

February 29, 1980

Office of Inspection and Enforcement  
Region I  
Attn.: Mr. Boyce H. Grier, Director  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Re: Nine Mile Point Unit 1  
Docket 50-220  
DPR-63

Dear Mr. Grier:

Your Inspection and Enforcement Bulletin 79-27 requested information regarding Loss of Non-Class IE Instrumentation and Control Power System Buses During Operation. The attachment to this letter addresses your request.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

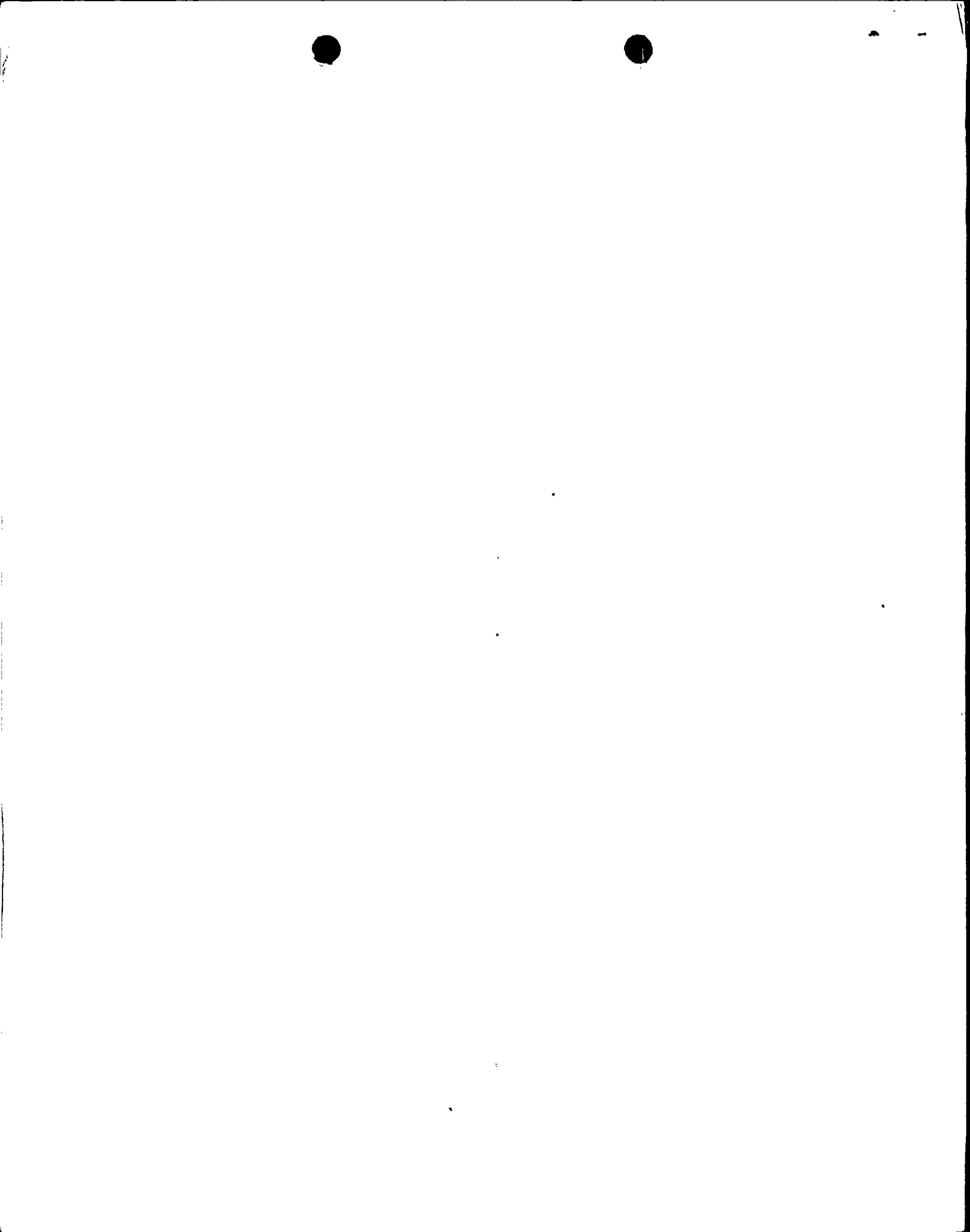
*James Bartlett*

James Bartlett  
Executive Vice President

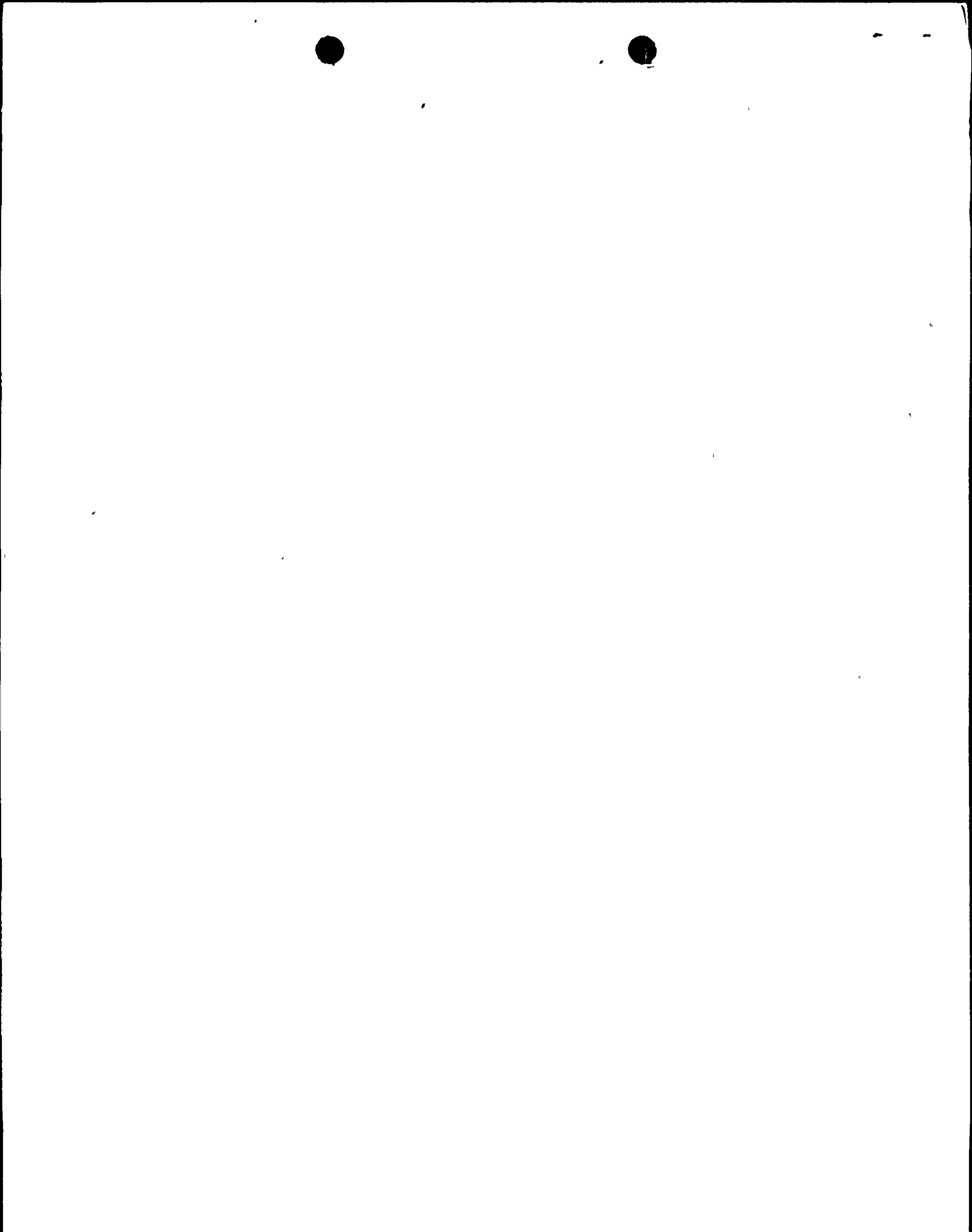
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RESPONSE TO  
INSPECTION AND ENFORCEMENT BULLETIN 79-27  
FEBRUARY 29, 1980



