REQUEST REPLY BY: 9/22/03

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMNJD-03-0002

OFFICE OF THE
CHAIRMAN

Disapproved. See attached comment.

September 8, 2003

12/9/03

MEMORANDUM TO: Commissioner Edward McGaffigan
Commissioner Jeffrey S. Merrifield

FROM: Nils J. Diaz

SUBJECT: STABILIZING THE PRA QUALITY EXPECTATIONS AND REQUIREMENTS

It is my view that we must clarify Commission policy and expectations of the role, applicability, and characteristics of PRA quality for NRC's risk-informed regulatory decisionmaking. A policy decision is needed to stabilize the PRA quality expectations and requirements and enable its broader and more predictable use in safety-related applications. This need has become pressing with the 50.69 and 50.46 rulemakings, and their SRM statement on PRA quality.

I believe that implementing a phased approach to PRA quality would provide a path towards predictability and increased use of risk insights, thus enhancing safety. The proposed initial phases would establish PRA quality requirements that are commensurate with a specific application or type of application, in a manner similar to the current approach. In the next phase, an acceptable level of PRA quality is specified for all currently envisioned uses, or an "all-applications" phase. In the final phase, the NRC would expect a fully-quantified approach to PRA quality in which PRAs are as good as can reasonably be expected, within the state-of-the-art.

The enclosed proposal entitled "Regulatory Decisionmaking and PRA Quality" presents, for your consideration, a path forward for defining an acceptable and pragmatic means of achieving the requisite PRA quality for regulatory purposes. It describes a phased approach to PRA quality, supportive of and in-phase with the Option 2 and Option 3 activities for risk-informing of our regulations. I ask for your consideration and approval.

Enclosure: As stated

SECY: Please track

Commissioner McGaffigan's Comments on COMNJD-03-0002

Unfortunately, I can not support Chairman Diaz' proposal for a phased approach to improving PRA quality. It is not that I am opposed to a phased approach as a general matter. But the Chairman's proposal in my view requires far too little of the industry in phase 2 when both the need for higher quality PRAs is clear and NRC's leverage (because of the 50.69 and 50.46 rulemakings) is greatest.

The Commission on March 31 of this year in its SRM on SECY-02-0057, established an expectation of a high quality PRA to accompany any redefinition of the large break LOCA design basis event. "Once the appropriate standards are in place, the PRA should be a level 2 internal- and external-initiating event all mode PRA, which has been subject to a peer review process and submitted to and endorsed by the NRC.... The staff must include the need for a high quality PRA in the proposed rule." In a separate SRM on March 28, 2003, the Commission directed the staff to ask for specific comment on whether a requirement for a comprehensive high quality PRA should be included in the 50.69 rulemaking.

Obviously, since March there has been resistance to this direction from the industry, which claims that such PRA quality is unattainable in the time frame envisioned for completing the 50.46 rulemaking. In comments on the 50.69 rulemaking the industry has stated that a requirement for a high quality PRA at this time would end consideration of 10 CFR 50.69 as a viable option[1]. But several other commenters, from the States of Illinois and New Jersey, from the Conference of Radiation Control Program Directors, and from the Union of Concerned Scientists have endorsed the inclusion of a requirement for a high quality PRA reviewed by the staff in the 50.69 rule. The ACRS has consistently endorsed the need for higher quality PRAs "motivated by our desire to have robust regulatory decisions."

As I wrote in my vote on SECY-02-0176 earlier this year, the staff with the endorsement of the industry is piling band-aids on top of band-aids, as they design the 50.69 rule and its accompanying regulatory guides, to make up for the lack of quality in many industry PRAs today. Perhaps we do not need a level 2 all-initiating event all-mode PRA from all plants for 50.69, but we need more than we have today from many licensees and more than we will get in phase 2 of the Chairman's proposal. Crucial to staff and ACRS approval of the South Texas exemption on categorization and treatment of systems, structures and components was the high quality of the South Texas PRA. Much of the industry falls far short of South Texas.

Chairman Diaz would also apply phase 2 of his graded approach to the 50.46 rulemaking, a major step back from the vision of the March 31, 2003 SRM. The changes to be proposed in the revised 50.46 are so fundamental and far-reaching that at least a phase 3 PRA (as defined by the Chairman) should be required in my view, but with the added feature of NRC staff review and approval which is a phase 4 feature under the Chairman's proposal. The 50.46 rulemaking is likely to take enough time to complete and implement (about three to five years) that a phase 3 plus PRA quality should be achievable. Without that level of quality, the rule is likely to prove non-implementable.

