

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

June 1, 1993

Docket Nos. 50-317 and 50-318

Mr. Robert E. Denton, Vice President Nuclear Energy Division Baltimore Gas & Electric Company 1650 Calvert Cliffs Parkway Lusby, Maryland 20657-47027

Dear Mr. Denton:

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION CONCERNING THE BALTIMORE GAS & ELECTRIC (BG&E) SUBMITTAL ENTITLED "INTEGRATED PLANT ASSESSMENT METHODOLOGY, VOLUME 1: SYSTEMS, STRUCTURES AND COMPONENTS SCREENING"

BG&E submitted to the U. S. Nuclear Regulatory Commission (NRC) part of the subject report (through Attachment C) on March 2, 1993, and the remainder of the subject report (Attachments D, E, and F) on March 15, 1993. This submittal consists of BG&E's methodology and procedures for determining those systems, structures, and components that are important to license renewal (ITLR) including ITLR component-level screening results using the reactor coolant, containment, salt water cooling, and compressed air systems for the Calvert Cliffs Nuclear Power Plant. The NRC staff has initiated review of the subject submittal and has identified areas where additional information is necessary before it can complete its review and prepare a safety evaluation. To better focus the review, these initial requests for additional information (RAIs) are in two enclosures. Enclosure 1 contains RAIs that are judged to be directly related to the review, whereas the RAIs in Enclosure 2 are primarily for clarification and are editorial in nature. Review of the flowcharts and tools are continuing and will be completed in June. Section 5 and portions of Section 2 of Volume 1 summarize the methodology for determining which SSCs ITLR could experience age-related degradation unique to license renewal. This methodology is described in detail in Volume 2, therefore the staff will include RAIs on Section 5 and applicable portions of Section 2 of Volume 1 with those resulting from the staff's review of Volume 2.

The RAIs are sequentially numbered as they appear in the enclosures, with the specific section of the submittal to which the RAI pertains in parentheses under the RAI number. Your responses should reference both the RAI and the section numbers. The first digit in the section number represents the volume number, and the remainder of the digits represents the section to which the RAI applies. For example, RAI 12 (1.3.2) concerns Volume 1, Section 3.2. Page numbers are given at the end of each question.

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The submittal contains a great amount of detail, such as step-by-step procedures for ITLR screening. We believe that such detail is beyond that necessary for the staff to complete an adequate review. However, further discussion and responses to some questions are needed to confirm this.

Your letters of March 2, 1993, and March 12, 1993, request the staff to review and approve your methodology, procedures and results. Since recent discussions indicate your desire for the staff to focus primarily on your methodology, and since much of your submittal is an actual application of the methodology, please provide clarification of your review request.

The attached RAIs, level of detail, and scope of the staff's review will be discussed at the forthcoming public meeting between BG&E and the NRC staff to be scheduled in June 1993. As previously agreed, BG&E will respond to these RAIs, in writing, within 60 days of the date of this letter. Please contact me if you have any questions.

This request affects less than ten (10) respondents, and therefore, is not subject to Office of Management and Budget review under Public Law 96-511.

Original signed by:

Rebecca L. Nease, Senior Project Manager License Renewal and Environmental Review Project Directorate Associate Directorate for Advanced Reactors and License Renewal Office of Nuclear Reactor Regulation

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Enclosures: As stated

cc: See next sheet

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DOCUMENT NAME: BG&E RAI

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REQUESTS FOR ADDITIONAL INFORMATION

1. Figure I-1 does not describe the integrated plant assessment (general) (IPA) as stated on Page I-2, but illustrates a flow path. The figure seems to relate the IPA process to potential management decisions associated with updating the Final Safety Analysis Report (FSAR) or determining whether to submit a license renewal application. What is this figure attempting to describe? (Page I-5)

- 2. In the Integrated Flow Diagram (Figure I-1), explain why the (1.1.3) box indicating the need to review the current licensing basis is not connected to the box that begins the initial systems screening step. Doesn't the development of the screening tools necessitate the review of specific licensing basis documents? Please clarify the use of the current licensing basis in the systems screening step. (Page I-5)
- 3. Figure 2-1 indicates that only those structures that are (1.2) Class 1 are important to license renewal (ITLR). What does the shaded octagonal on Figure 2-1 mean? (Page II-17)
- 4. The report directs an evaluator to review the current licensing (1.3.3) basis in docketed correspondence (CLB/D). Are there guidelines to support this activity? Explain what databases are available for reviewing the CLB/D and how an evaluator would search the CLB for a specific topic. (Page III-3)
- 5. What controls will be established to ensure that changes (1.2.2) made after screening is completed to documents referenced in this screening report will be reviewed for impact on the license renewal scope? (Page II-8)
- 6. The methodology refers to and categorizes source documents (1.2.4) The methodology refers to and categorizes source documents as high priority, medium priority or low priority. Explain how the source document hierarchy will be used. Provide examples of the types of documents included in each of the three categories. (Pages II-9 and II-10)

7. Section 2.4 discusses source document identification, and (1.2.4) lists examples of source documents in order of priority. Table 2-1 lists the source documents. Is Table 2-1 a complete listing of source documents? (Pages II-11, II-12, II-20, and II-21)

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Industry reports, although they have not been approved by 8. the NRC, are listed as high priority documents for use in identifying susceptibility to age-related degradation (ARD). (1.2.4)Provide specific examples of how the industry reports were used in the preparation of the documents submitted to date. (Page II-11)

9.