### Question 1

Review the Class 1-E and Non-Class 1-E buses supplying power to safety and non-safety related instrumentation and control systems which could affect the ability to achieve a cold shutdown condition using existing procedures or procedures developed under Item 2 below. For each bus:

- a. Identify and review the alarm and/or indication provided in the control room to alert the operator to the loss of power to the bus.
- b. Identify the instrument and control system loads connected to the bus and evaluate the effects of loss of power to these loads including the ability to achieve a cold shutdown condition.
- c. Describe any proposed design modifications resulting from these reviews and evaluations, and your proposed schedule for implementing those modifications.

### Response

#### Identification of Buses and Loads

The buses which supply power to safety and non-safety related instrumentation and control systems which could affect the ability to achieve cold shutdown are shown below. The loads connected to the buses are also shown.

1. Reactor trip bus 131 supplies power to channel 11 reactor scram.
2. Reactor trip bus 141 supplies power to channel 12 reactor scram.
3. Reactor protection system bus 11 supplies power to reactor protection system channel 11.
4. Reactor protection system bus 12 supplies power to reactor protection system channel 12.

For details, see attached Figures VIII-2 and IX-2 from the FSAR, Supplement 2.

#### Alarms

The following alarms are provided in the Control Room:

1. Reactor protection system 11 and 12 auto reactor trip.
2. Reactor trip power supply MG set 131 and 141 volts - frequency low (supply to reactor trip buses 131 and 141).
3. Continuous power supply MG set 162 and 172 off normal, from DC or output Voltage low (supply to reactor protection system buses 11 and 12).



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Response to Question 1 (Continued)

