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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Perry Nuclear Power Plant
Docket No. 50-440
Comments on Draft Generic
Letter 88-20, Supplement 4

Gentlemen:

Enclosed for your information are our comments on the IPEEE Draft Generic Letter 88-20, Supplement 4. In addition to these comments, CEI endorses comments provided by the Nuclear Utility Management and Resource Council (NUMARC) and the Nuclear Utility Backfit and Reform Group (NUBARG). We have followed the development of the IPEEE very closely and have interacted with industry groups who have been actively maintaining a dialogue with the NRC staff. Also, several of our engineering staff members attended the recent NRC sponsored workshop on the IPEEE, held in Pittsburgh, Pa. on September 11-13. These comments reflect our assessment of the information request based on these industry activities, as well as our understanding of the upper tier safety goal policy statement.

As our attached comments indicate we perceive the IPEEE Generic Letter to be a large financial burden on the utility industry with (1) insufficient backfit analysis, (2) inadequate time allowance for completion, and (3) some areas technically in question by the industry. We believe the requested effort goes beyond the efforts justified to demonstrate specific plants have the capacity to meet the Commission's Safety Goals.

If you have any questions, please feel free to call.

Sincerely,

Michael D. Lyster

MDL:MJH:njc
Attachment

cc: NRR Project Manager
Sr. Resident Inspector
USNRC Region III
Larry Shao - NRR
John Chen - NRR

Operating Units
Cleveland Electric Illuminating
Toledo Edison

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Comments on Draft GL for IPEEE

GENERAL COMMENTS

- o The overall "information request" is overly complex, will require significant resource commitments, and should be examined more closely for cost-benefit. It would appear that each plant will expend a minimum of \$1M to satisfy just the information request element of this program. CEI urges the NRC to develop a realistic cost burden estimate and perform a thorough backfit analysis.
- o We object to the concept of defining "vulnerabilities" outside of our design basis. We retain the position that no vulnerabilities exist unless deficiencies are found that are within the plant licensing/design basis. Postulated conditions of failure beyond the design basis for external initiators which exhibit high uncertainties in their probability of occurrence are better defined as minimum capacities, not vulnerabilities.
- o The schedule for completion of studies should be expanded to 5 years following issuance of the Supplement 4 to the IPEEE rather than 3. A better alternative would be to request completion within 3 years of the IPE submittal. This would allow efficient transfer of pertinent IPE results, alleviate potential professional resource constraints, and provide the staff more review flexibility.
- o We have a concern that the industry runs a high risk in the IPE/IPEEE evaluations to create documents and analysis that inappropriately merge design basis information with beyond-design-basis information. The NRC should:
 - 1) indicate within the G.L. these results are not new licensing basis and are not intended for incorporation into the USAR.
 - 2) acknowledge utilities are to maintain current design basis documentation except for those cases where IPE shows true design deficiencies to existing regulatory criterion,
 - 3) emphasize that IPE evaluations are beyond the licensing basis (beyond USAR Chapter 15) and are tools for predicting plant performance.

SPECIFIC COMMENTS

(1, Page 2, Item 2) External events are inherently a specialist area of study and require a unique expertise for proper evaluation. It will be difficult for every utility to be truly "involved in all aspects of the examination".

(2, Page 4, Top) Rather than requesting utilities to utilize both EPRI and LLNL hazard results in performing a PRA, they should be given the option to use either. Another possibility would be a mathematical combination of the two. Extreme seismic hazard estimation uncertainties should not drive our thinking and analysis. We recommend utilizing a combination of the "medians" from each study, which tend to provide a more statistically stable result.

(3, Page 6 - Top) The IPEEE should not be required for closure of Charleston for every plant. The NRC should document separate closure for most of the EUS plants based on the EPRI seismic Hazard results and report submitted to the Staff via NUMARC. Subsume the issue for only those plants which truly have a higher than anticipated hazard and are potential outliers. We understand the NRC is preparing a "Commission Paper" on Charleston which essentially does this.

(4, Page 8 - Top) Vulnerabilities - An understanding must be established that plant's fix "true vulnerabilities" which are a subset of minimum capacity indicators. We should not identify any "vulnerabilities" unless they are to be corrected. Fixes beyond-design-basis must be required based on backfit analysis.

