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Michael T. Lesar, Chief
Rulemaking and Directives Branch (RDB)
Division of Administrative Services
Office of Administration
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US Nuclear Regulatory Commission
Washington, DC 20555-0001

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RULES AND DIRECTIVES
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Via Fax: (301) 492-3446

Subject: Docket ID NRC-2009-0457 Office of New Reactors; "Interim Staff Guidance on Implementation of a Seismic Margin Analysis Based on Probabilistic Risk Assessment," Proposed Interim Staff Guidance (ISG), DC/COL-ISG-020.

Dear Mr. Lesar:

Thank you for the opportunity to comment on the subject Interim Staff Guidance.

The following comments are respectfully submitted:

1. Calculate plant HCLPF for Design Certification
 - a. Sec. 5.1.2 Seismic Fragility Evaluation, paragraph 2:
"Second, the seismic fragility calculation should use the response spectrum shape defined as the DC's CSDRS." The control point location is not specified in this statement. Hence, if the Vendor assumes the CSDRS is at foundation level of the Seismic Category I structures in the free-field, e.g., for simplification of analysis, added conservatism, etc., is the acceptance criterion of a plant HCLPF of 1.67 times the CSDRS PGA (see item 2 below) referred to the foundation level motion or is it permissible to remove potential conservatism due to the control point location and refer the plant HCLPF to motions at the free-field ground surface?
 - b. Sec. 5.1.3 Plant-Level Capacity of HCLPF, last sentence of paragraph 1:
"The design-specific plant-level HCLPF value should be demonstrated to be equal to or greater than 1.67 times the CSDRS PGA." What is the response spectrum shape and at what location is it applied? Can potential conservatisms in the location be removed, e.g., by moving the location from the foundation-level to the soil free surface?

SONSI Review Complete
Template = ADM-013

E-REDS = ADM-03
Cell = B. Robinson (5XR4)
W. Burtow (WFB)

2. Updating the DC PRA-Based Seismic Margin Analysis by COL Applicants

In general, this step includes updating the plant system and accident sequence analysis, the seismic fragility evaluation, and the plant-level capacity of high confidence of low probability of failure.

- a. The systems models are updated to include site-specific and plant-specific features.
- b. The seismic fragility evaluation is updated to account for site-specific effects and plant-specific features. Section 5.2.2, paragraph 3, sentence 1:
“When the seismic fragility analysis is performed considering the site-specific effects and plant-specific features, the response spectrum shape should be based on the COL site-specific GMRS.”

In the accident sequences of a., some items on the SEL have HCLPF values based on the CSDRS and others based on the GMRS for the site.

- c. The plant-level HCLPF is updated. Section 5.2.3, paragraph 1, last sentence:
“The plant-specific plant-level HCLPF value should be demonstrated to be equal to or greater than 1.67 times the site-specific GMRS PGA.” Same question as item 1b above.

3. Verification of plant-level HCLPF after issuance of COL

- a. Section 5.3:
Paragraph 1:
“The COL holders verify the plant SSC capacity to demonstrate that the plant- and sequence-level HCLPF capacity is consistent with the FSAR. COL holders perform the verification based on the as-designed, as-built configuration of the plant. The plant walkdown process described in EPRI NP-6041 (Ref. 12) can be used for the capacity verifications.”

Paragraph 2, end of sentence 1:

“....confirm that the as-designed and as-built plant-level HCLPF capacity is at the level of 1.67 times the site GMRS PGA, or the values reviewed and approved for the licensee.”

- b. Section 5.2.3, as discussed in Item 2c above, and item 3a above imply that the acceptance criterion is a plant-level HCLPF equal to or greater than 1.67 times the site-specific GMRS PGA? Is the seismic demand for the plant walkdown in terms of the site specific GMRS? Specifically, are non-Seismic Category I or II SSCs evaluated for their affect on Seismic Category I SSCs given the seismic demand for the GMRS? Is the evaluation of field routed commodities performed based on the seismic demand of the GMRS?

4. If the plant-level HCLPF is governed by the site-specific effects and/or plant-specific features, does the Licensee have the obligation to maintain the criteria of demonstrating HCLPF values for DC SSCs to be 1.67 times the CSDRS PGA throughout the operating life of the plant?

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Johnson". The signature is written in a cursive, flowing style with a large initial "J".

James J. Johnson