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SUBJECT: Forwards info reaffirming justification for continued operation,in response to NRC 821213 ltr,per IE Bulletin 79-01B, "Environ Qualification of Electrical Equipment."

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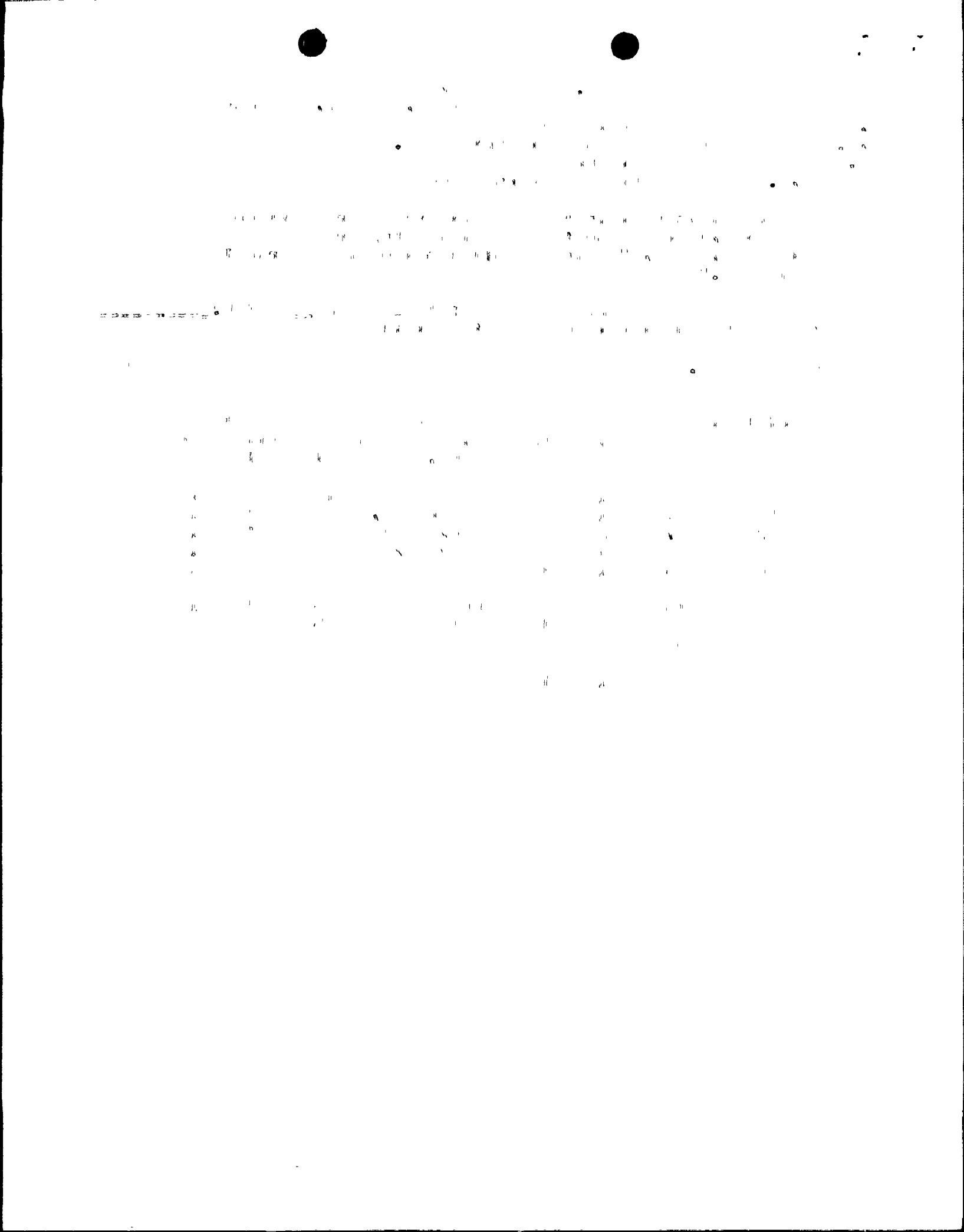

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February 1, 1983

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:

This letter provides the information requested in your December 13, 1982 letter relative to RG&E's reaffirmation of justification for continued operation. The information provided in attachments 1 and 2 relates to those items in NRC categories I.B and II.A. There were no NRC Category II.B items for Ginna noted in the Franklin TER. These responses, together with the statements in Appendix D of the Franklin TER, provide the necessary rationale for a basis for justification for interim operation.

The information provided generally serves to confirm previous information submitted to NRC/FRC. Where noted in the attachments, RG&E does plan to provide additional specific information by April 1, 1983, in accordance with our letter on this subject dated January 10, 1983.