(5, Page 9 - Top) There is a problem with 10CFR50.59 programs which CEI has also documented in our comments on NSAC-125. That is, plant modifications or procedural changes which are made in response to "beyond design basis" issues is non-defined in the 50.59 area. By definition 50.59 evaluations compare the plant designs to previously licensed "design or acceptance limits". Identifying fixes to meet a beyond-design-basis concern and simultaneously apply the test of design basis 50.59, is not compatible, unless you define the basis for this extended 50.59. If the NRC intent is to extend 50.59 beyond its current scope, a major regulatory revision is necessary.

(6, Page 10 - Top) It seems improper or unnecessary to require utilities to certify the PRA and certify the accurate representation. Certification is normally reserved for submittals which are in response to a Code of Federal Regulations (CFR) submittal like USAR revisions, decommissioning financial assurance, etc. This is a 10CFR50.54(f) information request on items beyond the existing design and analysis. Certification would imply this request is perceived as more than an information request by the NRC.

(7, Page 10 - Regulatory Basis) The estimate of 6 person-years per licensee response is unclear as to whether that refers to unit, plant or owner. Also, even 6 person-year per unit would appear to be an underestimate of the effort as described in the G.L.

(8, Page 13 - Figure 1) The licensing basis for all operating plants would be identified in the Updated FSAR.

(9, Page 18 - Table 3.1) It should be noted that the seismic "binning" as identified by the NRC has excluded design considerations and only examined seismic hazard. The NRC should consider modifying the bin categories based on the design hazard concept proposed jointly by NUMARC/EPRI, most recently presented at the Pittsburgh workshop. We should apply the design hazard concept uniformly across the family of EUS plants to identify review level bins rather than strictly using hazard data. These bins should follow identified breaks in recognized design hazard, with some plants residing in the least hazardous bin requiring minimal analysis. We hold the position that the most conservatively designed plants residing within the lowest hazard are excellent candidates for being considered in compliance with severe accidents. Therefore no additional analysis should be required for this subset of plants. The attached curve (Attachment 2) with 5 bins (A-E) is our suggestion.

(10, Page 20- Documentation) Additional clarification is needed concerning the "pedigree" of evaluations and documentation assembled for IPEEE. Is this a safety related or non-safety related program? Is design verification per ANSI N45.2.11 required? Clarification is needed to provide a consistent industry response.

(11, Page 20 - Item 4.1.5) A lot is communicated about utility involvement, especially seismic IPEEE. Most utilities will rely heavily on consultants who have the expertise in seismic capacity qualifications and walkdowns. Also it may be difficult to provide "peer" review for these narrow specialties. Is it the intent to have a "peer" consultant on top of "originating" consultant?

(12, Page 30 - Item b) There appears to be little justification for the statement "We conclude that the burden to be imposed on respondents is justified in view of the potential safety significance of ensuring that vulnerabilities that may affect nuclear plant safety are properly identified and corrected." This would be true if evidence existed that plants had adverse and numerous common hidden weaknesses which routinely surfaced that put core melt risk probabilities in the 10^{-4} range. Actual plant "fixes" to date are diesel problems, insulating ceramics; poor anchorages and tanks which could buckle. In short, we typically know where to look for weaknesses without these detailed studies. This would also be justification for placing as many plants as possible into the "reduced scope" bin for analysis. The staff should place more emphasis on looking for known generic plant weaknesses, rather than a needle in the haystack.

NUREG COMMENTS

(1, Page 6 - Section 2.6) This Section states that an evaluation of lightning effects should be performed only for plant sites where lightning strikes are likely to cause more than just a loss of offsite power. No criteria were given to make this assessment.

(2, Pages 9 and 14, Section 3.1) In several places the words "Independent Peer Review" and "Internal Review" appear almost interchangeably. They are not the same thing. Definitive explanation/direction is needed in the GL/NUREG in this area as discussed at the Pittsburgh workshop.

- "Independent" almost implies an outside group (such as a consultant)
- "Internal" implies utility team members.

This can significantly affect cost. Clarification is also needed on how this review team interacts with the "team doing the work," assuming they're not the same thing. See also draft GL comment on No. 11 above.

(3, Page 10 and 11 - EPRI vs. LLNL) It seems illogical to report two sets of seismic vulnerabilities, one to EPRI hazard and a second to LLNL hazard. Allow the EPRI hazard data set to be used for analysis and reserve the LLNL for resolution of issues should they arise.

(4 Page 18, Item 3.2.6) There is some confusion here. If you utilize the IPE to identify "success paths", then you would not identify sequences and seismic failure modes that are significantly different from those found in the IPE internal events evaluation.

