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CRUTCHFIELD,D. Operating Reactors Branch 5

SUBJECT: Forwards status of NUREG-0737 items rel environ qualification of electrical equipment.Evaluation of DB-50 breaker failure provided in WCAP-7706-L indicates that reactor trip breakers would function as required.

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JOHN E. MAIER
VICE PRESIDENT

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November 6, 1981

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Environmental Qualification of Electrical Equipment
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

Rochester Gas and Electric submitted environmental qualification information relative to installed "TMI items" by letter dated January 30, 1981. Recently, the NRC consultants, Franklin Research Center, requested that we resubmit this information, as well as provide the status of several other NUREG-0737 items. This information is enclosed. The qualification documentation is being provided only to Mr. Cyril Crane of FRC.

RG&E also takes this opportunity to note that a failure evaluation of the DB-50 breakers (used for reactor trip) under adverse conditions such as high temperature, high humidity, flooding, and vibration is provided in Section 3.5 of WCAP-7706-L, "An Evaluation of Solid State Logic Reactor Protection in Anticipated Transients" by W. C. Gangloff and W. D. Loftus, dated July 1971. Although qualitative in nature, this report does provide additional indication that the reactor trip breakers would perform their function (fail-safe) in the short time they are required. This WCAP is in the possession of the NRC, and should be provided to FRC. This explanation should resolve item 28b of RG&E's September 4, 1981 "90-day-response" to the NRC/FRC Environmental Qualification Evaluation for Ginna.

Very truly yours,

John E. Maier

John E. Maier

Enclosure

xc: Cyril Crane, FRC

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Enclosure to Letter from John E. Maier
to Dennis M. Crutchfield,
"Environmental Qualification of Electrical Equipment,"
November 6, 1981

NUREG-0737 Item Status

1. II.B.1 Head Vent Sytem - The solenoid valves controlling the head vent system are fully qualified for post-accident operation inside containment. This qualification report entitled "Qualification Test Report for IEEE Class IE Solenoid Valves", QR 52600-5940-2 is being submitted to the NRC consultants, Franklin Research Center. This should be designated Reference 2.73. It should be noted that this system is required to be installed by July 1, 1982 under the NUREG-0737 schedule.

2. II-B.3 Post-accident sampling - The post-accident sampling system is not yet installed at Ginna. The scheduled implementation date is July 1, 1982. No documentation is thus required at this time.

3. II-D.3 Direct Indication of Valve Position - Position indication for the pressurizer safety and relief valves is provided via LVDT's and NAMCO limit switches, respectively, as stated in RG&E's letter of January 30, 1981 from John E. Maier to Darrell G. Eisenhut of the NRC. These items are located in a harsh environment (the containment). The following qualification documentation is being provided directly to the NRC consultants, Franklin Research Center, together with a copy of this submittal:
   (1) Reference 2.74: Environment Qualification Report on Pressurizer Safety Valve Position Indication System, Ginna Station, Direct Indication of Valve Position
   (2) Reference 2.75: NAMCO Test Report, April 3, 1980

4. II.E.1.2 Auxiliary feedwater initiation and flow - The auxiliary feedwater initiation system at Ginna has always been safety-grade. No modifications to the system were required as the result of NUREG-0737. The auxiliary feedwater system is initiated by a Safety Injection signal, as well as low steam generator water level, loss of 4 Kv bus voltage, and feedwater pump breakers "open". These latter two signals are initiated by instrumentation in the turbine building, which is a "mild environment" under transient conditions for which this instrumentation is installed. The instrumentation generating a Safety Injection signal, as well as steam generator level, was discussed in RG&E's previous submittals, and no additional information is required. RG&E has previously committed to replace those transmitters located in a harsh environment (see RG&E's October 31, 1980 and September 4, 1981 letters for the latest commitment status for this equipment).

Auxiliary feedwater flow indication is provided by the Foxboro NE-10 series transmitters, which are located in the Intermediate Building in the vicinity of the auxiliary feedwater pumps. These transmitters are the same as those which RG&E has committed to install to replace the transmitters requiring environmental qualification, as noted in our October 31, 1980 submittal. These transmitters are still undergoing final qualification testing.

It should be noted that, as stated in RG&E's October 31, 1980 submittal, the Standby Auxiliary Feedwater System, located in a mild environment, is sufficient to provide all required auxiliary feedwater system safety functions. Environmental qualification of auxilary feedwater system components is desirable, but not necessary.

5. II.E.3.1 Emergency Power for Pressurizer heaters - This TMI requirement focuses on the availability of emergency power to pressurizer heaters. This is accomplished at the emergency electrical buses, which are located in the auxiliary building, a mild environment. No harsh environment qualification documentation is required to be provided.

6. II.E.4.1 Dedicated hydrogen penetrations - This requirement is not applicable to Ginna, since Ginna has redundant hydrogen recombiners inside containment.

7. II.E.4.2 Containment Isolation dependability - This TMI requirement focuses only on equipment installed in the control and relay rooms at Ginna. Since these areas are subject only to a "mild" environment, no harsh environment qualification documentation is required to be submitted.

8. II.F.2 Detection of Inadequate Core Cooling - As noted in RG&E's January 30, 1981 letter, this is provided by a combination of hot leg RTD's and reactor coolant pressure instrumentation. RG&E's October 31, 1980 letter provided our plans for the qualification of this instrumentation.

9. II.G.1 Emergency Power to Pressurizer Equipment - This TMI requirement focuses on the availability of emergency power to pressurizer equipment. This is accomplished at the emergency electrical buses, which are located in the auxiliary building operating and intermediate floors (elevations 271 and 253). These areas are subject only to a "mild" environment. No documentation regarding qualification to a harsh environment is thus required.

10. II.K.3.9 PID Controller - As noted in 9 above, this TMI review focuses only on equipment located in a "mild" environment (the relay room). No documentation regarding qualification to a harsh environment is thus required.

11. II.K.3.12 Anticipatory turbine trip or reactor trip - As noted in 9 above, this TMI review focuses only on equipment located in a "mild" environment (the relay room). No documentation regarding qualification to a harsh environment is thus required.