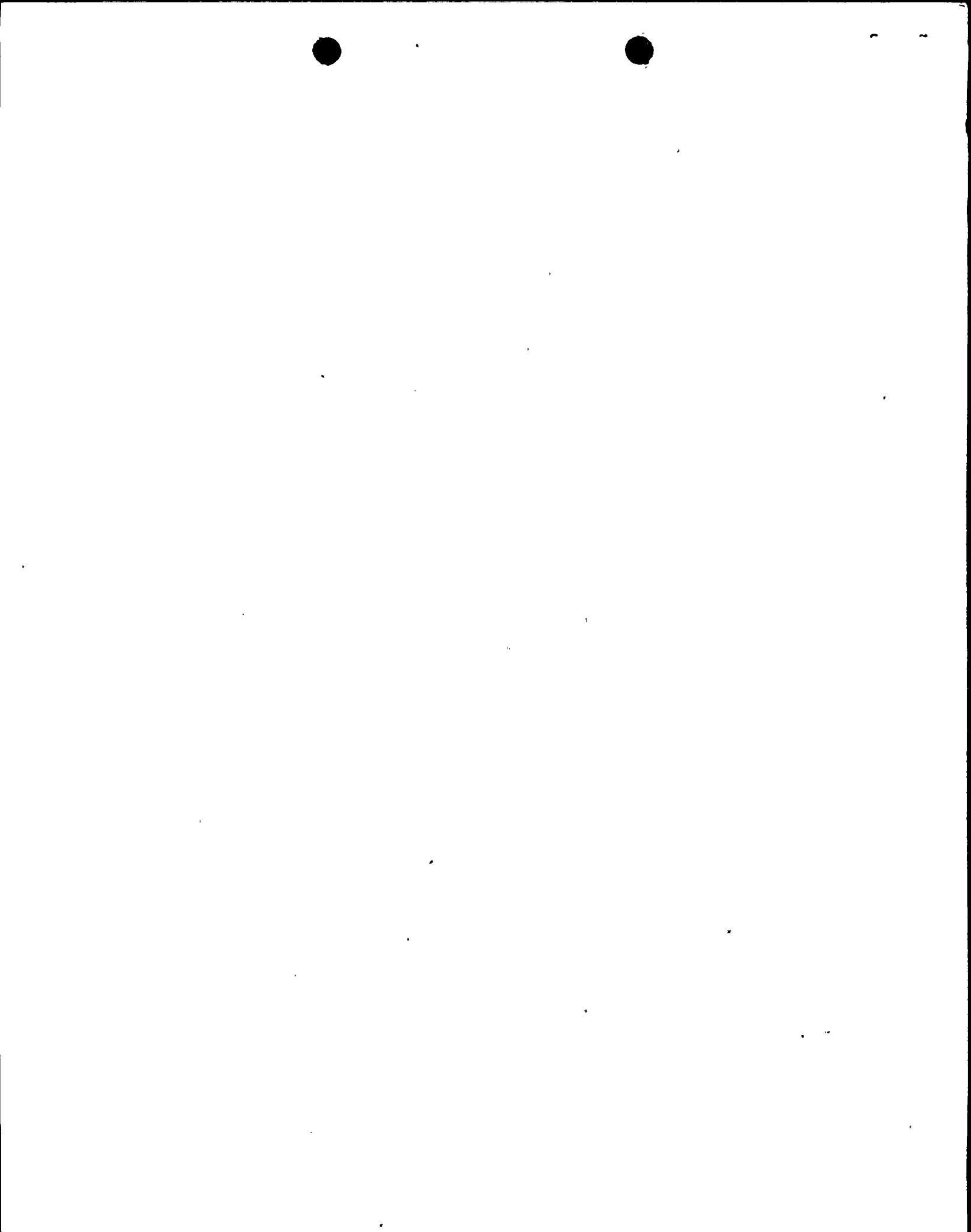
Loss of Power

Reactor trip buses 131 and 141 are redundant. Loss of power to either bus would result in a half scram. This would not affect cold shutdown.