(5, Page 19, second paragraph) Recommend deleting the containment walkdown for Reduced Scope studies as proposed at the Pittsburgh workshop. Also, please clarify "but a walkdown to evaluate the unusual conditions is recommended. What is unusual?"

(6, Page 22, first paragraph) This section requires the licensee to "show the effectiveness of the barriers in the IPEEE". Is this accomplished by testing, certification, "engineering judgment", or analysis with comparison to the NFPA designs?

(7, Page 22, Item 4.1.2) More information needs to be provided on what is considered "uncertainties" within the context of fire initiation.

(8, Page 23, Item 4.1.3) The request for treatment of hot gases and smoke is not defined. Is the concern the impact on equipment or on personnel? How should the smoke spread be modeled?

(9, Page 28, Item 6) The GL states, "The staff's purpose in evaluating the probabilistic studies has been to identify plants in the Central and Eastern United States where past licensing decisions may have resulted in their being outliers with respect to seismic hazard, that is, the likelihood of exceeding their design basis." This supports comment 3, the Charleston issue should be closed for a majority of the EUS plants, and for the outliers the issue can be subsumed through the IPEEE.

(10, Page 30, 6.3.2 Coordination Among External Events Program) Does this section imply that seismic event success path's must also be simultaneously protected from postulated fire/floods? The sentence "The effects of seismically induced external flooding and internal flooding on plant safety should be included" is not clear.

(11, Page 39, Top paragraph, last sentence) The sentence "However, the licensee should assess the significance of HCLPF values lower than RLE and take any necessary actions and make other improvements that are deemed appropriate by the licensee." is too arbitrary. More specific guidance is necessary.

(12, Page 41, A.d Specific Binning Procedure) As previously discussed with the staff via EPRI/NUMARC this process only recognizes hazard and not design.

(13, Page 43, A.4.4 Other Considerations, first paragraph) The following statement needs additional guidance, "Some twelve plant sites east of the Rocky Mountains whose main Category 1 structures are located on rock, also have some Category 1 structures or components located on shallow or intermediate depths of soil. Since shallow soil, less than about 80 feet thick, can significantly amplify ground motion, these sites should perform soil amplification studies to determine the effect." Do you utilize the EPRI program for soil categorization? Does that soil based structure move from a higher reduced scope to a .3g bin? Do you need to assess higher levels of damage in these structures, like fire suppression interaction?

(14, Page 44, Appendix b) Actually this comment applies both to seismic and fire considerations. The group of plants that are post 1984 OL's in a low seismic zone, and are in full Appendix R compliance they should be allowed to perform a safety walkdown to confirm designs and search for known vulnerabilities. These simplified walkdowns would simultaneously address seismic and fire considerations with a single success path walkdowns. This is a potentially new category for those 10/12 plants with the least seismic design hazard and is below EPRI's Reduced Scope category. This walkdown would look for:

- o potential fire/seismic interactions
- o unusual fire loadings or areas where fire loading should not be allowed
- o fire scoping study issues
- o loose seismic anchorages
- o unusually low HCLPF components/arrangements compared to remainder of success path
- o oversights during design construction
- o "bad actor relays"

The logic is this group of plants (like Comanche Peak) already meet severe accident considerations. If the NRC is concerned about the potential high cost of IPEEE, this is an approach to help reduce costs for those plants with the least vulnerabilities. Refer to bin "A" on the Attachment 2.

(15, Page 47, Item c.1.3) To what extent and detail do plants need to provide "Plant layout and containment building information not contained in the FSAR"?.

(16, Page 48, Item 2) This item requires a review of previous PRA studies, including direction to reference these documents as well as specific insights gained from this review. The requirement to review previous studies is reasonable. However, the requirement to document insights gained from the review is overly prescriptive and should be deleted from the final version of the NUREG. This same comment is appropriate for inclusion of a description of coordination activities.

Discussion Related to Seismic "Binning"

We suggest that the binning be approached as shown on the attached sketch of composite probability of seismic events exceeding the design spectra. First there are some natural breaks in the plots that occur about one order of magnitude apart. With this breakdown 11 plants would fall into the lowest bin, with 6 plants in the highest design hazard bin. The lowest hazard plants would be considered in compliance with severe accidents while the highest hazard plants are considered potential outliers. The lowest bin should only confirm design bases are met and the highest bin should either perform a PRA or full margins analysis. The intermediate plants could be examined according to the EPRI Reduced Scope, Focused Scope and Full Scope Criterion.

MEDIAN COMPOSITE RESULTS (HOUSNER MOD)

