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Docket Nos. 50-369  
and 50-370

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Docket Nos. 50-369/370

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Mr. H. B. Tucker, Vice President  
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Dear Mr. Tucker:

Subject: Request for Changes to the Preventative Maintenance Program  
for Reactor Trip Breakers - McGuire Units 1 and 2

The NRC staff and its consultant, Idaho National Engineering Laboratory, have reviewed your response of November 4, 1983, to Generic Letter 83-28. Items 4.2.1 and 4.2.2 of Generic Letter 83-28 address periodic maintenance and trending aspects of the preventative maintenance program for reactor trip breakers. We find that additional entries to your program for these two items, as identified in the enclosure, are needed for the successful conclusion of our review.

Your reply within 60 days of this letter is requested. Should you have questions regarding the enclosure or be unable to meet the requested response date, contact our Licensing Project Manager, Darl Hood at (301) 492-8408.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

Enclosure:  
As stated

DESIGNATED ORIGINAL

Certified By

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Enclosure

REQUEST FOR ADDITIONAL INFORMATION REGARDING

GL 83-28, ITEMS 4.2.1 AND 4.2.2

MCGUIRE NUCLEAR STATION UNITS 1 AND 2

Your response to Generic Letter 83-28 on November 4, 1983 for McGuire Nuclear Station, Units 1 and 2 has been reviewed with respect to Items 4.2.1 and 4.2.2. The following changes are requested to provide for the satisfactory completion of our evaluation of the adequacy of the periodic maintenance and trending programs for the reactor trip breakers (RTBs):

1. Item 4.2.1 - Periodic Maintenance Program for RTBs

Because McGuire Nuclear Station, Units 1 and 2 Reactor Trip Systems utilize Westinghouse DS-416 circuit breakers, the primary criteria for an acceptable maintenance program are contained in Westinghouse Maintenance Manual for the DS-416 Reactor Trip Circuit Breaker, Revision 0, October 1984. We have reviewed this manual and endorse the maintenance program described in it. Moreover, we have used the criteria from this manual to evaluate McGuire's compliance with those items that relate to the safety function of the breaker, and have supplemented this by those measures that must be taken to accumulate data for trending.

Your response states that "Preventive maintenance is performed on the McGuire Reactor Trip Breakers in accordance with the current manufacturer's recommendations as described in the technical manual. This maintenance is currently performed once per 6 months as required by McGuire Unit 2 operating license. This frequency is under review and changes may be proposed later."

We find that the McGuire Nuclear Station, Units 1 and 2 Periodic Maintenance Program for the RTBs should include, on a six-month basis, or when 500 breaker operations have been counted, whichever comes first:

1. General inspection to include checking of breaker's cleanliness, all bolts and nuts, pole bases, arc chutes, insulating link, wiring and auxiliary switches;

2. The retaining rings inspection, including those on the under-voltage trip attachment (UVTA) and shunt trip attachment (STA);
3. Arcing and main contacts inspection as specified by the Westinghouse Maintenance Manual;
4. UVTA check as specified by the Westinghouse Maintenance Manual, including replacement of UVTA if dropout voltage is greater than 60% or less than 30% of rated UVTA coil voltage;
5. STA check as specified by the Westinghouse Maintenance Manual;
6. Lubrication as specified by the Westinghouse Maintenance Manual;
7. Functional check of the breaker's operation prior to returning it to service.

We also find that the McGuire Nuclear Station, Units 1 and 2 Periodic Maintenance Program for the RTBs should include, on a refueling interval basis or when 500 breaker operations have been counted, whichever comes first:

8. Pre-cleaning insulation resistance measurement and recording;
9. RTB dusting and cleaning;
10. Post-cleaning insulation resistance measurement and recording, as specified by the Westinghouse Maintenance Manual;
11. Inspection of main and secondary disconnecting contacts, bolt tightness, secondary wiring, mechanical parts, cell switches, instruments, relays and other panel mounted devices;
12. UVTA trip force and breaker load check as specified by the Westinghouse Maintenance Manual;
13. Measurement and recording RTB response time for the undervoltage trip;
14. Functional test of the breaker prior to returning to service as specified by the Westinghouse Maintenance Manual.

In summary, we request that you confirm that the periodic maintenance program includes the above fourteen items at the specified intervals or that you commit to such inclusion within a specified reasonable time period.

We also recommend that the maintenance procedure include a caution to the maintenance personnel against undocumented adjustments or modifications to RTBs.

2. Item 4.2.2 - Trending of RTR Parameters to Forecast Degradation of Operability.

Your response identifies four parameters as trendable and these are included in the criteria for evaluation. The four parameters are (a) undervoltage trip attachment dropout voltage, (b) trip force, (c) breaker response time for undervoltage trip, and (d) breaker insulation resistance.

You state that "Trending of parameters is not currently recommended by the manufacturer." We understand this statement no longer reflects the manufacturer's recommendation and, therefore, should be updated. You also indicate that the cyclic life testing program "will provide information to determine the need for trending of parameters."

The NRC requires trending data associated with the four parameters to forecast the RTBs degradation of operability. We request that you commit to inclusion of trip force, breaker response time and dropout voltage for undervoltage trip and breaker insulation resistance as trending parameters. We also request that you identify the organization which will perform trend analysis, how often the analysis will be performed, and how the information derived from the analysis will be used to affect periodic maintenance.