July 08, 1982

Docket No. 50-244

Dr. Robert J. Budnitz
Dr. Spencer A. Bush
Dr. Joseph M. Hendrie
Dr. Herbert S. Isbin
Dr. Zenons Zudans

SUBJECT: RESPONSE TO SPECIFIC COMMENTS MADE BY NRC STAFF CONSULTANTS ON THE R. E. GINNA INTEGRATED PLANT SAFETY ASSESSMENT REPORT

R. E. GINNA NUCLEAR POWER PLANT

Enclosed for your information is the staff's reply to specific questions and comments raised during your review of Section 3 and 4 of Draft NUREG-0821, Integrated Plant Safety Assessment for Rochester Gas and Electric Corporation's R. E. Ginna Plant.

The staff has revised Section 1 of the report to address several general comments on operating experience, management and regulatory performance. The staff will also address all TMI and USI items applicable to Ginna in a supplement to this report. The final report will be revised to reflect more clearly what issues will be addressed in the supplement.

Sincerely,

William T. Russell, Chief
Systematic Evaluation Program Branch
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

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DSU ASE (07)

comments as noted WTR

ORB#5 JLYONS 7/7/82

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General Comments

1) The deletions of these 24 topics from the present SEP Ginna review are reasonable, with perhaps one exception, the Conduct of Operations Topic XIII-1. In spite of the fact that the regulatory criteria referenced in SEP Topic XIII-1 and in the TMI items I.C.6, III.A.1, and III.A.2 are identical, somewhat different points of view have developed in these reviews and the SEP topic and the TMI items are not the same thing, at least for TMI I.C.6. The SEP reviewers seem to have sensed that difference, as evidenced by the Oak Ridge appendix (Appendix F in the draft report) on the Ginna operating experience and the discussion of operations in the report. If there really were no difference, there would be no reason to look at the Ginna operating history under both SEP and TMI activities. As I read the matter, the TMI item I.C. 6 is aimed at assuring that Ginna is operated with emphasis on correct performance according to approved procedures; the SEP operations review is aimed at searching for any substandard performance of safety systems, or of operating personnel, with a view to applying that information in the other areas of SEP review. It is a reasonable division of emphasis, and I think the SEP report would lack an important element if the discussion of operating history were omitted. (Hendrie)

Staff Response:

None

2) The collection of reportable events by year, and comparison of yearly totals to draw conclusions about the trend, as in Figure 4.1, is misleading. The rules and attitudes about what is "reportable" have changed substantially over the years of Ginna's operation, and yearly totals are simply not comparable over the 11-year period shown in Figure 4.1. (Hendrie)

Staff Response:

The staff agrees and did not use this aspect of the Oak Ridge Report to reach any conclusion with respect to trends in performance.

3) Palisades has issue VI-7.A.2, Upper Plennum Injection, as not applicable to PWR's while Ginna addresses it. (Bush)

Staff Response:

Ginna has upper Plennum injection. It is the only SEP PWR with upper plennum injection.

4) An area that surfaced and may need further review is the relative safety impacts remaining at hot standby versus continuing down to cold standby. I feel the critical phases are in getting to hot standby so the attention should be directed there. (Bush)

Staff Response:

This comment relates to Topic IX-6, Fire Protection. Ginna has proposed a dedicated system for hot shutdown and requested an exemption with respect to achieving cold shutdown in 72 hours. This review is continuing as part of the 10 CFR 50 Appendix R exemption request review.

5) In Section 4, the policy was inconsistent in the handling of issues cited in Appendix D of the PRA review. In some instances there was no acknowledgment of the PRA study; in others it was cited and accepted. Finally, there were cases of citation and rejection. I have no problems with documented acceptance or rejection. I do feel the Appendix D coverage of the issues should be recognized. (Bush)

Staff Response:

This was an oversight which will be corrected in the final report.

Nine topics were evaluated in the limited PRA Study (Appendix D). The Integrated Plant Safety Assessment Report, Chapter 4, discusses the use of the PRA results for three topics (V-5, IX-3 and IX-5) and parts of another topic (VI-4). For five other topics (V-10.A, V-10.B VI-7.B. VIII-3, and IX-6) and parts of one topic (VI-4) the chapter 4 evaluation does not mention the PRA study. For these topics, resolution had been reached with the licensee before the PRA study was completed. Following a meeting with the licensee and the PRA study authors, the staff re-reviewed these topics considering uncertainties in the PRA study and other factors which are described in the Chapter 4 write up for each topic. The staff determined that backfitting was still appropriate for four topics (V-10.A, V-10.B, VI-7.B, and VIII-3) and concures with the licensee's proposed backfits. One topic VI-4, Containment Isolation, falls into the category that some issues included PRA study discussion, other issues did not and the licensee has not yet responded to the staff's position. PRA study results were not discussed in the Topic IX-6, Fire Protection assessment since a decision on the exemption request was deferred to the 10 CFR 50 Appendix R review.

6) I see no reason, however, to require the licensee to do a cost-benefit study on providing protection to higher flood levels. (Hendrie)

It is difficult for this reviewer to get overly concerned about the value of additional protection required by staff beyond the Standard Project Flood levels unless the probability of occurrence of such flooding is stated and it exceeds an acceptable value. (Zudans)

Staff Response:

It is the staff's judgement that "reasonable cost effective modifications" should be implemented since little or no warning exists for this flood (heavy rain associated with a severe storm over a small drainage basin). If extensive modifications for the PMF are required, they may not be justified.

