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July 23, 1979

Director, Nuclear Reactor Regulation
Att Mr Dennis L Ziemann, Chief
Operating Reactors Branch No 2
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKETS 50-155 AND 50-255 - LICENSES DPR-6 AND DPR-20 - BIG ROCK POINT AND PALISADES PLANTS: SEP TOPIC VIII-3.B, "DC POWER SYSTEM BUS VOLTAGE MONITORING AND ANNUNCIATION"

Consumers Power Company was requested by NRC letter dated June 18, 1979 to provide a list of all alarms and voltage monitoring devices associated with Class IE batteries. The NRC letter stated this information was needed to support review of the subject SEP topic.

The requested information for Big Rock Point and Palisades is attached.

David A Bixel
Nuclear Licensing Administrator

CC JGKeppler, USNRC

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BIG ROCK POINT PLANT

Question: To complete the evaluation of topic VIII-3.B, a list of all alarms and voltage monitoring devices available to provide operability status indication to the operator for Class IE batteries, associated chargers and direct-current buses is required.

Response

The following alarms and devices are available at Big Rock Point for the Class IE batteries, chargers and buses.

A. Station Battery - 125 V D-C

Battery Charger - Indicators and Alarms

1. Ammeter (current output) - local indicator.
2. Voltmeter (voltage output) - local indicator.
3. Loss of a-c to battery charger - control room alarm.*
4. Ground detector - control room alarm.*
5. Undervoltage relay on charger output - control room alarm.*

125 V D-C Bus - Indicator and Alarms

1. Battery overcurrent - control room alarm.*
2. Ammeter - local indicator.

*Common alarm in control room, "125 V D-C System Trouble."

B. Uninterruptible Power Supplies (UPS) for the Reactor Depressurizing System

1. Positive and negative ground detector lites.**
2. Battery charger output undervoltage lite.**
3. Battery charger output ammeter.
4. Battery charger output voltmeter.
5. Battery output ammeter.
6. Battery output discharge alarm.**

**Common alarm in the control room indicating "UPS abnormal." After reaching the UPS, the operator has the remaining indicators to ascertain the trouble with the d-c portion of the UPS.

Note that the Technical Specification 11.3.5.3-7 permits one of the four UPSs to be out of service for up to seven days.

C. Emergency Diesel Generator Battery

A common alarm sounds in the control room indicating "Emergency Generator Engine Trouble." In accordance with procedure, the operator is required, in part, to inspect the batteries and to check that the battery charger is on.

D. Diesel Fire Pump Battery

A common alarm sounds in the control room indicating "Diesel Fire Pump Trouble." In accordance with procedure, the operator is required, in part, to inspect the battery and equipment.

PALISADES PLANT

Question: To complete the evaluation of topic VIII-3.B, a list of all alarms and voltage monitoring devices available to provide operability status indication to the operator for Class IE batteries, associated chargers and direct-current buses is required.

Response

The following alarms and devices are available for Class IE batteries, chargers and associated equipment at the Palisades Plant. For Palisades this consists of two station batteries, four battery chargers and two d-c buses. Indicators and alarms for this equipment are described below.

Battery Charger - Indicators and Alarms

1. Ammeter - local indicator.
2. Voltmeter - local indicator.
3. Charger undervoltage - control room alarm.

125 V D-C Bus - Indicator and Alarms

1. Ground detector - control room alarm.*
2. Ground recorder - local indicator.
3. Bus undervoltage - control room alarm.*
4. Ammeter - local indicator.
5. Voltmeter - local indicator.

*A common alarm sounds in the control room indicating "125 V D-C Bus Trouble."

In addition to the above d-c bus monitoring devices, there are alarms and indicators associated with the 120 V a-c preferred power panels. Since the preferred power panels take their normal power supply from the d-c buses, the following alarms could be a further indication of d-c bus failure.

1. Preferred bus undervoltage - control room alarm.*
2. Ammeter (current input to inverter) - local indicator.
3. Ammeter (current out of inverter) - local indicator.
4. Frequency meter - local indicator.
5. Ground detector - control room alarm.*
6. Voltage meter - local indicator.

*A common alarm sounds indicating "preferred a-c bus trouble."