July 9, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: TREATMENT OF VOLUNTARY INITIATIVES IN REGULATORY ANALYSES

PURPOSE:

To respond to a portion of the staff requirements memorandum (SRM) dated December 11, 1997, on SECY-97-168, "Issuance for Public Comment of Proposed Rulemaking Package for Shutdown and Fuel Storage Pool Operation." Specifically, to respond to a request to ". . . review current regulatory analysis methodology . . . and submit, for Commission review, options that would address possible revisions to the methodology, particularly with regard to recognition of existing initiatives and voluntary actions in the cost-benefit analysis." It should be noted that subsequent to this SRM, the Commission has provided additional direction to the staff in a May 27, 1999, SRM concerning SECY-99-063 - The Use of Voluntary Initiatives in the Regulatory Process. As a result, the staff believes that the direction given by the Commission obviates the need for a substantive discussion of options.

SUMMARY:

This paper evaluates NRC's regulatory analysis methodology with respect to the treatment of voluntary initiatives. The policy concerning this issue is in "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission" (Guidelines).(1) This paper recommends that the Guidelines be revised to require, when appropriate and to the extent practicable, a best estimate calculation of costs and benefits predicated on giving measured credit to voluntary initiatives. The amount of credit to be given would be consistent with the actual characteristics and traits of the voluntary programs in question, and the degree to which a process were in-place that provided effective assurance regarding the scope, level of effort, and duration of the voluntary programs.

BACKGROUND:

CURRENT POLICY

In general, voluntary initiatives constitute actions performed by licensees that, although not required by NRC regulation, contribute to safety and complement NRC's regulatory responsibilities. The current policy identifies conditions under which credit may or may not be given for voluntary initiatives.

For base case calculations, "no credit" is to be given for voluntary actions taken by licensees. However, to the extent that the risk calculations developed in a regulatory analysis rely on probabilistic risk assessment (PRA) results, credit is being given to voluntary programs, even under base case conditions. This is because PRAs focus on risks as they currently exist and many of the parameters embedded in the PRA are based on actual operating experience as affected by existing voluntary activities. Thus, this means that, when PRA's are relied upon for base case calculation of the safety benefit, the benefits attributable to a proposed regulatory requirement will have been reduced by the extent to which they may have already been affected by voluntary activities. To remain consistent with the current Guidelines, to the extent practical, these risk estimates should be modified to remove the effects of the voluntary programs. The staff acknowledges that in many instances, the base case estimates may end up including some credit for voluntary programs because modifying the PRA to add or remove all credit for voluntary programs can be problematic. The current Guidelines also specify that, for sensitivity analysis purposes, costs and benefits should be displayed with "full" credit for voluntary activities. In this way, the decision maker has a more complete understanding of how the treatment of voluntary initiatives affects the cost-benefit results, and this information can be factored into one's decision concerning the proposed regulatory action. This use of alternative scenarios, to account for uncertainty, is a common technique in regulatory analyses. In addition, the Guidelines currently specify that, if voluntary programs are effective, such that there are no problems, there is no need to codify them in the regulations. This is tantamount to giving credit for voluntary programs.

The NRC's current position with respect to the treatment of voluntary initiatives in regulatory analyses was first formalized in Revision 2 of the Guidelines. Prior to this most recent update to the Guidelines, there was no formal NRC guidance on how to treat voluntary initiatives in the regulatory analysis. Since this technically constituted a new position, this issue was highlighted in the staff's discussions with the Advisory Committee on Reactor Safeguards (ACRS) and the Committee To Review Generic Requirements (CRGR), as part of their review of draft versions of the revised Guidelines. Both committees agreed in principle with the approach taken in the revised Guidelines.(2)