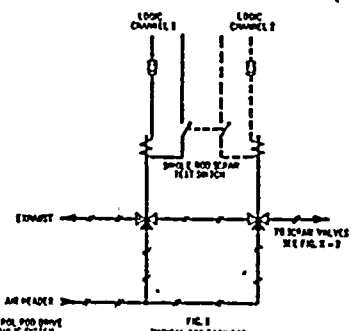
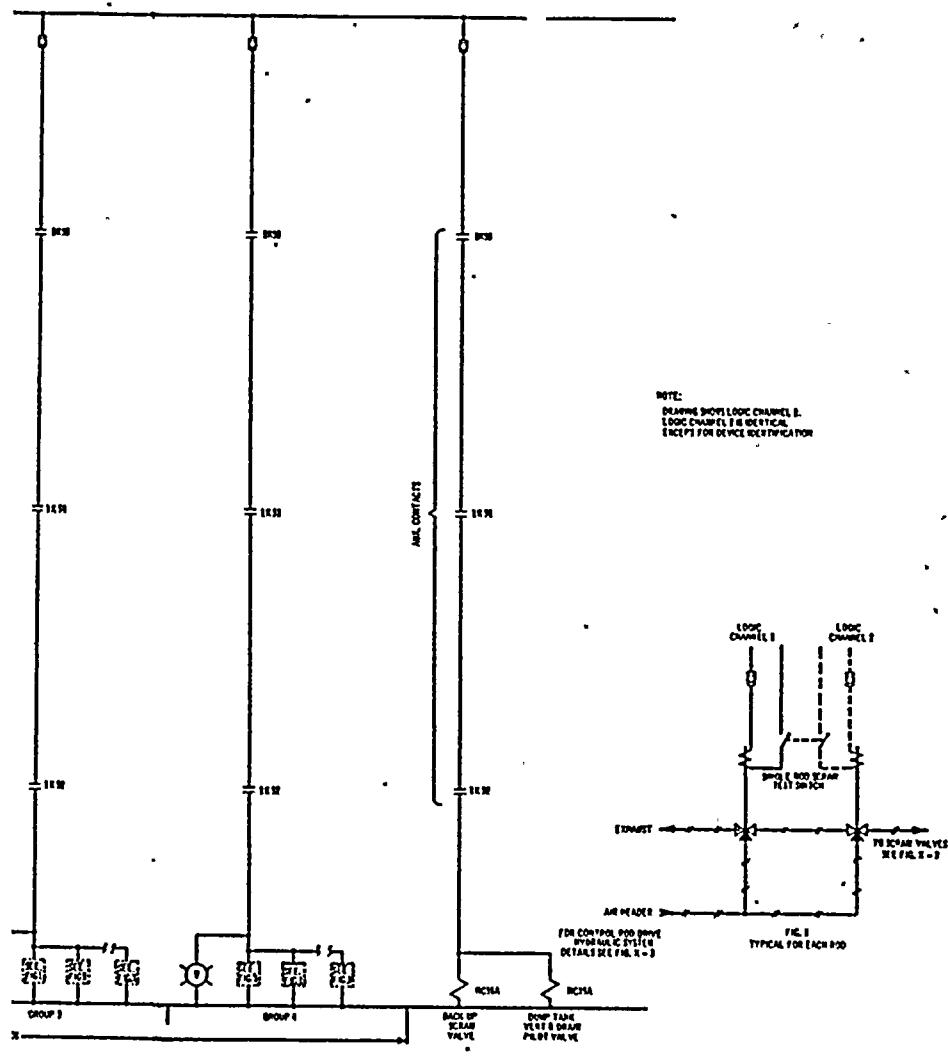
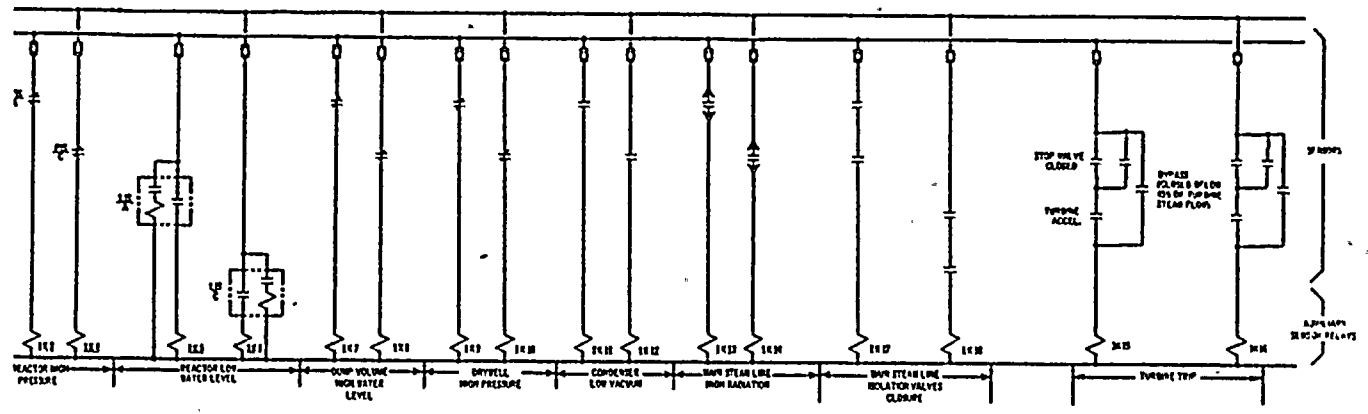
Reactor protection system buses 11 and 12 are redundant. Loss of power to either bus would also result in a half scram. This would not affect cold shutdown. In addition, power is supplied by a continuous power supply M-G set which derives its power from either an AC or DC source, as shown on the attached figures.

Based upon this review, no design modifications are necessary at Nine Mile Point Unit 1.