10.

12.

(1.3)

(1.3)

In defining the scope of equipment important to license renewal, the proposed methodology does not discuss offsite or external hazards that are design basis events. The only design basis external event appears to be a seismic event. How does the methodology incorporate the treatment of offsite or external events into the development of the list of systems structures important to license renewal? Identify the specific accidents or events considered and where in the methodology they are reviewed. If these events are not considered, provide the basis for not incorporating these design basis accidents into the methodology. (Pages III-1 through 13)

The initial list of systems for the identification of systems and structures ITLR was developed using the "Control of Master Equipment List." However, based on its position on Page II-11, this would be considered a low priority document. Why is the Master Equipment List considered a low priority document? (Page III-1)

Explain in more detail how interviews with experienced 11. (1.3.2)personnel may be used for screening purposes. Give examples where ITLR determinations may require interviews. (Page III-2)

For each system or structure listed in Attachment A. only (1.3.2)the primary functional requirements are identified. Explain why secondary functions are not considered, particularly if a secondary function supports a safety-related system, the failure of which could prevent the proper functioning of the safety-related system. If it was determined later that the primary function was no longer required, is there a process that would ensure that the secondary function is then evaluated with respect to ITLR? (Pages III-2 and IV-9)

13. Where is the summary table for systems and structures ITLR (1.3.2)that is mentioned in the third paragraph of Section 3.2? (Page III-2)

2

14. Figure 2-1 indicates that to satisfy Rule Criterion 2 (all non-safety related SSCs whose failure could directly prevent satisfactory accomplishment of any of the required function...), a vital auxiliary tool will be prepared. Section 3.3.1.1 mentions that in preparing the DBE flowcharts, supporting systems and vital auxiliaries will be identified. How does the methodology and the vital auxiliary screening tool (Attachment C, DBE Flowchart, Figure 14-50) assure that all supporting systems are identified? (Pages II-17, III-4, III-5, and III-6)

15. How does the methodology record the design basis events for (1.3.3.1.1) How does the methodology record the design basis events for prepared? Isn't it necessary to prepare a flowchart in order to identify the systems used and then compare the systems used against other event flowcharts to determine that all systems have already been identified. How did the process assure that for those events without flowcharts the functions performed by identified systems were identical? (Page III-5)

16. The report states that a specific chart for vital auxiliaries (1.3.3.1.1) is prepared and Figure 2-1 shows a specific tool for vital auxiliaries, however, preparation of the vital auxiliary flowchart is not fully discussed. Piease explain the methodology for preparing the vital auxiliary flowchart in Attachment C, DBE Flowcharts, Figure 14-50. (Pages II-17, III-5, and III-6)

17. The methodology states that in order to be identified as a system or structure important to license renewal, a system or structure must be "credited in the analysis or evaluation." What specific criteria was used to make the determination that a system or structure was "credited" in an evaluation or analysis? Please provide examples of how this process was implemented. (Page III-6)

18. The report states that in developing the screening tools, (1.3.3.2) The report states that in developing the screening tools (as identified in the Q-List)" need not be repeated in the screening tools for Rule Criterion 3 (i.e., FP, EQ, SBO, etc..). Please explain. (Page III-6 & 7)

19. Please clarify what is intended to be screened for ITLR in (1.3.3.2.3) Please clarify what is intended to be screened for ITLR in the discussion of pressurized thermal shock (PTS). How did CCNPP identify the SSCs, other than the reactor vessel, in their CLB that are required to comply with the PTS rule? (Page III-8; Attachment B, page 22; and Attachment C, PTS Screening Tool)

Equipment necessary for restoration of power after the event (1.3.3.2.5)falls within the scope of the station black-out (SBO) rule, therefore, system or structures required for restoration of power should be within the scope of the license renewal rule. Please revise the methodology to reflect this. (Pages III-8 and IV-8)

20.

The current screening process for identifying systems, 21. (1.3.3.3)structures, or components that are covered by operability requirements in the technical specifications is not consistent with the license renewal rule. The use of criteria such as the screening criteria from the technical specification improvement program to eliminate systems, structures, or components is not permitted by 10 CFR Part 54. The Statement of Considerations to the rule clearly discusses the extent of the systems and structures to be identified. The limiting condition for operation (LCO) screening tool must be modified to make it consistent with Part 54. Note: The use of this tool as presently written could be acceptable if prior to or during application for a license renewal, BG&E submitted a request to revise their current technical specifications to adopt those established under the generic technical specification improvement program and it was approved by the NRC. (Page III-9)

Section 3.3.2 allows LCO functions that are identical to 22. (1.3.3.3.1)safety related functions to be excluded from consideration. However, in Section 3.4, it is recommended that all ITLR functions be listed to facilitate component level screening. Please explain why in one section the methodology report discourages redundancy in functions and in the next section recommends listing all functions. (Pages III-10 & 11)

