



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

May 13, 2004

MEMORANDUM TO: ACRS Members

FROM: Michael Snodderly, Senior ACRS Staff Engineer /RA/

SUBJECT: CERTIFICATION OF THE MINUTES OF THE MEETING OF THE
ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC
RISK ASSESSMENT, FEBRUARY 19, 2004 -
ROCKVILLE, MARYLAND

The minutes of the subject meeting, issued May 6, 2004, have been certified as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

electronic cc: J. Larkins
H. Larson
S. Duraiswamy

May 6, 2004

MEMORANDUM TO: G. E. Apostolakis, Chairman
Reliability and Probabilistic Risk Assessment Subcommittee

FROM: M. R. Snodderly, Senior ACRS Staff Engineer */RA/*

SUBJECT: WORKING COPY OF THE MINUTES OF THE MEETING OF THE
ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC
RISK ASSESSMENT, FEBRUARY 19, 2004 - ROCKVILLE,
MARYLAND

A working copy of the minutes for the subject meeting is attached for your review. Please review and comment on them at your soonest convenience. If you are satisfied with these minutes please sign, date, and return the attached certification letter.

Attachment: Minutes (DRAFT)

cc: Reliability and Probabilistic Risk Assessment Subcommittee Members
S. Duraiswamy
J. Larkins
H. Larson

CERTIFIED

05/13/04

By G. E. Apostolakis

Issued: 05/06/04

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS MEETING OF THE ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC RISK ASSESSMENT MEETING MINUTES - FEBRUARY 19, 2004 ROCKVILLE, MARYLAND

INTRODUCTION

The ACRS Subcommittee on Reliability and Probabilistic Risk Assessment (PRA) held a meeting on February 19, 2004, in Room T-2B3, 11545 Rockville Pike, Rockville, MD. The purpose of this meeting was to discuss the resolution of public comments on the proposed 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components," and the staff's draft Regulatory Guide endorsing NEI 00-04, "10 CFR 50.69 Structures, Systems, and Components Categorization Guideline." The meeting was open to public attendance. Mike Snodderly was the Designated Federal Official for this meeting. There were no written comments. Members of the public representing the Nuclear Energy Institute (NEI), the American Society of Mechanical Engineers (ASME), and the American Nuclear Society (ANS) made oral presentations. The meeting was convened by the Subcommittee Chairman at 8:31 a.m. and adjourned at 5:38 p.m. on February 19, 2004.

ATTENDEES

ACRS Members

G. Apostolakis, Subcommittee Chairman
M. Bonaca, Member
F. Ford, Member
T. Kress, Member

S. Rosen, Member
W. Shack, Member
M. Snodderly, Designated Federal Official

Principal NRC Speakers

J. Fair, NRR
D. Harrison, NRR
T. Reed, NRR
T. Scarbrough, NRR

Other Principal Speakers

K. Balkey, ASME
K. Ennis, ASME
S. Levinson, ANS
J. Mallay, ANS
A. Pietrangelo, NEI

C. Rowley, ASME
C. Sellers, ASME
D. True, ERIN Engineering
G. Zigler, ASME

There were approximately eight other members of the public in attendance at this meeting. A complete list of attendees is in the ACRS Office File and will be made available upon request. The presentation slides and handouts used during the meeting are attached to the office copy of these minutes.

OPENING REMARKS BY CHAIRMAN APOSTOLAKIS

George Apostolakis, Chairman of the ACRS Subcommittee on Reliability and PRA convened the meeting at 8:31 a.m. Dr. Apostolakis stated that the purpose of this meeting was to discuss the resolution of public comments on the proposed 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components." He said the subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full Committee. The rules for participation in the meeting were announced as part of the notice of the meeting published in the Federal Register on January 30, 2004.

DISCUSSION OF AGENDA ITEMS

Briefing on Revision D to NEI 00-04, "10 CFR 50.69 SSC Categorization Guideline"

Tony Pietrangelo, NEI, began by reminding the Committee that they had previously commented on Revision B to NEI 00-04. Mr. Pietrangelo then introduced Doug True of ERIN Engineering who was to brief the Committee on Revision D to NEI 00-04. Mr. Pietrangelo said that Revision D attempts to address the Committee's comments. Mr. Pietrangelo mentioned a table NEI provided prior to the meeting that addressed each of the NRC staff's comments. Based on a public meeting with the staff two weeks ago, Mr. Pietrangelo felt that NEI had any major issues with the staff in the area of categorization.

