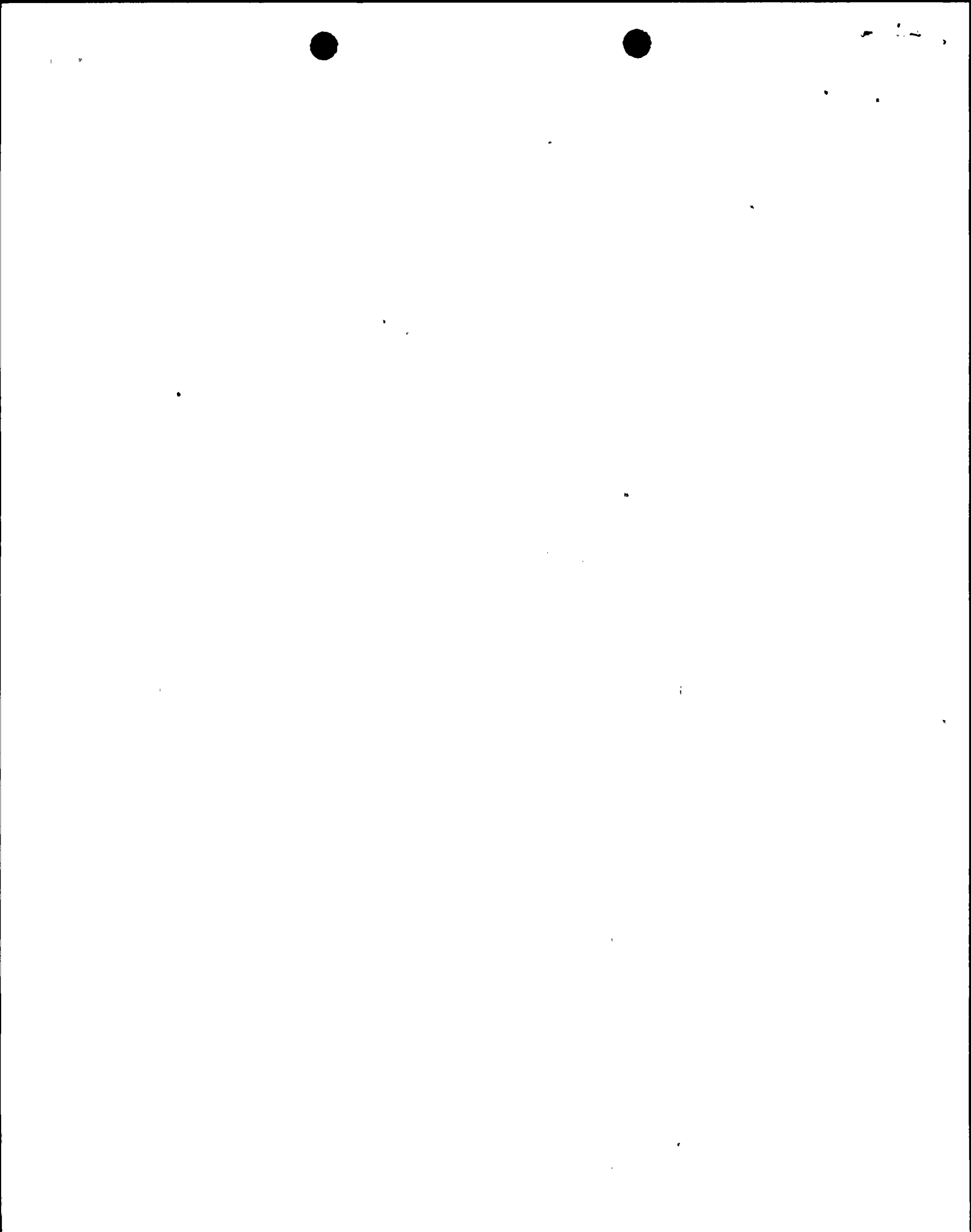
Regulatory Position C.9 requires that cable splices in raceways be prohibited. Splicing in electrical penetrations is considered to be exempt from this requirement.

Regulatory Position C.10 requires that the cables be marked at 5-ft intervals. This is a typographical error as confirmed by the former Electrical, Instrument and Control Branch Chief of USNRC, T. A. Ippolito, on October 10, 1975, and the NRC Power Systems Branch Section Leader, R. G. FitzPatrick, on October 30, 1980. The correct distance is 15 ft., which has been followed in Unit 2.

IEEE 384-1974, Sections 5.1.3 and 5.1.4 require that "where termination arrangements preclude maintaining the minimum separation distance, the redundant circuits shall be run in enclosed raceways...." In the case where nonsafety 600V and 120V cables are routed less than the minimum separation distance away from safety related open ladder trays, only the nonsafety cables are enclosed in rigid steel conduits. The minimum separation distance between the nonsafety rigid steel conduit and the safety related trays is 1 in.

This condition does not involve cables of redundant Class 1E systems. It involves one Class 1E and Nonclass 1E systems. The concern here is the effect of electrical failure or faults in the nonsafety cables in rigid steel conduit, on the safety related cables in open trays.

All cables used in NMP2 are flame retardant. The cable trays are not filled above the side rails. The hazard, in this case, is limited to failure or faults internal to the nonsafety cables in rigid steel conduit. An internally generated fire in the Nonclass 1E cables in rigid steel conduit will be contained in the rigid steel conduit and cannot spread to the Class 1E trays. The heat generated due to the fire will be dissipated in the surrounding air. The effects of this heat on the safety related cables in open ladder trays will not be more severe than what it would be if the trays were enclosed due to free air movement.



Nine Mile Point Unit 2 FSAR

tive divisional battery rooms in the emergency switchgear room. Each battery room has an independent ventilation system. The Class 1E UPS systems associated with Divisions I and II are located in the respective divisional emergency switchgear rooms. The physical separation of the major safety-related electrical equipment is shown on Figure 8.3-9.

Physical Separation of Cables and Raceways

The criteria followed for physical separation of the cables and raceways are as follows:

1. General Plant Areas

- a. Safety-related circuits associated with the different divisions are routed in separate cable trays, conduits, ducts, tunnels, penetrations, etc. These are never intermixed.
- b. Three-ft. horizontal and/or 5 ft. vertical separation is generally maintained between raceways associated with redundant circuits or between safety related and nonsafety related circuits regardless of their voltage class except in cable spreading areas. In cable spreading areas, the minimum separation distance between redundant Class 1E cable trays and between safety and nonsafety related circuits is 1 ft. horizontal and/or 3 ft. vertical.
- c. Where 3 ft. horizontal and/or 5 ft. vertical, or 1 ft. horizontal and/or 3 ft. vertical separation is not practicable, enclosed steel tray or conduit is used or a barrier is installed. Where enclosed raceways are used, the minimum separation distance between the enclosed raceways of different colors or between one color and nonsafety is 1 in. In the case where nonsafety 600V and 120V cables are routed less than the minimum separation distance away from safety related open ladder trays, only the nonsafety cables are enclosed in rigid steel conduits. The minimum separation distance between the nonsafety rigid steel conduit and safety related open trays is 1 in. Where a partition type barrier is provided, the minimum separation distance between the barrier and the raceways is 1 in.
- d. Where vertical shafts are used between elevations, the same criteria for separation of redundant circuits and redundant and nonsafety related circuits are followed.

