May 25, 2007

MEMORANDUM TO: Cornelius F. Holden, Director
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Donald A. Dube, Senior Level Advisor ***/RA/***
Division of Safety Systems and Risk Assessment
Office of New Reactors

SUBJECT: PUBLIC MEETING SUMMARY REGARDING USE OF STANDARDIZED PLANT ANALYSIS RISK MODELS AND LICENSEE PROBABILISTIC RISK ASSESSMENT MODELS IN THE SIGNIFICANCE DETERMINATION PROCESS HELD ON MAY 15, 2007

On May 15, 2007, a public meeting was held at the Nuclear Energy Institute (NEI) offices on 1776 I Street, Washington, DC, to discuss the use of the risk insights from Standardized Plant Analysis Risk (SPAR) models and the licensee Probabilistic Risk Assessment (PRA) models to characterize the safety significance of inspection findings for the U.S. Nuclear Regulatory Commission (NRC) Reactor Oversight Process. The agenda is provided as Enclosure 1, and a list of attendees is provided as Enclosure 2.

This meeting was the third in a series of discussions between the industry and staff working groups. This activity stems from an action item from the public meeting of September 28, 2006, between the NRC PRA Steering Committee and industry representatives. The action from the September 28 meeting was to form task groups to investigate various options to the use of the SPAR models in the Significance Determination Process (SDP). The meeting of May 15th focused on options "to assess whether and how licensee PRA models that are updated to meet Regulatory Guide (RG) 1.200 can be factored in to the SDP."

Following introductory remarks, the options as identified during the previous public meeting of February 22, 2007, were reviewed (see Enclosure 3). Steven Epstein of ABS Consulting then discussed the status of the portability of PRA models between different software platforms (see Enclosure 4). Mr. Epstein discussed efforts underway to develop open standards for PRA software that might allow the NRC staff to review licensees' models in SAPHIRE, the SPAR model software platform. This would make some aspects of Option 3 more feasible. Mr. Epstein believed that the effort is beyond the research stage, is ready for product development, and that technical feasibility could be demonstrated in less than one year. The NRC staff expressed some skepticism that all aspects of model logic including flag files and rules would easily be converted from one software platform to another, given the wide variation of models in the industry. In addition, there remains a number of logistical and institutional issues to be resolved before full implementation could be realized. However, the approach holds some promise for the future.

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Industry then discussed its views regarding the preferred option for moving forward. The industry stated that Option 2, in which licensees' PRA models were used as the primary tool for the significance determination, was most viable. The industry expressed its view that use of the licensee models would not necessarily compromise the ability of the staff to perform independent review. They noted that licensee models are used in numerous risk-informed applications that appear to be equally important as the SDP including technical specification initiative 4b (configuration risk management), and allowed outage time extension requests. The industry further stated that meeting the requirements of RG 1.200 is a major effort, and that allowing the use of licensee models that meet RG 1.200 for significance determination would help the business case for licensees to undertake the major upgrade effort. Plant staffs are performing self-assessments per NEI 05-04, and up to 40 fire PRAs are underway, which will require conformance with RG 1.200 as well. Finally, the industry believes that the initiation of a pilot would be an effective way to test the feasibility of their proposed approach.

The NRC staff expressed its serious concern with Option 2. In particular, it is the regulator's fundamental function to determine significance of inspection findings. The staff also expressed its concern from a public perception viewpoint. The staff noted the value of senior reactor analysts performing risk assessments and engaging the industry. Moreover, the staff was having a difficult time understanding the need to change the process for only 10 to 12 "greater-than-green" findings per year. The staff re-iterated that most of the issues with the current process were not with regard to SPAR modeling issues, but how the degraded condition is represented in the risk assessment. The staff discussed the merits of addressing PRA technical issues jointly with industry as a preferred approach. Finally, the staff noted that there are fundamental differences with regard to risk-informed applications under RG 1.174 and enforcement.

No final positions were taken during the meeting. The NRC staff will deliberate the merits of industry's proposal and will respond in the near-future. No further public meetings are scheduled at this point.

Enclosures:
As stated

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ADAMS Package: ML071490160
Enclosure 1: ML071490096
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