Mr. True began by showing several flow charts outlining the categorization process in Revision D to NEI 00-04. Mr. True then provided an example application of importance measures. Mr. True presented the recommended sensitivity studies for internal events. Mr. True then discussed the EPRI study on uncertainties in the categorization process. Mr. True said the key conclusions from EPRI TR-1008905 were: PRA codes calculate importance measures based on point estimate models, the correlated means for the importance measures calculated from a Monte Carlo evaluation are higher than point estimates, the correlation effect may have an influence on the calculation of the mean F-V value, the parametric correlation effect does not change the safety significance assessment, the NEI 00-04 sensitivity studies encompass the correlation effect on the mean importance measures, and either a formal parametric uncertainty assessment or a series of sensitivity studies provides equivalent results for use in the safety significance determination process.

Mr. True then described a set of deterministic rules and questions that were designed to assess defense-in-depth relative to: core damage prevention, large early containment failure, and long-term containment integrity. If the assessment indicates that the SSC is necessary for defense-in-depth than it would be categorized as a RISC-1 component. This led to a discussion of risk sensitivity studies. Mr. True said that these studies were intended to assess the bounding

change in CDF and LERF assuming a simultaneous decrease in reliability of all SSCs. He said that the factor of increase was set by determining the amount of simultaneous change detectable in corrective action programs. The results of the sensitivity studies are then compared to RG 1.174 CDF and LERF guidelines. Mr. True ended with a discussion of how the integrated decisionmaking panel works. Mr. True believes the NRC staff's major issues with the categorization process had been resolved.

General Comments and Observations From the Subcommittee Members

- Dr. Apostolakis commented that the diagram on Slide 3 can play an important role in summarizing the NEI 00-04 categorization process. Dr. Apostolakis questioned whether what was being performed was really a sensitivity study on non-PRA components. Mr. True agreed it was confusing. Dr. Apostolakis suggested that non-PRA components should be split off from the diagram and shown more clearly. Dr. Bonaca agreed. Mr. True acknowledged the comment.
- Dr. Shack questioned why the emergency operating procedures and the severe accident management guidelines were not plant-specific inputs to the system engineering evaluation as shown on Slide 3. Dr. Ford added that future issues such as materials degradation should also be considered as inputs. Mr. True responded that the NEI categorization process addresses active functions of the systems. Mr. True continued that passive failure mechanisms, such as materials degradation, are addressed by ASME code case N-660.
- Dr. Bonaca recalled that only five percent of the components were modeled in the PRA and 95 percent were not. Dr. Bonaca said that these non-modeled components are addressed deterministically yet there is no mention of this part of the process. Dr. Bonaca commented that Slide 3 would be more useful if it included the deterministic treatment of non-modeled components. Mr. Rosen added that it should be made clear that these components were not modeled because they did not contribute to the dominate sequences. Dr. Bonaca agreed. Mr. Pietrangelo summarized the point and the commenting members agreed with his summary.
- Dr. Apostolakis quoted the following sentence from the end of Section 5 to DG-1121, "It should be recognized that the degree of relief that can be expected will be commensurate with the assurance provided by the evaluation." Dr. Apostolakis felt this was an important statement that could be made more explicit by showing how categorization is performed when you have a PRA and when you do not. For example, defense-in-depth can be addressed when you have a PRA by importance measures but defense-in-depth characterization is much more important when you don't have the PRA.
- Dr. Kress disagreed by saying that we don't properly pose what defense-in-depth is in the PRA and that in some cases defense-in-depth is necessary to address uncertainties that are not quantified by the PRA. Dr. Kress gave long-term cooling as an example of something that does not show up as risk significant in the PRA because it has little if any impact on CDF and LERF but it is very important to long-term cooling and late containment failure.