RATIONALE FOR CURRENT POLICY

A regulatory analysis is a systematic evaluation whose objective is to ensure that all regulatory burdens are needed, justified, and minimal to achieve regulatory objectives such as safety enhancement, improvement in public confidence, and improvement in the effectiveness and efficiency of the regulatory process. At the heart of the regulatory analysis is the assessment of costs and benefits. A fundamental difficulty in quantifying incremental costs and benefits is the "baseline problem." The consequences of a regulatory initiative are measured relative to the baseline, which is how things would be if a proposed regulation were not imposed. Therefore, one's assumption on the future role of voluntary initiatives, in the absence of a rule, becomes

critical in establishing the baseline condition. In reality, the baseline, is a hypothetical state, and, as such, no one knows with certainty what would occur absent a regulation. The Office of Management and Budget (OMB), the Federal agency responsible for government-wide oversight of the regulatory programs of the U.S. Government, provides regulatory analysis guidance in a "Best Practices" manual.(3) It is intended to set the standard for high quality economic analysis of regulation. In recognition of the uncertainties inherent in the baseline, the manual states that it is appropriate to perform regulatory analyses with multiple baselines.

The NRC's current policy of including alternative scenarios relative to the treatment of voluntary initiatives is therefore consistent with OMB guidance. NRC's decision to give greater weight to the "no credit" scenario recognized that most voluntary initiatives are discretionary, are not enforceable by the NRC, and could be easily rendered less effective by licensee action, even without NRC's knowledge. Thus, for base case calculations, it did not appear prudent to assume that these voluntary activities would necessarily continue into the future if the proposed regulatory action were not implemented. Further, given that voluntary programs may adopt vague requirements, over time, these programs may become less stringent, or non-uniform among licensees, or continue over only a portion of the industry. Overall, concerns exist that certain voluntary programs might not provide the level of *long-term* safety assurance that the NRC deems necessary. This concern with backsliding was raised by the Commission during its deliberations on the Maintenance Rule. In addition, the potential for backsliding is likely to become more problematic with the shift toward deregulation and increased cost competition in the electricity market.

CONCERNS REGARDING CURRENT POLICY

The staff supports the Commission's interest in furthering NRC's reliance on industry initiatives as an alternative to NRC regulatory activities (Direction-Setting Issue [DSI] -13). Clearly, the current policy, as reflected in the Guidelines, is that voluntary initiatives are not equivalent to regulation, and thus the perception, for some, is that the current policy runs counter to DSI-13. The issue becomes how to obtain assurance that voluntary programs do, in fact, uphold the agency's mission to protect the public health and safety, while at the same time giving industry sufficient incentive to initiate such programs. For voluntarism to substitute for regulation, there must be some meaningful assurance regarding scope, level of effort, and duration of the voluntary program.

These issues are, in fact, being addressed as part of the ongoing DSI-13 effort. In an SRM dated May 27, 1999, on SECY-99-063, "The Use by Industry of Voluntary Initiatives in the Regulatory Process," the Commission has directed the staff to develop guidelines and processes designed to increase NRC's assurance that voluntary programs will be effective long-term alternatives to regulations not involving adequate protection. For example, this process will assess the issue of enforceability by establishing guidelines regarding enforcement of voluntary initiatives. In addition, in recognition of the importance of public confidence, the Commission has stated that, as a result of this process, it must be clear to the public that substituting voluntary programs for regulatory action can provide effective and efficient resolution of issues, will be controlled and monitored, and does not represent a reduction in NRC's commitment to safety and sound regulation. Clearly, when such a process is in place, the staff's current regulatory analysis policy of giving no credit for voluntary initiatives will become increasingly more tenuous.

Further, the calculation of risk is an important analytical measure that is integral to many NRC programs. Risk calculations, such as those derived from PRAs, traditionally provide credit for voluntary programs that are already in place and functional. In regulatory analysis space, applying the current policy to the extent practical, base case risk calculations exclude voluntary initiatives. Thus, the possibility exists that differences in risk calculations can occur. These different approaches to the calculation of risk are largely consistent with, and reflect the different objectives of, the analyses. For example, PRAs model the plant-as-is and results are generally designed to complement our deterministic licensing basis. The regulatory analysis, on the other hand, is concerned solely with future risks and as such must focus on assumptions regarding the future availability of all safety related programs. Nevertheless, there is concern that such differences may add confusion and may be more problematic when regulatory analysis risk estimates are compared to those used in other NRC applications.