It should also be noted that the FRC discussion relative to SI valves 878 A and C (item 17) is not current. The fact that these valves are locked-closed was recently discussed and reapproved by the NRC, in a memo from Brian W. Sheron, Chief, RSB, to Zoltan R. Rosztoczy, Chief, EQB, dated August 3, 1982. The FRC evaluation should be modified to reflect the information provided in that memorandum.

Very truly yours,

John E. Maier

Attachments

A048

Attachment 1: Items to be Replaced
(NRC Category I.B)

1. Equipment Items 1, 2, 4, 5, 6, 8, 9 - These are solenoid valves, which RG&E had previously committed to replace. It is anticipated that all of the affected valves will be replaced on a schedule consistent with 10CFR 50.49.

2. Equipment Item 33 - Westinghouse Terminal Blocks. RG&E has replaced these terminal blocks with fully qualified Raychem sleeves. This was performed during the Spring 1982 refueling outage.

3. Equipment Items 41, 45, 46, 47, 49, 67. These are the RWST level, pressurizer pressure, steam line pressure, pressurizer level, steam generator level, and containment pressure transmitters. All of these have been replaced with fully-qualified NE-Series Foxboro transmitters. These were qualified in the Utility Transmitter Qualification Program. The test reports for the Foxboro units will be submitted to the NRC's Equipment Qualification Branch by Wisconsin Electric Power Company on the Point Beach dockets. The resultant NRC SER will be referenced by RG&E for those transmitters installed at Ginna.

4. Equipment Item 63 - Barton pressure switch and splice sleeves for the hydrogen recombiner. RG&E has replaced the original splice with fully qualified Raychem sleeves. RG&E is still evaluating the Barton pressure switch. If qualification cannot be established, the switch will be replaced on a schedule consistent with 10CFR 50.49.

5. Equipment Item 65 - LVDT for pressurizer safety valves. RG&E has installed the 500XS-ZTR units. As noted in Section 4 of the Franklin TER, item 65, page 5f, ". . . when model No. 500XS-ZTR is installed it will be qualified to NUREG-0588 Cat. I and can be assigned to NRC Category Ia."

Attachment 2: Explanation of Items Whose Qualification Is Not Yet Fully Established

10. Valcor Solenoid Valves for the Pressurizer PORV's. The solenoid valves installed on the pressurizer PORV's are Valcor Model V573-5242-1. These are made of the same materials as the head vent solenoid valves, and also use Reference 2.49, "QR52600-5940-2," as the qualification basis. We are expecting to receive information from Valcor establishing this similarity. This will be provided to the NRC when it is received. Environmental qualification of these SOV's will then be fully established.

29. Westinghouse motors to Drive Cooling Fans for RHR pump motors. It should be noted that the only "harsh" environment for these fan motors results from radiation due to the presence of post-LOCA sump recirculation fluid. Thus, only gamma radiation qualification needs to be established for these motors. This radiation dose is less than 3×10^6 rads. RG&E references 71-1C2-RADMC-R1 specifically defines the radiation resistance of the motor materials as greater than 10^7 rads. RG&E considers that sufficient qualification has been established for the applicable "harsh" environmental conditions. RG&E is planning to provide additional sections of 71-1C2-RADMC-R1 to the NRC as Reference 2.69, as applicable to the motor materials, after an affadavit preventing public disclosure is received from Westinghouse.

30. Westinghouse motors to Drive Cooling Fans for CS, Charging, and SI pump motors. These motors are identical to those described in 29 above, and thus the same qualification information applies.

34. Kerite power cable in containment. RG&E notes that the specific cable qualified by RG&E at Franklin Research Center (see report F-C5074) is considered to be fully qualified. The TER question concerns similar Kerite cable of different sizes, such as #10 AWG vs. the qualified 500 MCM.

    RG&E notes that the testing described in F-C5074 was performed to supplement earlier qualification testing by Kerite of various HT insulated cables used at Ginna (both single and multiple-conductor, power and control). The general results of these earlier tests are described in RG&E Responses 2.11, and 2.51, Section "Kerite Qualification - 1967". Thus, RG&E considers that the more recent testing described in F-C5074 confirms the validity of the earlier tests, which qualified all of the Kerite HT cables at Ginna.

    RG&E further considers that, although each specific size of cable was not tested, the cable materials are identical to the size which was tested, and thus reasonable assurance exists that all of these Kerite cables will be able to

perform their safety functions in a post-accident environment. This is especially true considering that the test conditions used to qualify the 500 MCM cable in FRC Report F-C5074 are substantially more severe than the Ginna accident conditions (peak of 356°F and 132 psig, vs. the Ginna design conditions of 286°F and 60 psig).