- Dr. Apostolakis quoted the following sentence from page six of NEI 00-04, "In the event a FIVE analysis is used, the categorization process is necessarily more conservative." Dr. Apostolakis asked if anybody has shown that FIVE or seismic margin analysis is conservative or is it something that is widely accepted. Mr. True responded that he was not aware of a direct comparison but that any SSC or function that you credit in mitigating those unscreened sequences are all deemed safety significant.
- Dr. Apostolakis questioned the common cause failure RAW acceptance criteria of 20. Dr. Apostolakis had difficulty accepting that a common cause failure event that increases the CDF by a factor of 10 is not of high safety significance. Mr. True responded that it's measuring the impact of a whole system failing rather than an individual component. It was Dr. Apostolakis' opinion that the multiple greek letter method should be used instead. Mr. True agreed but said that the acceptance criteria of 20 was acceptable because it's measuring the impact on the system and CDF rather than an individual component.
- Mr. True asked if the Subcommittee was proposing that he identify a more extensive set of modeling uncertainties. Dr. Apostolakis responded that Mr. True would discover in a short time frame after consulting with his colleagues who have done real PRAs that they will give you a list of three or four modeling uncertainties that dominate. Dr. Kress was concerned that would only address CDF and not LERF and other release sequences. Dr. Apostolakis acknowledged this would only address Level One uncertainty. For Level Two, Dr. Apostolakis suggested using NUREG-1150 and consultation with other experts to identify the major model uncertainties and then multiply by a factor of three to do your sensitivity study.
- Mr. Rosen cautioned categorizing components as low with RAWs of just less than two. Mr. True responded that it also had to have a Fussell-Vesely less than 0.005. He said, as an example, the reactor core isolation cooling system had a RAW of .95 but the Fussell-Vesely was over 0.005 so it remained high safety significant.
- Dr. Apostolakis said that although he has not had a chance to review the EPRI study on uncertainties it appears to address the ACRS concern because it provides a rationale why the approximate method bounds the uncertainty based on three other methodologies. Dr. Apostolakis recommended that the EPRI study on uncertainties be referenced in NEI 00-04. Dr. Kress cautioned that this is responsive to our request but this is one PRA for one plant with a low CDF. We don't know how generic the results are or how to generalize them, especially for PWRs with higher CDFs.
- Dr. Bonaca agreed that an incentive to develop the PRA scope would be to confirm the rigor of the process.
- Dr. Shack commented that NEI 00-04 doesn't seem to have addressed the staff's comment that defense-in-depth should deal with more than just design basis events. Mr. True responded that by definition you don't have defense-in-depth for beyond design basis events. He went on to say that assessing and making some decision about defense-in-depth can only be done in the context of the likelihood of that event occurring, which is what the PRA is very good at.

- Dr. Kress said there are some functions that are so important that defense-in-depth is needed regardless of the PRA. He would have included shutdown, ECCS, containment, and long-term cooling as the important functions. Mr. True challenged that would be status quo. Dr. Kress said it would only apply to a small number of subsystems such as the ones he mentioned above.
- Dr. Bonaca asked about the treatment of safety-related low safety significant MOVs. Mr. Pietrangelo said that NEI 00-04 only addresses categorization. Dr. Apostolakis said that treatment would be discussed in the afternoon.
- Dr. Shack asked about a change in the definition of long term integrity. On Page 46 of the previous edition to NEI 00-04, the definition of long term integrity stated, "It could be beneficial to preserving long term integrity." The definition was changed to say, "It would be the only means to preserving long term integrity." Mr. True explained that the change was made because "could be" was considered to broad. Mr. True related this back to Dr. Shack's point about the need to consider EOPs and SAMGs. He said EOPs and SAMGs invoke a lot of systems that could be beneficial practically speaking whether they really provide any benefit or not is better sorted out through processes like the PRA. Because you want your SAMGs to address all available resources, but it doesn't mean that everyone of those has the same significance from the standpoint of safety.
- Dr. Apostolakis suggested that the two bullets on Slide 21 be changed and say utilizes the strengths of PRA, therefore eliminating some of the weaknesses of the deterministic approach and addresses limitations of PRA bringing back the strength of the deterministic approach. Mr. Pietrangelo said he would change the slide.
- Mr. Rosen pointed out that the sentence that begins with, "Here again," on page 5 of NEI 00-04 was incomplete. Mr. True acknowledged that it was incomplete and committed to fix it.