PROPOSED NEW POLICY:

During the development of this paper, the staff considered a number of options as alternatives to the current policy. These included: complete reversal of the current policy; two variations on a policy that gives measured credit to voluntary initiatives; and a policy that would require the decision maker (e.g., the Commission) to determine, on a case by case basis, the amount of credit to give to voluntary initiatives. As a result of this review, the staff recommends that the Guidelines be revised to require, when appropriate and to the extent practicable, a best estimate calculation of costs and benefits predicated on giving measured credit to voluntary initiatives. This recommendation has already been discussed and endorsed by the ACRS. In addition, the CRGR was briefed and indicated it had no objection to the approach taken by the staff. In the staff's view, this policy is fully consistent with SECY-99-063 concerning the Use By Industry of Voluntary Initiatives in the Regulatory Process, and also conforms to the May 27, 1999, SRM, in which the Commission has provided additional direction to the staff regarding processes and guidelines that will be needed to support an increased future role for voluntary initiatives.

Similar to the current policy, and subject to the same limitations, the proposed new policy calls for cost-benefit estimates that assume "no credit" and "full credit" for voluntary activities. However, these results would have equal weight as they will be presented solely for sensitivity analysis purposes. If the overall cost-benefit result does not tilt from an overall net cost to an overall net benefit (or vice versa), there is no need to proceed further and the final results would be reported as a range of values which essentially reflect the sensitivity of these results to this assumption. However, if the results are highly sensitive to that level of variation, such that the overall cost-benefit conclusion shifts or the final recommendation changes, the analyst would proceed to develop a "best estimate" base case.

Under this base case, the staff will evaluate the specific voluntary activities in question to determine how much weight to give to the voluntary initiatives. In the future, an important consideration in this determination would be the degree to which the subject voluntary activity satisfies the NRC guidelines that will have been developed in response to the May 27, 1999 SRM. In the interim, there are a number of relevant features and characteristics of the voluntary activities the staff could rely upon to assess the likelihood of any given voluntary activity continuing absent a rule.

Relevant factors in this determination would include (a) costs associated with the voluntary activity (e.g., if the dominant costs are fixed costs that have already been expended or the future recurring costs to maintain the voluntary program are minimal, it is more likely the voluntary activity will continue in the future), (b) the extent to which written commitments exist (e.g., if written commitments exist it is more likely a licensee will continue that commitment in the future, and the NRC could, if necessary, respond to licensees not adhering to the voluntary initiative), (c) the degree to which the activity is noncontroversial and standard industry practice (i.e., the less controversial or more standard is the voluntary activity, which may be a function of how long the program has been operating, its effectiveness, and participation rate among relevant licensees, the more likely it will continue absent the rule change), and (d) the scope and schedule for initiatives still pending (i.e., for initiatives that are still work-in-progress, the more well defined the scope and the sooner the initiative is expected to be in-place, the more likely it will be available in the future). In this way, when necessary and to the extent practical, the regulatory analysis would contain a best or more realistic estimate of the costs and benefits of the regulation under consideration, and a full range of results that capture the uncertainty inherent in the baseline condition. Based on this information, the staff would present its results and recommendations to the Commission. Note however, if the risk calculations rely on PRA results, it is likely that this best estimate calculation may include some voluntary initiatives that existed at the time the PRA was done.

COORDINATION:

The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections. The Office of the Chief Information Officer has reviewed this paper for information technology and information management implications and concurs in it. The Office of the General Counsel has no legal objection to this paper. The ACRS reviewed a draft of this paper, and in a letter to the EDO dated June 11, 1999, expressed its support for the staff's proposed recommendation. In addition, the CRGR was briefed and indicated it had no objection to the approach taken by the staff.

RECOMMENDATION:

That the Commission note that unless directed otherwise, the staff plans to implement the proposed new policy as described above. Staff requests action within 10 days. Action will not be taken until the SRM is received. We consider this action to be within the delegated authority of the EDO.

original /s/ by
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1. NUREG/BR-0058, Revision 2, "Regulatory Analysis Guidelines of U.S. Nuclear Regulatory Commission," November 1995.

2. P. Shewman, Advisory Committee on Reactor Safeguards letter to J. Taylor, NRC, "Revised Regulatory Analysis Guidelines," November 12, 1992, and Minutes of the Committee To Review Generic Requirements Meeting Number 262, Enclosure 2, August 23, 1994.

3. U.S. Office of Management and Budget, "Best Practices," January 11, 1998.