December 6, 2011

Mr. Alex Marion
Executive Director for Engineering
Nuclear Energy Institute
1776 I Street NW, Suite 400
Washington, DC 20006-3708

SUBJECT: REQUEST FOR ASSISTANCE IN IDENTIFYING A LICENSEE VOLUNTEER FOR THE FULL-SCOPE SITE LEVEL 3 PROBABILISTIC RISK ASSESSMENT STUDY

Dear Mr. Marion:

In a September 21, 2011 staff requirements memorandum (SRM) (Ref. 1), the Commission directed the staff to initiate a project to develop a full-scope site Level 3 probabilistic risk assessment (PRA). The principal objectives of this project include (1) developing a Level 3 PRA that reflects technical advances since the last NRC-sponsored Level 3 PRAs were completed over 20 years ago, and addresses scope considerations that were not previously considered, and (2) extracting new insights to enhance regulatory decision-making and to help focus limited agency resources on issues most directly related to the agency's mission to protect public health and safety. The scope of this Level 3 PRA study includes all site radiological sources,[1] all internal and external initiating event hazards, and all modes of plant operation. In general, the Level 3 PRA study will be based on current "state of practice" methods, tools, and data, but the desire for realism will be balanced against resource and schedule limitations. The staff also plans to build this PRA model from an existing plant Standardized Plant Analysis Risk (SPAR) model in order to improve project efficiency and the staff's ability to maintain and update the model in the future.

As discussed in a public meeting on November 10, 2011 (Ref. 2), the NRC requests the Nuclear Energy Institute's assistance in identifying licensees willing to volunteer a nuclear power plant site for this study. Enclosure 1 to this letter includes a list of high, medium, and low site selection criteria. Since one of the objectives of the Level 3 PRA study is to gain insight into multi-unit risk, it is necessary to select a site that contains multiple reactors. Also, performance of this study will require significant support from the volunteer licensee. Therefore, it is imperative that the volunteer licensee be highly committed to supporting the study by making available both staff resources and information needed to complete the project. Enclosure 2 provides a preliminary list of estimated impacts on the volunteer licensee.

We recognize that it is unlikely that any specific site will meet all of the medium and low priority criteria listed in Enclosure 1. However, the more of these criteria that are met by the volunteer site, the more likely the study can be completed within schedule and budget without affecting its scope or quality. This is particularly true for the availability of information on electrical cable locations and seismic fragilities, since developing this information would require significant NRC

[1] Including all reactor cores, spent fuel pools, and dry storage casks on site, but excluding fresh nuclear fuel, radiological waste, and minor radiological sources (e.g., calibration devices).

staff resources. Also, to enhance the types and applicability of insights obtained by the study, it is preferable to select a site that is not isolated (in terms of nearby population) and that is more typical in terms of its reactor design (i.e., involves a reactor design that is representative of more than one nuclear plant site).

We anticipate that a volunteer licensee for the project could obtain several benefits from participating in this study. In addition to developing a PRA that more fully considers public health consequences, the staff will also address other potential risk contributors, including multi-unit risk, spent fuel pools, and external hazards. This more comprehensive risk assessment approach would be expected to provide a more robust basis for risk-informed licensing actions and support innovative applications of PRA in the regulatory process. However, it is noted that while the Level 3 PRA study will be technically adequate for its intended use, it will not necessarily meet any particular capability category (as defined in the ASME/ANS PRA standard [Ref. 3]) for every aspect of the study. As such, the resulting Level 3 PRA study will not necessarily be suitable for licensing applications without additional effort on the part of the licensee. We will be available to further discuss potential benefits with the selected volunteer licensee.

In order to meet the project schedule as directed by the Commission, we request that the volunteer sites be identified no later than January 13, 2012. The staff will make the final selection by January 31, 2012. Your assistance in this matter is greatly appreciated.

Sincerely,

/RA/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

References

1. SRM-SECY-11-0089, “Staff Requirements—SECY-11-0089—Options for Proceeding with Future Level 3 Probabilistic Risk Assessment (PRA) Activities,” dated September 21, 2011, Agencywide Documents Access and Management System (ADAMS) Accession No. ML112640419.
2. Gilbertson, Anders, U.S. Nuclear Regulatory Commission, memorandum to Kevin Coyne, U.S. Nuclear Regulatory Commission, November 23, 2011, ADAMS Accession No. ML113200061.
3. ASME/ANS RA-Sa-2009, “Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications,” Addendum A to RA-S-2008, ASME, New York, NY, American Nuclear Society, La Grange Park, Illinois, February 2009.

Enclosures:
As stated

cc: T. McGinty, NRR W. Dean, RI V. McCree, RII C. Pederson, RIII
E. Collins, RIV

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OFFICE	RES/DRA/PRAB	RES/DRA/PRAB	RES/DRA	NRR/DORL	NRR/DPR
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DATE	11/29/11	11/30/11	12/1/11	12/2/11	12/6/11

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Letter to Alex Marion from Timothy J. McGinty dated December 6, 2011

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