35. Kerite control cable in containment. See 34 above.

38. Coleman cable outside containment. RG&E notes that the qualification of this cable for radiation dose was to be established by confirmation of the applicability of EPRI Report 1707-3, "Radiation Effects on Organic Materials in Nuclear Plants." This report has been received by RG&E, and selected pages are being submitted as Reference 2.76. As stated in pp. 3-10 and 3-11, the threshold radiation level is $5 \times 10^5 - 10^6$ rads, with only minor damage at greater than 7×10^6 rads. Since this cable outside containment at Ginna would receive less than 3×10^5 rads (see Attachment 2 to September 4, 1981 letter) RG&E considers that this cable has sufficient radiation resistance to be considered qualified for service.

39. Rome Cable Outside Containment. The TER concern is identical to that expressed in 38 above.

40. General Cable Outside Containment. See 38 and 39 above.

43. Steam Line Flow Transmitters. RG&E has replaced the transmitters with fully qualified NE-Series Foxboro transmitters. See item 3 of attachment 1.

50. Resistance Temperature Detectors. As previously stated by RG&E, the RTD's (other than inputs to the saturation meter) are not <u>required</u> for accident mitigation in the event of an accident causing an adverse environment inside containment. The Ginna Emergency Procedures do not rely on the RTD's, other than as related to the saturation meter, except as an input to the SI termination criteria following a steam line break. Other parameters are available to the operator, including the saturation meter, RCS pressure and pressurizer level. RG&E affirms that these RTD's need not be environmentally qualified for operation in a "harsh" environment. If further discussion of this subject is considered necessary, RG&E suggests that this be done in the context of final implementation of Regulatory Guide 1.97.

55. Reactor Containment Fan Cooler Motors - Several concerns were expressed in the TER:

    a. The motor-to-lead splice material should be checked. RG&E will look at these splices during the Spring 1983 refueling outage. According to Westinghouse, the motor-to-lead splices were qualified together with the

motor as a unit during the qualification testing (see WCAP-9003). Thus, RG&E expects these splices to be fully qualified. RG&E is enclosing a portion of a Westinghouse letter to RG&E explaining this fact as attachment 4.

b. Beta plateout. Although this issue has not previously been addressed by Franklin in earlier TER's, or by RG&E, we do not expect this to be a significant effect. The qualification testing performed on the motors was to a 2×10^8 rad level, significantly above the DOR_8 Guideline level of 4×10^7 rads $gamma_8$ and 1.4×10^8 rads beta. The basis for this 2×10^8 value was the assumption that the motor would be completely surrounded by radiation (gamma and beta) for the duration of the accident. This is the equivalent of the beta plateout assumption. Thus, RG&E considers this issue resolved.

c. Qualified life. It is unclear why this request is being made. As noted in RG&E's October 31, 1980 report, the fan cooler motor materials, including insulation and lubricants, have a qualified life of 40 years, per WCAP 7410-L.

d. Dose rate. RG&E notes that during the NRC staff presentation to the Commissioners concerning final rule 10CFR 50.49, the staff stated that although some physical degradation can occur due to high dose rate effects, the safety performance of the cable is not reduced. RG&E agrees with the staff's conclusions. We have found no evidence that dose rates in the range expected in an accident cause more severe degradation to insulating materials for a given integrated dose than do the dose rates typically used for qualification testing (10^6 R/hr). In addition, RG&E is not aware of any degradation mechanism that is particularly dose-rate dependent. However, if more definitive data on the dose rate dependence of degradation mechanisms is needed, RG&E suggests that this be addressed as a generic research effort.

56. Reactor Trip Breakers. RG&E provided an evaluation of the reactor trip breakers to perform their safety function under adverse conditions, in WCAP 7706-L, by letter dated November 6, 1981. Although qualitative in nature, this report indicates that the reactor trip breakers would perform their safety function for the few seconds required, in the event of a steam line crack in the Intermediate Building. Since there is only a minor change in the environment, the period of required operation is short (seconds), and no subsequent failures will result which could be detrimental to plant safety, RG&E considers that the one hour operating time need not be applied.

57. Reactor Coolant Pump Breakers. RG&E has established that the reactor coolant pumps are not required to provide a safety function, in the event of a steam line break in the Turbine Building. Furthermore, FRC staff states that, "from a strictly deterministic viewpoint, there is no technical objection to the licensee's response." Although RG&E agrees that qualification of the RCP breakers would provide additional margin, RG&E has taken no credit for this margin in any safety analyses. This item is considered resolved.

62. Sump B level. This item has been replaced with Gem-DeLaval level switches. The qualification report is presently in preparation. When received by RG&E, a summary of the report will be transmitted to the NRC. The entire test report will be on file at RG&E, and can be reviewed in full, if desired.

64. Namco limit switches. The model number of the installed switches is EA180-11302, identical to those in the test report. Thus, this item can be considered resolved.

66. Valcor SOV's. It has been confirmed that the model number of the installed valves is V52600-6042, which is included in the listing of valves qualified by the supplied test report, QR-52600-5940-2, Reference 2.49. Thus, this item can be considered resolved.