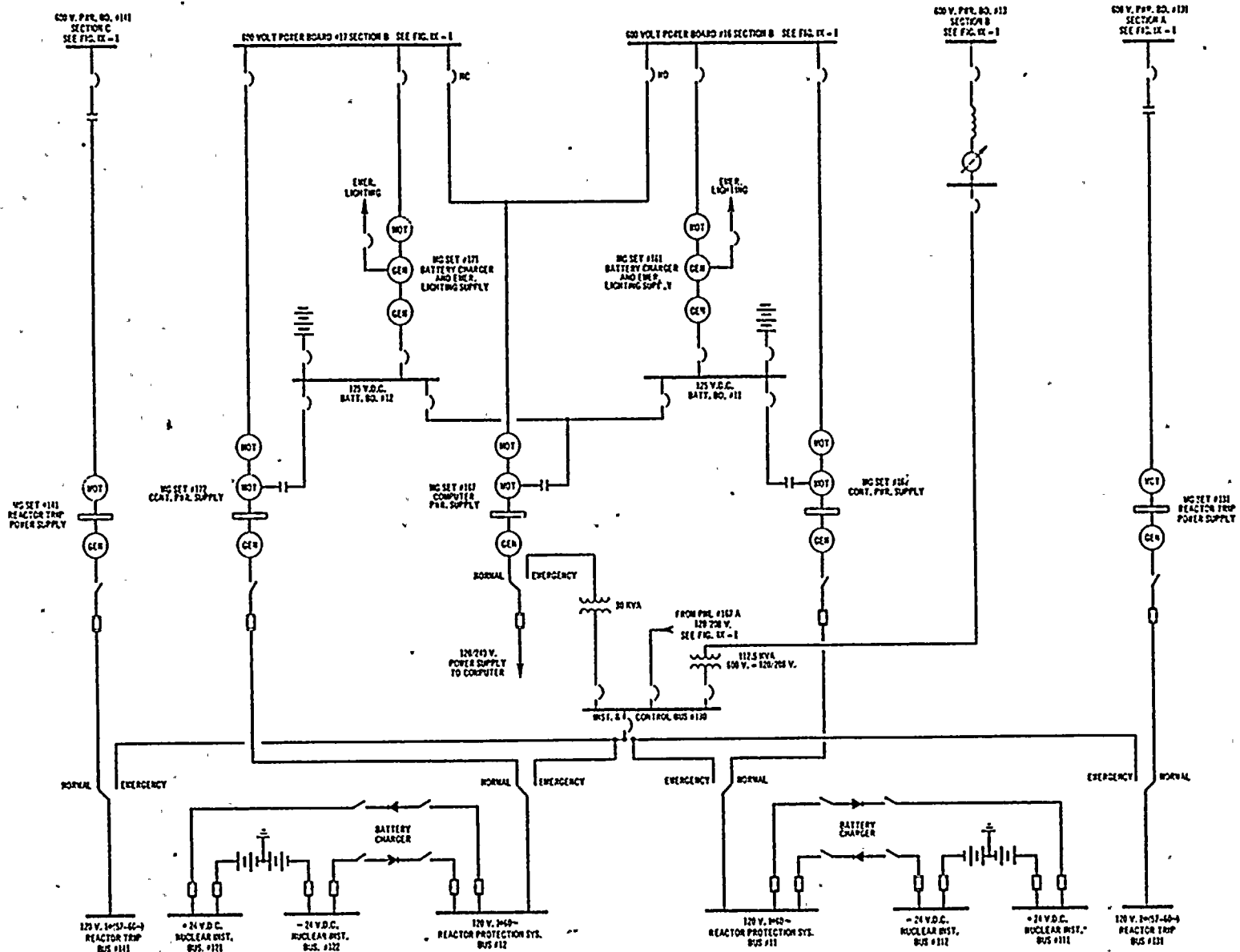






FOR CONTROL POD DRIVE  
HYDRAULIC SYSTEM  
DETAILS SEE FIG. 1-2







## Question 2

Prepare emergency procedures or review existing ones that will be used by control room operators, including procedures required to achieve a cold shutdown condition, upon loss of power to each Class 1-E and Non-Class 1-E bus supplying power to safety and non-safety related instrument and control systems. The emergency procedures should include:

- a. The diagnostics/alarms/indicators/symptom resulting from the review and evaluation conducted per Item 1 above.
- b. The use of alternate indication and/or control circuits which may be powered from other Non-Class 1-E or Class 1-E instrumentation and control buses.
- c. Methods for restoring power to the bus.

Describe any proposed design modification or administrative controls to be implemented resulting from these procedures, and your proposed schedule for implementing the changes.

## Response

The procedures at Nine Mile Point Unit 1 for loss of power include all of the items in a, b, and c above. Therefore, no new procedures are required.



### Question 3

Re-review IE Circular No. 79-02, Failure of 120 Volt Vital AC Power Supplies, dated January 11, 1979, to include both Class 1-E and Non-Class 1-E safety related power supply inverters. Based on a review of operating experience and your re-review of IE Circular No. 79-02, describe any proposed design modifications or administrative controls to be implemented as a result of the re-review.

### Response

The Nine Mile Point Unit 1 design does not include the use of inverters.



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