NRC Staff Briefing on Part 50 Special Treatment Requirements Proposed Section 50.69

Tim Reed, Tom Scarbrough, John Fair, and Don Harrison, of the Office of Nuclear Reactor Regulation were the presenters for this presentation. Tim Reed said the objective of the briefing was to discuss the staff's efforts to address and resolve the comments that were received on 50.69 and the staff's review of NEI 00-04 draft revision D. Mr. Reed said that goal was to have the final rule package to the Commission by June 30, 2004. The staff committed to providing the draft final rule package by the middle of May 2004 to support a briefing of the Full Committee at it's June Meeting. Mr. Reed said that the staff has received 26 sets of comments which comprised a total of approximately 250 comments. The staff was concerned by the divergent range of interpretations of what the proposed rule language meant. In general, the states and public interest groups wanted a lot more prior review of RISC-3 treatment programs. Mr. Reed reminded the Committee of the staff's position that the RISC-3 treatment program that licensees would apply to safety related but low safety significant SSCs would be implemented by the licensees without prior NRC review and approval. This is covered by the requirements in 50.69(d)(2). This is the opposite approach from categorization which the NRC staff is reviewing and approving in detail.

The staff then discussed the following specific issues: (1) RISC-3 design requirement for fracture toughness, (2) consistency of RISC-3 categorization and treatment, (3) application of voluntary consensus standards, vendor recommendations, and operational experience for RISC-3 SSCs, (4) RISC-3 design control attributes, (5) RISC-3 design capability for environmental and seismic conditions, (6) RISC-3 Corrective Action to Preclude Repetition, (7) operating experience feedback, (8) use of seismic experience data, (9) NRC review of planned treatment and inspection of implementation, (10) PRA scope requirements, (11) Crediting SSCs as part of selective implementation, and (12) 50.46a(b) scoped into 50.69.

General Comments and Observations From the Subcommittee Members

- Mr. Rosen asked if the inspection implementation was going to be broader than just treatment. Mr. Reed responded the temporary instructions have not been written but he expected it would focus more towards categorization and it would recommend a sampling in the RISC-3 treatment area. Mr. Harrison added that since the categorization process will be reviewed and approved by the staff beforehand, more emphasis would be on confirming that they're following their process and on treatment of RISC 2 and 3 components. Mr. Rosen was concerned that over emphasis of treatment would send the wrong message to the inspectors and licensees. He reminded the staff that categorization is the heart of this program.
- Mr. Rosen commented that this is the first time he had heard that the design can be changed under this rule. Mr. Scarbrough used the ASME code requirements as an example. The ASME code is a design code that low safety significant components would no longer have to meet. So the design may change for those class two and three components as long as they meet their functional requirements. They're not required to meet the original design as long as they meet the functional requirements. Mr. Rosen reiterated that importance that they still must meet their functional requirements.
- Dr. Apostolakis asked about the difference between functional requirements and design requirements. Mr. Scarbrough replied that a functional requirement for a pump would be so much flow under design basis conditions or it would have to be able to withstand an earthquake of so many G's. A design requirement is a characteristic, such as type of material, to meet the functional requirement.
- Dr. Ford asked if degradation mechanisms need to be considered when making material design changes to low safety significant components. Mr. Scarbrough said they are supposed to evaluate whether or not they have a known degradation mechanism. And, if they have a known degradation mechanism, they have to deal with that.
- Dr. Bonaca asked about coherence between 50.69 and Part 52. Mr. Gillespie agreed with Dr. Bonaca about the importance of coherence between 50.69 and Part 52 but acknowledged they have not worked on it for a year because of higher priority items such as 50.46 and 50.69 for operating plants.
- NEI 00-04 states the degree of relief that can be expected will be commensurate with the assurance provided by the evaluation. Dr. Bonaca asked how this statement will be verified. Mr. Reed replied that this whole framework is really based on robust

categorization and having a lot of confidence in the categorization process which will be reviewed and approved by the staff. He went on to say that if you have confidence in that, then you can let go of the treatment and allow the licensees to apply the requirements of 50.69(d)(2).

- Mr. Pietrangelo of NEI commented that it didn't make any sense to put back into the high level treatment requirement language into 50.69 that is specifically excluded within the scope of 50.69 for low safety significant components. He used the equipment qualification requirements of 50.49 as an example. He said that components categorized as low safety significant are exempt from the requirements of 50.49 yet some of the treatment requirements in 50.69 could be interpreted as requiring equipment qualification.
- Dr. Bonaca brought up the issue of how corrective action program findings will be feed back into 50.69. Dr. Bonaca used an example where a plant scrambled and nine component failures resulted from the scam. The plant's senior management acknowledged that all the components had been removed from their preventive maintenance program sometime before. They acknowledged it was a shortsighted decision. Mr. Reed referred the Committee to 50.69(e)(2) for RISC 3 components which requires monitoring and feedback of performance data and corrective actions into the process.
- Dr. Kress asked if you have a site where there's more than one plant and you calculate RAW and Fussell-Vesely for the LERF, will you add those up for the different plants. Mr. Harrison said no, the criteria are applied on a per plant basis.

