UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 26, 1997

50-317/318

ORGANIZATION: Baltimore Gas and Electric

SUBJECT: SUMMARY OF MEETING WITH BALTIMORE GAS AND ELECTRIC COMPANY (BGE) ON BGE LICENSE RENEWAL ACTIVITIES

On February 26, 1997, the Nuclear Regulatory Commission (NRC) staff met with representatives of BGE in Rockville, Maryland to discuss BGE's response to the staff's August 30, 1996, request for additional information (RAI). Attachment 1 is a list of the meeting attendees, and Attachment 2 is a copy of the materials distributed at the meeting.

BGE submitted its response to the staff's RAI by letter dated February 14, 1997. The intent of this meeting was to allow BGE to explain the structure of the RAI response and to discuss BGE's position on some technical issues. With the meeting intent in mind, the staff did not debate any of BGE's positions on the technical issues, but only asked questions when clarification was needed.

BGE started the meeting by discussing the structure of its RAI response. BGE stated that the RAI questions were divided into four major categories: methodology, template, technical scoping, and technical aging evaluation. BGE stated that some of the RAI questions were purely editorial; these questions were acknowledged and will be addressed as stated in the RAI response submittal letter. Therefore, an explicit response to the editorial questions were not included in the RAI response. BGE stated that it believes the questions in the template category (74 questions) would not have been asked if the template were available when the reports were written. BGE stated that the details of these questions will be addressed by the revised reports, which will be written according to the template. BGE also provided the rationale for how they responded to questions in each of the other categories.

BGE then discussed their position on some technical issues. The staff acknowledged that many of these issues will need to be addressed as part of the review of the technical reports. The staff also pointed out that many of the technical issues presented by BGE include issues that are being addressed as part of the staff's regulatory guidance development process. Several of these issues are generic and the staff is involved in on-going discussions with the other parts of the industry as well.

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BGE and the staff agreed to meet in late March or early April to discuss the RAIs in more detail after the staff completed its initial review of the RAIs.

Scott C. Flanders, Project Manager
License Renewal Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-317, 50-318

Attachments: 1. Attendance List
2. Meeting Handouts

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ATTENDANCE LIST
NRC MEETING WITH BALTIMORE GAS AND ELECTRIC
February 26, 1997

	NAME	ORGANIZATION
1.	Scott Flanders	NRC/NRR/DRPM/PDLR
2.	Paul Shemanski	NRC/NRR/DRPM/PDLR
3.	Sam Lee	NRC/NRR/DRPM/PDLR
4.	Bob Prato	NRC/NRR/DRPM/PDLR
5.	Christopher M. Regan	NRC/NRR/DRPM/PDLR
6.	Barth Doroshule	BGE
7.	Barry Tiden	BGE
8.	Hai-Boh Wang	NRC/NRR/DRPM/PDLR
9.	Winston W. C. Liu	NRC/NRR/DRPM/PDLR
10.	Scott Newberry	NRC/NRR/DRPM/PDLR
11.	P. T. Kuo	NRC/NRR/DRPM/PDLR
12.	Steve Hoffman	NRC/NRR/DRPM/PDLR

Attachment 1

BGE Life Cycle Management Unit

Responses to NRC Requests for Additional Information

February 26, 1997

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BGE Life Cycle Management Unit

Background

- BGE submitted five License renewal technical reports in May 1996 with two goals
  - Obtain technical review of scoping, pre-evaluation and aging evaluation results.
  - Reach agreement on level of detail to be included in a license renewal application.
- Eleven Aging Management Review Reports were submitted with the LRTRs
  - AMRRs were submitted as background information to supplement NRC's review of the LRTRs.
- In late August, the NRC delivered 248 technical and 35 editorial RAIs.

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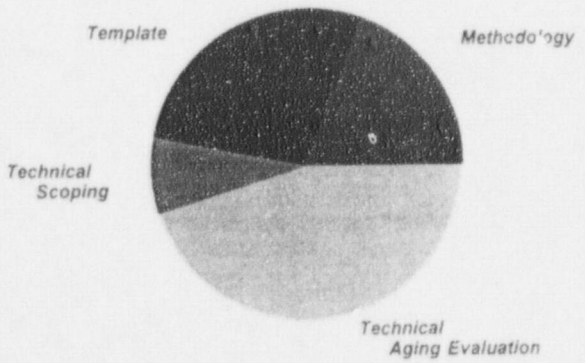
ATTACHMENT 2

Categories of RAIs

- **BGE initially evaluated the 248 technical RAIs and binned them as follows -**
  - 51 requested information on the BGE IPA process and could be answered through a clarification of the NRC approved BGE IPA Methodology.
  - 74 were level of detail issues which have been resolved generically through the template interactions.
  - 22 were technical scoping issues.
  - 120 were technical aging evaluation issues. (Clarification of plausibility determinations)
  - Several fit into more than one category.

