July 6, 2011

MEMORANDUM TO: Charles E. Ader, Director
Division of Safety Systems and Risk Assessment
Office of New Reactors

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

SUBJECT: SUMMARY OF PUBLIC MEETING TO PERFORM TABLETOP EXERCISES REGARDING GUIDANCE ON RISK-INFORMED TECHNICAL SPECIFICATIONS INITIATIVE 5B FOR NEW REACTORS HELD ON JUNE 29, 2011

On June 29, 2011, a public meeting was held at Two White Flint North, Room 10A1, to conduct tabletop exercises regarding the adequacy of existing guidance on risk-informed technical specifications initiative (RITS) 5b applied to new reactor designs. The workshop was held to address the Commission's Staff Requirements Memorandum (SRM) of March 2, 2011 on SECY-10-0121. The workshop plan is provided as Enclosure 1. A list of attendees is provided as Enclosure 2. A handout prepared by the staff is included in Enclosure 3. Handouts presented by industry representatives are provided as Enclosures 4 through 6.

The workshop was the fourth in a series in response to the Commission SRM to perform tabletop exercises that "test various realistic performance deficiencies, events, modifications, and licensing bases changes against current U. S. Nuclear Regulatory Commission policy, regulations, guidance and all other requirements (e.g., Technical Specifications, license conditions, code requirements) that are or will be relevant to the licensing bases of new reactors."

Staff began by providing an overview of the surveillance frequency control program (SFCP). The implementation process and administrative controls were also discussed.

Representatives from the South Texas Project as well as Erin Engineering and Research discussed the experience of implementing RITS 5b at several operating nuclear power plants. Issues such as scope, commitment review, defense-in-depth review, operating experience review, and performance monitoring were highlighted.

The results of several sensitivity studies performed by Westinghouse for the AP1000 reactor design were also summarized. Potential risk increases were calculated to be very low, in the 1E-9/yr to 1E-7/yr delta core damage frequency range.

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Meeting participants identified the regulatory and programmatic controls that strengthen the RITS 5b program and tend to limit the decrease in enhanced safety margin of the new reactor designs. These include, for example:

- Surveillances frequencies that are controlled by other programs are excluded from the SFCP. Equipment covered by inservice testing, for example major pumps and valves, tend to have some of the highest risk importances but are excluded. What remains to be implemented under RITS 5b generally are lower risk importance components.

- The integrated decision-making panel's (IDP) review of proposed changes is seen as strengthening the process. A broad range of expertise is brought to bear on the subject matter. Changes that could adversely impact equipment performance and thus decrease safety margin have been disapproved by IDPs. Some licensees include additional approvals such as the plant operations review committee, and the oversight review board.

- Monitoring and feedback, and periodic re-assessment (e.g., every six months) are fed back to the IDP. Actual changes in the reliability of equipment modeled in the probabilistic risk assessment are included in the periodic updates. If a change is found to result in unacceptable equipment performance, the IDP may take corrective action by returning the surveillance frequency to the previous setting.

- The impact of changes under the SFCP on defense in depth, Maintenance Rule (e.g., (a)(1)), the mitigating systems performance index, and other programs are generally assessed. Often, these programs limit the scope of RITS 5b changes because of the potential to reduce operational and safety margins.

- The phased approach whereby surveillance test intervals are gradually increased from, for example, monthly to quarterly to annual assures that failure rate changes are identified and addressed before becoming unacceptably high.

There was general consensus that, unlike RITS 4b (completion times) where the quantitative risk assessment is key to the application, RITS 5b is much more deterministically oriented, with risk impact only a secondary consideration in the criteria for changing surveillance test interval. Additionally, participants recognized the need to obtain sufficient baseline operating experience on affected equipment during the initial cycle or cycles of reactor operation before commencing full implementation of RITS 5b in the new plants.

At the end of the workshop, participants briefly discussed plans for the tabletop exercise on 50.69, risk-informed categorization of structures, systems, and components (SSCs), including both passive and active SSCs, currently scheduled for August 9, 2011.

It was noted that an informational briefing of the subcommittee on Reliability and PRA of the Advisory Committee on Reactor Safeguards is tentatively scheduled for September 20, 2011.

Enclosures:
As stated

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Workshop #3, SRM to SECY-10-0121: Tabletop on Risk-Informed Surveillance Frequency Program, RITS 5b	
Date	June 29, 2011
Location	NRC, Rockville, TWFN 10A1
Time	8 am to 5 pm
Objective of workshop	To test implementation of Risk-Informed Technical Specifications (RITS) initiative 5bfor new reactor designs, and either confirm the adequacy of existing regulatory guidance or identify areas for improvement
Scope of Workshop	Limited to issues of the adequacy of the existing risk-informed guidance to prevent significant decrease in the enhanced margin of safety for new plants. Process issues will not be addressed in this workshop.
Regulatory guidance	RG 1.177, RG 1.174
Supporting document(s)	NEI 04-10, Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies, Revision 1, April 2007
New reactor designs in tabletop	TBD
SPAR models	TBD
Further Commission direction per SRM	"If the staff concludes that the enhanced safety margins for new plants will significantly decrease without regulatory policy changes, the staff should clearly explain how 'significant' (in the context of decreasing safety margins) was defined to support the recommendations."
Pre-workshop activities	1. Industry to review experience with RITS 5b at one or more currently operating reactors and identify specific surveillances to tabletop for new designs 2. Qualitative and quantitative discussions of risk-impacts of RITS 5b for at least two new reactor designs. 3. NRC staff to use SPAR models to augment risk assessment of various scenarios of equipment outages, if necessary
Workshop activities	1. Overview of methodology 2. Discussion of experience with RITS 5b at one or more currently operating reactors 3. Qualitative and quantitative discussions of risk-impacts of RITS 5b 4. Identification of a) regulatory controls, and b) licensee controls to limit the decrease in the enhanced safety margin for new reactors
Preliminary conclusion to draw from tabletop exercise	Determine whether the preponderance of the experience at on RITS 5b for those in the currently operating fleet that have implemented it, qualitative and quantitative results of the tabletop exercises, and the regulatory and licensee controls to limit the decrease in the enhanced safety margin a) provide reasonable assurance of the adequacy of existing risk-informed guidance when applied to RITS 5b for new reactor designs, or b) identify the need for additional analysis or tabletop exercises, and if so, what additional analysis/tabletop, what time frame, and the owner(s) of such action item, or c) whether an area for improvement has been identified, the technical basis for concluding a "significant" decrease in the enhanced safety margin will result, and the specific recommendation to be made to the Commission
Lessons-learned	A list of the major lessons learned from the workshop/tabletop should be carried forward to future workshops/tabletops

U.S. Nuclear Regulatory Commission
Rockville, MD 20852
Public Workshop #3 on SRM to SECY-10-0121
Risk-Informed Technical Specifications Initiative 5b for New Reactors
June 29, 2011

List of Attendees

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ENCLOSURE 2