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Rules and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
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SUBJECT: Industry Comments on Draft Regulatory Guide DG-1122
(*Federal Register* of December 18, 2002, 67 FR 77530)

The NRC has issued for public comment draft Regulatory Guide DG-1122, "An Approach for determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." The Nuclear Energy Institute[1] offers the following comments regarding the proposed new Regulatory Guide. We also endorse the comments provided by the ASME and the reactor owners groups.

The industry recognizes that development of standards is an important step to effect the transition to more significant risk informed applications, such as the Option 2 rulemaking or risk management technical specifications. However, the Regulatory Guide will also apply to future submittals for applications that are currently being successfully implemented. Our primary comments relate to the need for trial use prior to finalization. This would allow a better understanding of how the Regulatory Guide complements the existing regulatory process, and would resolve certain interpretational issues.

The Regulatory Guide will provide detailed guidance for evaluating level one, internal events PRA, through use of the industry developed PRA peer review process (NEI-00-02) and ASME RA-S-2002, "Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications." Appendix A of the Regulatory Guide provides detailed NRC staff positions on the ASME standard, and Appendix B provides detailed NRC staff positions on the industry peer review process. We concur with the general approach of the Regulatory Guide, which would provide for

[1]NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues NEI members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry

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licensees to use existing industry peer review results, in conjunction with additional self assessments, to evaluate the extent to which their PRAs comport with the ASME standard.

Purpose of Regulatory Guide and Regulatory Position 1.2

The existing purpose statement is narrow in scope, and does not fully describe the intent of the Regulatory Guide. NRC staff has publicly stated the intent of the Regulatory Guide is to provide for a more focused and consistent review process for risk-informed submittals. This purpose should be discussed.

The purpose statement of DG-1122, and subsequent discussion regarding regulatory position 1.2, emphasize the need for a minimum set of technical requirements for a "technically acceptable" PRA, irrespective of application. Table 1 reference these elements, and additional tables provide substantial additional detail regarding what constitutes a "technically acceptable" PRA. We believe this regulatory position constitutes a fundamental departure from the existing concept of "PRA quality commensurate with the application" as expressed in Regulatory Guide 1.174, and by NRC management in numerous public meetings. The new Regulatory Guide should adopt the position stated in Regulatory Guide 1.174.

Regulatory Process Issues

The integrated decisionmaking process of Regulatory Guide 1.174 is central to making risk informed changes to plant licensing bases. The new regulatory guide is intended to enhance this process. Figure 1 of DG-1122 should be revised to reflect the important relationship with Regulatory Guide 1.174. Further, the discussion in Section B of DG-1122 implies that the uses of Regulatory Guide 1.174 (and by inference the new Regulatory Guide) provide guidance to a "wide spectrum of regulatory activities" beyond its stated purpose of license amendment requests. We have not reviewed DG-1122 in other contexts, and, absent formal changes to Regulatory Guide 1.174 to identify these "other regulatory activities," the above statement should be deleted from the final version of DG-1122.

Recent ACRS communications have emphasized the need to consider both external and internal risk initiators in evaluating the suitability of a regulatory application, and the NRC staff has heightened their emphasis in this regard. The body of the draft Regulatory Guide provides discussion of external events risk taken from SECY-00-0162, but the appendices place detailed emphasis on internal events. While it is recognized that later versions of the regulatory guide will endorse subsequent standards covering external events, there remains a concern that during the interim, the regulatory guide will serve to cause an unbalanced

emphasis on details of internal events modeling. The regulatory process should address the elements of the Regulatory Guide 1.174 integrated decsionmaking process in a balanced fashion. If not properly applied, the new Regulatory Guide could result in undue emphasis on details of modeling that are not important to the overall regulatory decision. How this imbalanced level of detail can be properly treated in the regulatory process needs to be better understood prior to finalization.

In order to better understand regulatory process impacts, as well as resolve issues of interpretation of key terms in the ASME standard, industry believes that the Regulatory Guide should be issued for trial use, and pilot applications pursued, prior to finalization as formal regulatory guidance. NRC has expressed agreement with this approach in public meetings. Industry has made informal assessments of the proposed Regulatory Guide appendices with respect to plant PRA models. These assessments indicate that both the ASME standard, and NRC staff positions on its technical content, contain interpretational issues that can only be resolved through a pilot application process. The specific technical requirements of concern are identified in the owners group and ASME comments.

Dominant, Significant, Important

Most, but not all, of the above interpretational issues involve the use of terms "dominant, significant, important" as used in the ASME standard, and modified by NRC in Appendix A of the Regulatory Guide. These terms are used throughout the standard with respect to both qualitative and quantitative considerations. The explicit global definition proposed by NRC in Appendix A of the Regulatory Guide (dominant is defined as affecting the second significant digit of the result) is neither logical nor practical

The usage of the terms dominant, significant, and important can be reviewed and, in certain instances, clarified by the authors of the pertinent sections of the ASME standard. This activity should occur in concert with pilot applications of the Regulatory Guide, and result in clarifying changes to the ASME standard or the final Regulatory Guide. However, interpretation of these terms in some cases will ultimately have to rely on informed judgment, due to the complex nature of PRA modeling approaches. This is one of the reasons the ASME standard and the industry peer review process have included not just technical requirements, but a peer review process with a qualified, independent team of reviewers and a process to achieve consensus judgments in subjective areas.

Future Peer Reviews

Section 5 of the ASME standard addresses PRA configuration control, and currently states that future peer reviews would be needed for PRA upgrades (limited to those

sections of the PRA that were upgraded, as defined in Section 2 of the standard). The draft Regulatory Guide proposes extending this requirement to PRA maintenance. In both cases, the complete peer review requirements of Section 6 of the standard would apply. We disagree with the need for peer reviews following upgrades or maintenance. The peer review process already addresses the capability and quality of the plant's PRA configuration control process, and shouldn't need to re-verify this process following each model update. Second, the demarcation between upgrades and maintenance is not the sole or appropriate discriminator with regard to the need for future peer reviews. Many model upgrades (e.g. using a more recent, approved seal LOCA model) should be capable of verification without peer review. Likewise, most PRA maintenance involves data updating and incorporation of plant modifications, and these items alone need not trigger new peer reviews.

Peer review is a resource intensive process, and industry has finite capability to support this process for over 100 operating plants. The need for peer reviews, though important, should be carefully invoked, with recognition of the overall impact of multiple pending peer review requirements (e.g., the forthcoming external events and fire PRA standards are also expected to invoke a peer review process). In particular, we believe that most PRA upgrades and maintenance can be verified through a self assessment process, and the requirements of Section 6 of the ASME standard should be reconsidered. We propose a self-assessment as the general approach to address future PRA changes, with peer review reserved for major methodology changes.

We appreciate the opportunity to provide these comments. Please contact me if you have any questions in this regard.

Sincerely,

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