23. The methodology discusses how the pressure boundary (PB) (1.4.1.3)functions catalog is prepared, however the discussion makes no mention of using this as an input to the screening process. How is the PB function catalog used in screening for components ITLR? (Page IV-7)

24. Section 4.1.3 allows safety-related Q-list (SR-Q) components (1.4.1.3)to be screened out as not ITLR if the reason behind the SR-Q classification does not correspond to any function catalog. Further, the classification of that component could be downgraded. It appears that BG&E is using this process to update and revise the Q-list based on ITLR. Does this mean that a component must be ITLR to be Q-list? (Page IV-9)

- 25. Section 4.2.2 lists functions of structures to support the (1.4.2.2) ITLR criteria, one of which is to provide a flood protection barrier for internal flooding. Why isn't a barrier against external flooding considered? Are any of the structures at CCNPP required to withstand external floods in order to protect safety-related SSCs? (Page IV-12)
- 26. The methodology references the Containment and Class 1 (1.4.2.3) Structures Industry Technical Reports as completeness checks for the screening methodology. Did the industry reports identify any structural components that the proposed methodology did not identify, and if so, was the methodology revised to make sure that these components would not be missed in any future uses of this methodology? (Page IV-14)
- 27. The methodology employs a "commodity" screening step that (1.4.3) puts certain types of components into generic groups. The methodology further states that a cable is ITLR if it supplies a safety-related load. How does the methodology screen cables that supply non-safety-related but vital auxiliary systems or to operators in non-safety-related systems that support safetyrelated systems? The methodology should be expanded to clarify these circumstances. (Page IV-16)

REQUESTS FOR ADDITIONAL INFORMATION - EDITORIAL

28. A large number of abbreviations, acronyms, etc., are used (general) throughout the document. Consider adding a separate listing of such nomenclature and the definitions for each (in a separate section in the first chapter or in an appendix) so that the reader/reviewer can easily refer to the listing without having to go back into the text to find where the abbreviations or acronyms were first explained.

29. The bracketed information on Pages iv and IV-17 should be (general) deleted now that the submittal has been submitted to the NRC. (Pages iv and IV-17)

30. When referencing or describing tables, figures, etc., be (general) Consistent with your use of terms and titles. For example it is not clear if the "ITLR screening summary table," mentioned on Page III-2 is Table 1, "System/Structure Information" in Attachment C.

- 31. The first paragraph mistakenly cites six sections to this (1.1.3) report when there are five sections listed in the Table of Contents. (Page I-3)
- 32. In the flowchart, the diamond on the left side lists "Class I (1.2) Structures." On Page IV-4 "CLS1" is defined. Are these the same? Please clarify. (Pages II-17 & IV-4)
- Figures 2-1, 2-2 and 2-3 (flowcharts) should be moved to
 (1.2) Chapter 3. They only make sense after you have read the actual implementation of the process. (Pages II-17, 18, 19)
- 34. Information on many of the documents listed in Table 2-1 is (1.2) incomplete as to specific edition, dates, etc. Please include the edition, revision, or dates for the documents listed in Table 2-1. (Page II-20)

35. The differences between "critical safety functions" and (1.2.1) "primary functions" are not explained. This is even more complicated by the use of "specific safety functions" when defining the term "functional requirements." Please clarify the differences between the terms "critical safety functions" "primary functions" and "specific safety function" as they are used in the screening methodology. (Definition #8, Page II-3)

- 36. The license renewal rule refers to the "required function" (1.2.1) when determining whether functions of systems or components are affected. Explain how the definitions discussed in Question 13 adequately implement the specific rule language. (Page II-3)
- 37. In Definition #6, design life is the "maximum period of (1.2.1) operations for a nuclear power plant based on a presumed operating history." Which components limit the design life? What is the "presumed operating 'story" for CCNPP? (Page II-3)
- 38. Please explain the difference between "CLB," "CLB/D," and (1.3.3.2.4) "CCNPP docketed correspondence". (Pages III-7 and 8)
- 39. The first sentence in Section 3.4.1.1 would be better read (1.3.4.1.1) "...DBE or whose failure would directly prevent <u>performance of</u> the CSFs." Please revise. (Page III-11)
- 40. (1.3.4.1.2) The screening tool for structures mentions that a review of the Q-List will be performed to identify all structures or portions of structures that are safety-related, Class 1. Then it states that Class 1 structures are important to license renewal. Is the population of structures important to license renewal to include BOTH safety-related Class 1 and non-safetyrelated Class 1 structures? If not provide an explanation for your position. In either case, clarify your position in the methodology report to be more precise concerning your intent. (Page III-12)
- 41. (1.4.1.2) The methodology contains references to both source documents and to reference documents. While there is a list of source documents provided, there doesn't seem to be a reference list contained in the methodology. Provide the list of-reference documents used in developing the methodology. (Page IV-5)
- 42 In discussing the implementation of the methodology for (1.4.2.4) flooding, the methodology refers to "functions 5 and 6." At this point in the methodology report it in not clear which specific functions are referenced. Restate the specific functions that are referenced by this paragraph. (Page IV-15)

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