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March 16, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: McGuire Nuclear Station
Docket Nos. 50-369, 50-370

Dear Mr. Denton:

Attached herewith are 20 copies of Revision 7 to Duke Power Company's report, "An Analysis of Hydrogen Control Measures at McGuire Nuclear Station". This revision provides additional information in response to Question 8 transmitted by Ms. Elinor G. Adensam's letter of January 24, 1983. This revision should be inserted in Section 7.0 of the report.

Please advise if there are further questions regarding this matter.

Very truly yours,

H.B. Tucker /BSU

Hal B. Tucker

GAC/php
Attachment

cc: Mr. W. T. Orders
Senior Resident Inspector
McGuire Nuclear Station

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

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quickly. Therefore, the use of the LOCA qualification temperature as measured by a thermocouple close to the cable during the test is a reasonable standard by which to assess cable survivability. It is concluded that all of the necessary cables will survive hydrogen burning.

With regard to the instrumentation transmitters, the method used to assess survivability is described in Section 5.4.3. As noted, hydrogen burning has very little effect on the interior temperature of the transmitter. The total temperature rise, even if the environment of the transmitter were to include hydrogen burning (which it does not), would be well below any relevant test temperature attained during qualification testing. If more massive equipment is considered, e.g., an air return fan, hydrogen burn events do not transfer sufficient energy to massive equipment to have a significant effect on the temperature of the equipment. The effect represents only a small fraction of the total temperature rise created by the environmental effects of the LOCA, including the large steam release. It is concluded that adequate consideration has been given to all aspects of equipment survivability and that appropriate action has been taken to ensure operability of all essential equipment.

Summary Component Evaluation Worksheets (SCEWS) were not submitted as part of the McGuire NUREG-0588 submittal. Environmental conditions to which equipment was qualified are specified in the appropriate attachments to the Duke Power Company response to NUREG-0588 for McGuire. In addition to the specific qualifications discussed in Section 5.4.2.4 and Section 5.4.3, the following additional information is provided: 7

1. The following essential equipment is qualified for LOCA/MSLB conditions appropriate to its location in containment:

   electrical penetrations

   pressurizer power operated relief valves

   pressurizer power operated relief valve block valves

   reactor coolant loop wide range RTDs

2. The core exit thermocouples will be upgraded to meet appropriate qualification requirements during the first refueling. This is an existing license condition not related to hydrogen burning.

3. The hydrogen recombiner is not on the list of essential equipment and is located in a compartment in which hydrogen burning does not occur.

Equipment listed in items 1 and 2 above have been shown to be able to withstand temperatures associated with the appropriate MSLB/LOCA conditions in the lower containment. Because these qualification temperatures are higher than those to which this equipment will rise during hydrogen burning, their survivability during a hydrogen burn event is assured.