Staff Perspectives on Revision D of NEI 00-04

Dr. Apostolakis reconvened the meeting at 2:50 p.m. Mr. Harrison, NRR, gave the staff's perspectives on Revision D of NEI 00-04. Mr. Harrison said that the focus of the presentation will be on the remaining issues or areas that differ from where the staff had made prior comments. Mr. Harrison mentioned that the staff had a productive meeting with industry on February 5, 2004 and he believed they were coming to closure on a number of the issues. Mr. Harrison then discussed the following issues: (1) quality attributes of Analyses, (2) the factor used to represent the reduction in treatment, (3) limitations of types of analyses used, (4) uncertainty considerations, integral assessment and sensitivity studies, (5) prevents or mitigates core damage interpretation, (6) relevant failure modes interpretation, (7) safety significant attributes interpretation, (8) primary shutdown safety system interpretation, (9) common cause failure and degradation mechanisms, and (10) regulatory commitments.

General comments and observations from the Subcommittee members

- Dr. Apostolakis asked who is assessing the sensitivity studies performed to support the categorization of SSCs using PRA models to address the major identified sources of uncertainty, such as human error probability, cross cutting failures, and items identified during the assessment of PRA adequacy. Mr. Harrison said it was the peer reviewers. When a peer review is done on a PRA, they may have identified areas of weaknesses within the PRA or identified something that was in error. A licensee may have dealt with that by performing a sensitivity study saying if I change that information, it would have this

impact on the analyses. Mr. Harrison then pointed out the last bullet in the NEI guidance on recommended sensitivity studies which said, "Any applicable sensitivity studies identified in the characterization of PRA adequacy."

- Dr. Shack said he was more supportive of NEI's sensitivity guidance to address identified weaknesses as opposed to applying a factor of four or five to account for uncertainties.
- Dr. Ford inquired about unknown degradation mechanisms. Mr. Reed responded that the requirements in 50.69(d)(2) are intended to capture future degradation mechanisms that might come up. Dr. Ford agreed that the rule language was adequate but it was at too high a level. Dr. Ford asked how unknown degradation mechanisms were addressed in the implementing guidance of NEI 00-04. The attendants were unable to answer Dr. Ford.
- Dr. Apostolakis commented that Page 12 from DG-1121 should be incorporated into the guidance to the integrated decision making panel in NEI 00-04.
- Mr. Rosen was concerned that the staff will only be approving the process for choosing the members of the integrated decision making panel. Mr. Rosen felt that the success or failure of 50.69 will ultimately hinge on the quality of the people that are doing the categorization. He thought there should be some standards for selection, training and qualification of these people.
- Dr. Bonaca spoke about the importance of coherence. He specifically mentioned coherence between risk-informed CDF and LERF criteria and Part 100. Dr. Bonaca gave the example where one has a detailed PRA analysis of the RPS. One could argue that since I have four redundancies, each one of them is not safety significant. And then maybe at that point one would begin to question the treatment. Lowering the treatment for something for which they have expanded so much focus and effort for so long. Dr. Bonaca felt this was an imbalance. An example of incoherent regulation.

Status of Risk-Informed Initiatives in ASME Nuclear Code and Standards

Dr. Apostolakis reconvened the meeting at 4:43 p.m. Wes Rowley, Vice President, Nuclear Codes and Standards, ASME, began by saying that ASME Board on Nuclear Codes and Standards had been meeting in Washington D.C. the past two days to discuss their strategic plan to manage their risk initiatives. He said the Board planned to brief the Committee on four aspects of their strategic plan: (1) PRA standards development, (2) risk-informed code cases, (3) 10 CFR 50.69 initiative, and (4) initiatives to develop a framework for future reactors. At the end of the presentation they would discuss future actions. Mr. Rowley then introduced Pat O'Regan, EPRI, Stanley Levinson, committee on nuclear risk management, and Doug True. Mr. Rowley said it had been five or six years since the board briefed ACRS on its risk initiatives and the board had done a fair amount in those intervening years.