These major rulemakings, 10 CFR 50.69 and especially 10 CFR 50.46, offer the potential for major cost reductions to the industry. Those cost reductions are likely to far exceed the costs of improving PRAs. But if we do not take advantage of these "voluntary" rulemakings to impose

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[1]Comment letter from Anthony R. Pietrangelo, dated August 22, 2003.

the PRA quality requirements needed to have confidence in their implementation, we will never impose these requirements. The staff has never been able to convince itself that any requirement for PRA quality meets the provisions of the backfit rule (10 CFR 50.109) for a substantial increase in public health and safety and for benefits that exceed costs. I believe that the staff has been wrong and that since at least the late 1980s we could and should have begun a process of requiring ever more capable PRAs, routinely updated to include insights from operational data and operational events. Substantial safety benefits, difficult to quantify in advance, would inevitably have accrued from such a requirement and we would not be sitting here today with such wide disparity in PRA quality across the industry. Given that the backfit rule has paralyzed us on PRA quality for at least 15 years, I see no conceivable way to implement phase 3 and phase 4 of the Chairman's proposal. The Commission will simply have no leverage once the 50.46 rulemaking is complete.

I would like to make a final procedural comment. Unlike the Chairman, I am not an expert on PRA quality, nor is Commissioner Merrifield. In framing this vote, I have had the benefit of conversations with some individual members of ACRS, although the opinions expressed are all my own. However, I believe a better approach to reaching a decision on the Chairman's proposal would have included seeking broad public comment on it with staff and ACRS review of those comments, before Commissioners took final positions on it or on any alternatives developed through that open process. I suspect that just as the decision made by the Commission behind closed doors on March 31, 2003 to require a high quality all-mode all-initiating event PRA in the 50.46 rulemaking will now likely be reversed in the SRM on the Chairman's proposal, the decision made by the Commission behind closed doors on the Chairman's phased approach to PRA quality will likely have to be revisited in the not distant future. Stability in regulatory policy is not achieved in this fashion.

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Approved subject to the attached comments.

MEMORANDUM TO: Commissioner Edward McGaffigan
Commissioner Jeffrey S. Merrifield

FROM: Nils J. Diaz

11/19/03

SUBJECT: STABILIZING THE PRA QUALITY EXPECTATIONS AND REQUIREMENTS

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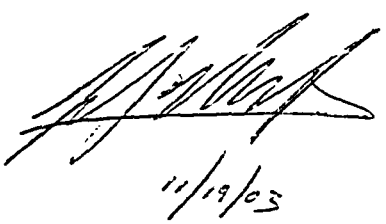
Commissioner Merrifield's Comments on COMNJD-03-0002

I concur with Chairman Diaz's recommendation and support the phased approach to probabilistic risk assessment (PRA) quality, as discussed in COMNJD-03-0002, "Stabilizing The PRA Quality Expectations and Requirements." I believe the concept of a phased approach would allow the staff, industry, and stakeholders to pro-actively develop and encourage continued use of PRA with appropriate quality to satisfy the Commission's 1995 Policy Statement regarding the use of enhanced PRA.

Although, the discussion of the phased concept offered by the Chairman, is more conceptual than specific at this stage, I believe, it underscores the important use of PRA to support individual licensing basis decisions, issue-specific, and other regulatory and operational applications. I strongly believe that use of PRA as a tool should match its ability to accomplish the meaningful results and the level of PRA quality should be commensurate with its intended use such as scope, fidelity in plant modeling, level of realism, and appropriate understanding of uncertainties and their implications within the state-of-the-art technology are essential.

I agree with the Chairman that the phased concept to PRA quality would allow the staff to determine the applicable issues, appropriate use of risk-informed methods, limitations, and regulatory benefits for each phased approach. The proposed phased approach to PRA quality would encourage progress toward adoption of the highest level of quality PRA, with full scope, full quantification, and fully understanding of all uncertainties and implications, based on a realistic model and practical data. I would offer one addition to the Chairman's phased concept that the PRA analysis would be enhanced if issues were organized or binned into separate focus areas such as (1) maintenance, testing, inspection, accident and mitigation, and emergency planning; or (2) licensing basis changes using risk-insights; or (3) fundamental changes to the regulations (rules). I would then expect the Chairman's phased-approach to be used to ensure the issues meet the scope, regulatory limitations, and level of PRA quality expectations and requirements. The expectation is that the more operational flexibility sought by licensees, the higher the level of PRA quality for those binned issues.

I note that the application of PRA in the staff's current efforts to implement risk-informed, performance-based initiatives, not only benefits our licensees, but the agency by allowing the Commission to focus its resources on those areas that have the greatest impact on safety. The staff and industry recognize that PRA techniques have evolved and when performed to acceptable standards, would enhance the regulatory decisionmaking process and promote efficient use of PRA. The staff should engage industry and all of our stakeholders and develop an action plan that defines a logical approach to the phased concept of PRA quality and requirements. The action plan should also discuss the resolution of model uncertainty, treatment of seismic, and human performance issues for each phased approach. The Commission expects that as the Agency moves through the phased approach to risk-informed regulation, activities are coherently and properly integrated such that they complement one another and continue to meet the 1995 Commission's Policy Statement.



11/19/03