



NUCLEAR ENERGY INSTITUTE

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October 31, 2008

Mr. William D. Reckley
Chief
Rulemaking, Guidance, and Advanced Reactors Branch
U.S. Nuclear Regulatory Commission
MS 6 C34
Washington, DC 20555-0001

Subject: Request for Meeting to Discuss Backfill ITAAC

Project Number: 689

Dear Mr. Reckley:

COL applicants planning to use backfill under seismic Category 1 structures have included a plant-specific ITAAC to verify that the installed backfill material meets minimum soil density requirements. We understand that the NRC staff considers shear wave velocity (SWV) to be a key parameter for ensuring the adequacy of the soil backfill placed under Category 1 structures and is requesting applicants to include an additional ITAAC to verify that placed backfill meets or exceeds the Tier 1 requirements for SWV. SWV is specified in each design certification as a Tier 1 site parameter. This letter makes recommendations and identifies issues related to the requested ITAAC on SWV of backfill as a basis for further discussion.

As a rule, we do not believe all Tier 1 Site Parameters related to soil backfill require a specific ITAAC. However, we accept that the staff considers SWV to be a key parameter for assuring the adequacy of backfill under Category 1 structures that warrants verification via ITAAC. The following are several issues associated with verifying SWV requirements that we believe warrant discussion and clarification:

1. For plants that do not have significant backfill (e.g., dental fill or a shallow leveling course) under Category 1 structures, and/or use backfill only on the sides of Category 1 structures, no backfill ITAAC on SWV is necessary.
2. Applicants may construct a test fill to ensure establishment of effective material and placement specifications; however, a test fill should not be a requirement for ESP or COL.

3. A combination of tests and analyses may be necessary to demonstrate the SWV of the placed backfill after final construction of the plant by including both the measured SWV and the effect of weight of the completed Category 1 structure upon confining pressure, especially for shallow fill sites.
4. Design certification applicants have defined the Tier 1 Site Parameter for SWV differently. In the interest of establishing a clear and workable ITAAC, discussion is needed on the most effective way to define this site parameter in the design certifications. Specifically, the requirement for Category 1 structures located on the surface of engineered fill should be discussed.
5. While we support a generic SWV ITAAC of the form proposed by Southern Company for Vogtle 3 & 4, we believe further discussion is needed to define a generic SWV ITAAC that would allow for various site and construction conditions. At many of the sites, the extent of the backfill is limited, which could prohibit SWV measurement that takes into consideration the effect of the full overburden of the fill. In addition, ITAAC language may be affected by any clarification of the Tier 1 Site Parameter for SWV (Item 4, above). Additionally, we believe the FSAR is the appropriate location for description of the SWV test methods.

Because several new plant sites require backfill under Category 1 structures, the backfill ITAAC issue has broad applicability. We request an opportunity in a public meeting with the NRC staff to discuss these and related issues with the aim of arriving at a generic approach to resolution. A generic solution will save both applicants and the staff time and resources compared with developing and review of differing plant-specific approaches.

We will contact you shortly regarding a mutually convenient time for a meeting to discuss these issues. In the meantime, please contact me or Kimberly Keithline (202-739-8121, kak@nei.org) if you have any questions.

Sincerely,



Russell J. Bell

c: Dr. Nilesh C. Chokshi, U.S. Nuclear Regulatory Commission
NRC Document Control Desk