NRC RAI Categories



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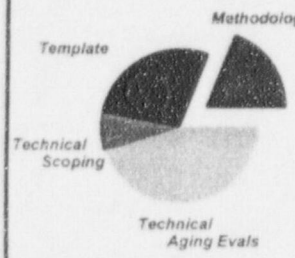
BGE Responses - By Category Methodology



- For Methodology type questions
  - BGE provided some clarification discussion.
  - Pointed to the appropriate section of the methodology for more detail.
- BGE recognizes that the SER provides two different levels of approval of Methodology -
  - "acceptable for meeting the requirements of 10 CFR 54.21(a)(2) of the LR Rule and if implemented provides reasonable assurance that all SCs subject to AMR will be identified."
  - "provides processes for demonstrating that the effects of aging will be adequately managed pursuant to 10 CFR 54.21(a)(3) and for evaluating TLAAs pursuant to 10 CFR 54.21(c) that are conceptually sound and consistent with the intent of the LR Rule."
- RAI responses reflect this.

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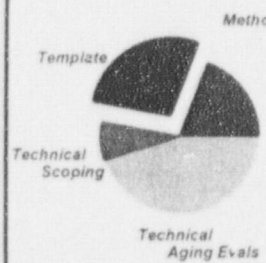
BGE Responses - By Category Format and Content



- For format and content type questions, BGE either
  - Verified that the BGE Template would provide the requested info or
  - Stated that the requested info is available for review on site.
- For many of these RAIs, BGE's response was that the revised LRTR would include the requested information.

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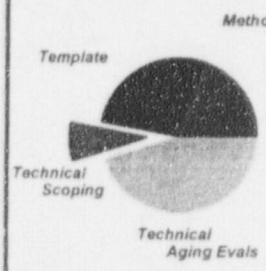
BGE Responses - By Category Technical Scoping



- BGE provided some clarification of why certain SCs were WSLR and others were not.
- Several intended functions were changed or added based on the NRC's input -
  - Structures
  - Subcomponent level

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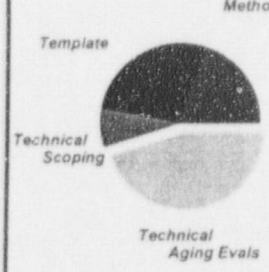
BGE Responses - By Category Technical Aging Evaluations



- Many responses provided more information to justify non-plausibility determinations.
- Some plausibility determinations were altered based on NRC feedback.
- Many responses were clarifications related to the format of AMR reports.

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BGE Life Cycle Management Unit

Technical Issues - 54.4.a(ii)

- **LR Rule SOC emphasizes that "cascading" should be consistent with CLB.**
  - The BGE scoping process implemented this criterion by relying on the site Q List which scoped an identical set of SCs (related to 54.4.a(i) and (ii)).
  - If BGE Q List did not identify an SC as meeting this criteria (SSCs whose failure could prevent accomplishment of an intended function), it was not scoped as WSLR.
- **Several questions related to this issue.**
  - NSR fuel piping from FOST bottom.
  - Feed Reg Valves.

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BGE Life Cycle Management Unit

Technical Issues - SCs that Prevent Aging

- **A common RAI related to components relied on to mitigate/prevent aging of other components.**
  - e.g. cavity cooling fans, component cooling water to containment penetrations, containment roof drains, RMS filters.
  - Such SCs were not included as WSLR since they do not meet the 54.4 criteria.
  - The role of such SCs in a non plausibility determination is documented in the AMR Report.
  - In some cases, site processes already ensure that such SCs cannot be altered. (e.g. already discussed in FSAR)
  - In other cases, site processes may need to be adjusted to ensure the role these SCs play in non plausibility determinations is considered in the future.

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BGE Life Cycle Management Unit

Technical Issues - Active vs Passive

- **BGE followed the process described in the IPA Methodology to determine SCs that can be excluded as active.**
  - BGE process addresses active and passive intended functions consistent with SOC.
  - BGE process recognizes that "passive characteristics" of SCs which cause them to require an AMR are complex and much discussion in SOC is provided on this topic.
  - BGE Methodology states "Active functions require moving parts or a change in configuration or properties to carry out the intended function. For such functions, plant parameters change in a measurable manner during normal plant operation. Performance of this equipment may be assessed by observing, monitoring or trending these parameters." Methodology cites circuit breakers and fuses as examples of active components.