Mr. Ken Balkey said he remembered meeting with Dr. Kress, probably 15 years ago and having the first idea of using risk analysis for in-service inspection. That led to a number of codes and standards initiatives back in the early and mid '90s. Mr. Balkey said the Board on Nuclear Codes and Standards then began to develop the PRA standard. In order to manage bringing risk-information into its Codes and Standards, the Board made a decision that it had to have a

plan that they could track both short term, and long term initiatives. Within that, they have the elements within the plan covering across all the applications as well as the PRA standards and also the needs of the future reactors. Mr. Balkey said it would be a challenge to develop standards by 2008 in support of the Commission's phase approach to PRA quality.

Jim Mallay, Chairman of the ANS Coordinating Committee said that their goal was to make sure ANS and ASME are consistent and compatible but more than that, our emphasis really is going to be on the user ability to apply these standards. Mr. Mallay said there has been talk about a single standard. He cautioned that will never happen because there will always be a large suite of standards for various applications. He said that the joint committee hoped to develop a standard that will provide a framework so that one would know when to use the various elements.

General Comments and Observations From the Subcommittee Members

- Dr. Apostolakis thanked the presenters for a very informative presentation. He appreciated them briefing the Committee while they were in Washington and wished them luck with their efforts.

STAFF AND INDUSTRY COMMITMENTS

The staff committed to providing the draft final rule package by the middle of May 2004 to support a briefing of the Full Committee at its June Meeting.

SUBCOMMITTEE DECISIONS AND ACTIONS

Dr. Apostolakis recommended that the EPRI study on uncertainties be referenced in NEI 00-04. The Subcommittee will make a recommendation concerning the draft final rulemaking package for the proposed Section 50.69 on special treatment requirements at the June Full Committee meeting to support the staff's schedule to provide it to the Commission by June 30, 2004.

BACKGROUND MATERIALS PROVIDED TO THE SUBCOMMITTEE PRIOR TO THIS MEETING

1. Subcommittee status report, including agenda.
2. Staff Requirements Memorandum dated March 28, 2003, from Annette L. Vietti-Cook, Secretary, to William D. Travers, EDO, Subject: Staff Requirements - SECY-02-0176 - Proposed Rulemaking to Add New Section 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components".
3. SECY-02-0176 - Proposed Rulemaking to Add New Section 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components," dated September 30, 2002.
4. Letter dated March 19, 2002, from George E. Apostolakis, Chairman, ACRS, to William D. Travers, Executive Director for Operations, NRC, Subject: Proposed Rulemaking and Associated Guidance for Risk-Informing the Special Treatment Requirements of 10 CFR Part 50 (Option 2).

5. Report dated October 12, 1999, from Dana A. Powers, Chairman, ACRS, to Greta Joy Dicus, Chairman, NRC, Subject: Proposed Plans for Developing Risk-Informed Revisions to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."
6. Nuclear Energy Institute (NEI) Report 00-04, "10 CFR 50.69 Structures, Systems, and Components Categorization Guideline," Revision D, October 2003.
7. NEI, Table-1, "NRC's General Comments on Revision C to NEI 00-04," (Includes industry disposition).
8. Memorandum dated February 11, 2004, from Timothy A. Reed, Office of Nuclear Reactor Regulation (NRR), to Catherine Haney, NRR, Subject: Summary of February 5, 2004, Meeting With Nuclear Energy Institute (NEI) and Other Stakeholders on the Implementation Guidance for 10 CFR 50.69 (DG-1121 and NEI 00-04).
9. Memorandum dated February 5, 2004, from Catherine Haney, NRR, to John T. Larkins, Executive Director, ACRS, Subject: ACRS Subcommittee Meeting on Section 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Plants."
10. EPRI Report 1008905, "Parametric Uncertainty Impacts on Option 2 Safety Significance Categorization," June 2003.

Note: Additional details of this meeting can be obtained from a transcript of this meeting available for downloading or viewing on the Internet at "<http://www.nrc.gov/ACRSACNW>" or can be purchased from Neal R. Gross and Co., Inc., (Court Reporters and Transcribers) 1323 Rhode Island Avenue, NW., Washington, DC 20005 (202) 234-4433.