The probability of the PMF and the Standard Project Flood can not be estimated with reasonable confidence limits. Experience has shown that floods in excess of the Standard Project Flood (SPF) can and do occur. Probabilities of SPF's have been estimated to be greater than 2×10^{-3} per year in some instances.

7) Topic III-5.A.(Effects of Pipe Break on Structures, Systems and Components Inside Containment) allows fracture mechanics evaluation in lieu of remedial modification in case of impracticality of the latter. I believe that if the affected components are required to mitigate the consequences of the pipe break (such as for example pressurizer surge line break) physical protection should be provided. (Zudans)

Staff Response:

The staff believes that fracture mechanics analysis of piping system location where physical protection measures are impractical are justified. The analysis methods outlined in the staff guidance which was provided as an enclosure to our Safety Evaluation Report addresses both ASME level D loading conditions (faulted loading) and more severe conditions where the ability to resist unstable tearing is determined. The tearing stability methodology has been experimentally verified. Further, consideration is being given to applying local leak detection systems capable of finding small leaks at operating conditions and requiring augmented ISI.

8) The tendon relaxation experience of Ginna requires explanation and reasons for it must be understood (not discussed in NUREG-0821). (Zudans)

Staff Response:

The staff's safety evaluation report generally discusses the relaxation problem. It is not duplicated in the Integrated Assessment Report. The only issue remaining in the topic is adoption of revised testing procedures (Regulatory Guide 1.35) and incorporating surveillance requirements in the facility Technical Specifications. The relaxation problem is not being resolved in SEP.

9) With respect to containment liner insulation and the thermal compressive stress for non-insulated portion of the liner (Topic III-7.B), it should be noted that liner buckling is not synonymous with liner failure. What one should guard against is failure of liner anchorages adjacent to a buckled liner panel. (Zudans)

Staff Response:

The staff agrees that buckling is not significant in itself. The nelson studs, spot welded on 2 foot centers to the liner, could either cause liner failure or could pull out of the concrete containment dome due to the thermal discontinuity caused by discontinuation of the liner insulation or because of the liner buckling. The licensee has recently submitted a revised analysis of the liner which indicates that the studs are adequate and liner integrity will be maintained. The staff has reviewed the licensee's analysis and has asked questions concerning the analysis. The methods of attachment of the liner at the spring line and lower are such that attachment failure and buckling are unlikely. The staff's concern was limited tothe dome which was partially insulated.

10) Topic VIII-3.B (DC Power System Bus Voltage Monitoring and Annunciation) resolution requires additional indications so that the operator is informed on the functional status of the DC power system. Qualification level of this backfitting item is not defined in NUREG-0821. (Zudans)

Staff Response:

It is the staff's position that these indicators should be qualified to the same level as other safety-related equipment at Ginna.

11) I note with puzzlement the comment that "the safety injeciton reset pushbutton was inadequately physically protected. The licensee has installed a protective tube to provide further protection against inadvertent actuation." I have two possible explanations for this item's presence in the SEP report: either the staff happened to find this issue, quite unanticipated, in the course of reviewing other things, or the staff was specifically looking for this. If the former, fine (it is obviously useful to make any improvements that one notices if they are easy and significant), but in this case what's the comment doing in the SEP report? If the latter, I am disturbed by the level of detail of staff review. Does the staff actually review stuff like that, specifically?... I mean, is it in the SRP or some other staff review guidance? If so, I think we should get stuff at that level of detail out of the review. (Budnitz)

Staff Response:

Your second comment is correct. Physical protection of the ESF reset buttons was a specific item of multiplant generic activity B-24 and IE Bulletin 80-06, "Engineered Safety Feature Reset Control."

12) My opinion is that DC bus availability is probably a general safety concern, although whether it is true at Ginna isn't known to me. If this is the case the staff's imposition of this change is inadequate: the issue may be "resolved" in the context of the SEP program but a different approach is needed to knock down the unavailability significantly. Is the staff doing anything more on this? (Budnitz)

Staff Response:

Yes, NUREG-0666, "A Probablistic Safety Analysis of DC Power Supply Requirements for Nuclear Power Plants," addresses the above concern.

13) I believe that several of the issues that remain difficult within the integrated analysis before me could benefit from some limited PRA-type analysis, which offers a way to "crack" certain problems nicely. Among these are the following, all of which will be touched upon again later in this letter:

(a) The issue of flooding along Deer Creek. Here one could use some PRA-type insights into how important to safety are the several systems that might be compromised by the assumed standard project flood.

(b) The issue of vulnerability to high winds. Here there has been only a very lettle work done with PRA on any reactor, but insights are nevertheless possible. For example, a very nice study of winds is incorporated into the recent Indian Point PRA, and gives important vulnerability insights even though the quantitative conclusions are, in my view, highly uncertain. What could be gained at Ginna is a more systematic understanding of which systems vulnerable to winds comprise which types of safety compromises in which combinations.

(c) The issue of the service water system (Issue III-5-B, Page 4-11). This will be discussed further below. (Budnitz)

Staff Response:

These issues were excluded from the limited PRA Study because of the complexity of the involved issues, the fact that no plant specific PRA existed from which sensitivity studies could be performed and the limited time available for the study. However, the staff is using judgements about the probability of the external event from Topic II-2.A, Severe Weather Phenomena to assist in judgement about backfitting for severe winds and tornado missiles. The Standard Project Flood was utilized when data would not support a probabilistic approach to severe rainfall and creek flows. The approach on the service water system was to simply bypass several potential common mode failures which could cause a loss of all service water and therefore, potentially cause a loss of all AC power. For this reason, a temporary fix was the provision of an alternate water supply to both the Diesel Generators and the Standby Auxiliary Feedwater System.