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March 24, 2000

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RE: NRSG Comments on Proposed Guidelines for Performance-Based Activities

The Nuclear Regulatory Commission (NRC) published in the Federal Register of January 24, 2000 (65 FR 3615, as revised February 17, 2000, 65 FR 8072) proposed guidelines for evaluating potential performance-based activities. The Nuclear Regulatory Services Group (NRSG)¹ submits the following comments in support of the proposed guidelines. The NRSG also fully supports the comments of the Nuclear Energy Institute on behalf of the nuclear industry.

Comments of the NRSG

The NRSG supports increased use of performance-based approaches to regulating nuclear power plants. By definition, as described in the NRC White Paper on Risk-Informed Performance-Based Regulation, such approaches involve situations in which a measurable or calculable outcome can be defined. Under the NRC Staff's proposal, licensees are afforded flexibility in determining how the required outcome is to be met.

Historically, a prescriptive approach has been used for regulating nuclear power plants. Under that model, specific methods or procedures are defined, as are the regulatory processes to assure that the methods or procedures are followed. The methods and procedures are developed in an attempt to achieve some specific outcome, but the outcome is often not explicitly defined. There is an assumption that following the

¹ The NRSG is a consortium of nuclear reactor licensees represented by the law firm of Hopkins & Sutter.

prescriptive requirements will result in achieving the desired outcome. This approach has contributed to a history of safe operation of nuclear power plants in the United States. It is, however, inherently inefficient.

Plant designs and other circumstances vary significantly across the fleet of NRC-licensed nuclear power plants. Developing common prescriptive requirements therefore means that the one-size fits all approach to development of methods and procedures often does not fit all plants optimally. Allowing licensees the flexibility to determine how best to achieve a required outcome, rather than requiring that they follow a prescriptive approach, allows the processes to be optimized for each plant to achieve the outcome.

The draft guidelines address this point by seeking instances in which "performance-based approaches would accommodate new technology". This is desirable, but insufficient. It presumes that a new technology is already available. This may not always be the case. In a prescriptive regulatory regime, there is often little incentive to develop new technologies. That incentive can be improved by establishing a performance-based approach, specifying the required outcome, and allowing innovative methods to be developed and implemented for meeting the requirement. A performance-based approach can, and should, be an inducement to new technologies, not just an enabler.

The key element in deciding whether a performance-based approach is practical is identifying whether a measurable or calculable outcome can be defined that will assure the required level of safety. This is currently addressed by the viability provisions in the guidelines. Where such an outcome can be defined, *i.e.*, where a performance-based approach is "viable," it should be preferred. There should be a presumption in the rest of the guidelines that a performance-based approach is appropriate. The guidelines addressing implementation should not seek to identify whether a performance-based approach is preferable, as currently structured. They should instead seek to identify impediments that would preclude the ability to implement such an approach. Absent any impediments, the performance-based approach should be adopted.

NRSRG provides the following additional comments in response to the specific questions raised by the NRC in its Federal Register notice:

- *Clarity and specificity of the guidelines*

The general nature of the proposed guidelines is appropriate considering their high-level function at this time. As explained above, the principal viability criteria should be to determine whether an acceptable outcome that is measurable or calculable can be defined. If so, the benefit of a performance-based approach should be presumed. Implementation guidelines should consider potential drawbacks to performance-based approaches and should specify that any drawbacks must be clear and convincing to overturn the presumption in favor of a performance-based regulatory approach.

- *Implementation of the guidelines*

The guidelines should be used to assess potential changes in regulatory approach in addition to new regulatory initiatives for all types of regulatory changes that can be tied to measurable outcomes. Where existing requirements are changed, the performance-based approach should be voluntary. This obviates the question of applicability of the Backfit rule. New regulatory initiatives meeting the definition of a backfit in Section 50.109 should receive a systematic and documented analysis to determine whether the backfit is justified in light of the burden that could be imposed and the safety benefit that might be achieved, regardless of whether the new initiative is prescriptive or performance based.

- *Establishment of objective performance criteria*

While conservatism is appropriate in regulation, excessive conservatism neither benefits the regulator nor the regulated community. Historically, conservatism has been incorporated into models and procedures and into the acceptance criteria. The result has often been a compounding of conservatism that has hampered efficient operation of nuclear power plants. Results-focused, performance-based approaches inherently resolve this problem. Conservatism should be included in the required outcome to that level necessary to assure safety. That outcome should be defined at the highest level (*e.g.*, system, train) practical. (The appropriate level must be decided based on the level of detail required to prescribe the outcome for individual initiatives; it cannot be specified in these high-level guidelines.) Accordingly, licensees should not be required to include conservatism in the models, techniques, or procedures they use to meet the required outcome.

- *Pilot projects*

NRSRG does not consider that pilot projects would be useful. The criteria are very basic. They are merely an amplification of the definition in the Commission's White Paper. Pilot projects are not likely to produce new information that will require changes, particularly considering the high level of the guidelines. Even so, it would be beneficial if Commission guidance directs the Staff to incorporate lessons learned from previous experience (in lieu of a pilot program). This will ensure that the guidance is refined as necessary based upon the public comments and on the lessons learned from piloting other similar processes. Refinements can be made later if experience shows that further changes are needed. Changes should not be required if the basic premises described in these comments are followed.

Conclusion

The NRSB appreciates the opportunity to comment on the proposed guidelines for developing performance-based initiatives. The NRSB believes that the Staff's proposal to focus regulatory change on outcomes rather than process is consistent with the NRC's regulatory goals and principles, and therefore should be complementary to the process of risk-informing 10 C.F.R. Part 50. If you have any questions about these comments, please contact Bob Temple at (312) 558-6624.

Sincerely,

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Services Group