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BGE Life Cycle Management Unit

Technical Issues - Active vs Passive (2)

- **Following the process described in the BGE IPA methodology -**
  - Fuses, indicating lights and transformers are active because they require a change in configuration or properties to perform their function.
  - Effects of aging on these components causes changes in plant parameters which are readily detectable.
  - Heat transfer is an active function because it requires a change in configuration to perform this intended function.
  - Effects of aging on this function are readily detectable through changes in plant parameters.
- **BGE RAI responses reflect these positions.**

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BGE Life Cycle Management Unit

Technical Issues - Status of Consumables

- Several questions related to aging of gaskets and seals.
  - These consumable subcomponents are intended to be "used up" during the life of a component and replaced as needed.
  - Per the CCNPP Q List, gaskets and seals are controlled as SR at CCNPP to "limit leakage."
  - Degradation of these items (i.e. minor leakage) is readily detectable and correctable through observing plant conditions. Since no structural support function is provided, more severe loading conditions are not an issue.
- BGE did not include such consumables in the AMR.

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BGE Life Cycle Management Unit

Technical Issues - Level of Justification for Non Plausible Determinations

- RAIs requested justification for non plausible determinations which BGE did not consider to be "highly visible" -
  - SCC of carbon steel in a normal environment.
  - EC of piping in a system where the fluid is filtered air.
  - Corrosion of stainless steel in an air environment.
  - Items where agreement has already been documented in NUREG 1557 (aluminum concrete interaction & contribution of stray electrical currents to rebar corrosion.)
- LRTRs will not provide justification for non plausible determinations unless they are "highly visible."

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BGE Life Cycle Management Unit

Technical Issues - Level of Information May Be Different in Different AMRs

- **Staff RAIs seemed to imply that an identical level of information is needed for every AMR.**
  - e.g. Material designations, details on environment, details on design loading conditions.
- **This does not recognize the fact that different AMRs have different strategies. For example,**
  - If the intent is to show that materials are not susceptible to aging, more material and environment information is relevant.
  - If the intent is to show that, based on plausible aging effects & current observed material condition, continued walkdowns will effectively manage aging, much less material and environment type information is pertinent.

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BGE Life Cycle Management Unit

Technical Issues - Generic Correspondence

- **Several RAIs asked how BGE addressed an info notice or bulletin.**
- **As described in our methodology, it is BGE's intent to explicitly address aging of SCs, not generic correspondence.**
- **In all cases, it was determined that the BGE process addressed the aging issue (if any) which was the subject of the generic correspondence in the RAI.**

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BGE Life Cycle Management Unit

Technical Issues - GSIs/USIs

- One RAI asked for a discussion of GSIs and USIs related to a commodity group.
- The statement in the LR Rule SOC related to GSIs and USIs was made in response to an industry comment.
  - Comment stated that if an issue is the subject of an open GSI, an applicant should not have to solve the issue for LR on a plant specific basis.
  - SOC agreed somewhat but also stated that it would not be sufficient to just state that a GSI exists. Three options were provided in the SOC.
- This comment and response have evolved into a perceived requirement to review & address all GSIs/USIs in the IPA. That was never the intent.

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BGE Life Cycle Management Unit

Technical Issues - Environmental Stressors

- Several RAIs asked BGE to address aging that would be caused by abnormal environments.
- Examples include degradation of external surfaces due to piping leaks and effect of accident dose rates on concrete.
- BGE's IPA process considers the normal environment as the one which contributes to aging and which needs to be addressed in the AMR.

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Other Technical Issues - New Equipment

- LR Rule is silent on new equipment which will not operate more than 40 years.
  - New emergency diesel generators and associated cooling water, fuel oil, electrical panels, Class 1 structure and HVAC system.
  - New plate and frame HXs in service water system.
  - Replacement SGs.
- Based on Guidance in the original LR Rule SOC, BGE believes no AMR is required for such equipment.
  - "...since license renewal will result in operation of these SSCs beyond the 40 years assumed in their design, additional analyses and/or actions may be necessary to ensure that an acceptable level of safety is maintained during the period of extended operation."

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Other Outstanding Issues

- Interpretation of the 54.29 words -
  - "(a) Actions have been identified and have been or will be taken with respect to the matters identified in Paragraphs (a)(1) *[IPA]* and (a)(2) *[TLAAs]* of this section, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB..."
  - Timing of TLAAs.
  - Other analyses/calculations for which a commitment is made in the LRTR.
- FSAR Supplement level of detail.

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Conclusions

- Many NRC questions were insightful and their resolution has improved the quality of BGE's Integrated Plant Assessment.
- BGE looks forward to continued interaction on RAI responses to resolve scoping, pre-evaluation and aging evaluation issues.
- BGE also looks forward to meaningful interaction on the demonstration portion of the LRA after the rewritten LR technical reports are submitted this spring.
  - Rewrites will reflect RAI responses and new template level of detail.

BGE and the staff agreed to meet in late March or early April to discuss the RAIs in more detail after the staff completed its initial review of the RAIs.

Original signed by:

Scott C. Flanders, Project Manager
License Renewal Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-317, 50-318

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