



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

June 4, 2004

MEMORANDUM TO: ACRS Members

FROM: Michael Snodderly, ^{MRS} Senior ACRS Staff Engineer,

SUBJECT: CERTIFICATION OF THE MINUTES OF THE MEETING OF THE
ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC
RISK ASSESSMENT, MARCH 25, 2004 -
ROCKVILLE, MARYLAND

The minutes of the subject meeting, issued June 2, 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

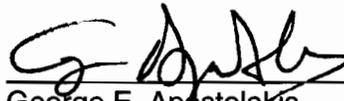
electronic cc: J. Larkins
H. Larson
S. Duraiswamy

MEMORANDUM TO: M. R. Snodderly, Senior ACRS Staff Engineer

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

SUBJECT: CERTIFICATION OF THE MINUTES OF THE MEETING OF THE
ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC
RISK ASSESSMENT, MARCH 25, 2004 - ROCKVILLE, MARYLAND

I do hereby certify that, to the best of my knowledge and belief, the minutes of the subject meeting on March 25, 2004, are an accurate record of the proceedings for that meeting.



George E. Apostolakis,
Subcommittee Chairman

6/3/04

Date

June 2, 2004

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

FROM: M. R. Snodderly, Senior ACRS Staff Engineer

SUBJECT: WORKING COPY OF THE MINUTES OF THE MEETING OF THE
ACRS SUBCOMMITTEE ON RELIABILITY AND PROBABILISTIC
RISK ASSESSMENT, MARCH 25, 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

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETING OF THE ACRS SUBCOMMITTEE ON
RELIABILITY AND PROBABILISTIC RISK ASSESSMENT
MEETING MINUTES - MARCH 25, 2004
ROCKVILLE, MARYLAND

INTRODUCTION

The ACRS Subcommittee on Reliability and Probabilistic Risk Assessment (PRA) held a meeting on March 25, 2004, in Room T-2B3, 11545 Rockville Pike, Rockville, MD. The purpose of this meeting was to discuss the staff's draft plan for implementing the Commission's Policy Statement on a phased approach to probabilistic Risk Assessment (PRA) quality. The meeting was open to public attendance. Mike Snodderly was the Designated Federal Official for this meeting. There were no written comments or requests for oral presentations. The meeting was convened by the Subcommittee Chairman at 1:15 p.m. and adjourned at 4:46 p.m. on March 25, 2004.

ATTENDEES

ACRS Members

G. Apostolakis, Subcommittee Chairman	S. Rosen, Member
M. Bonaca, Member	W. Shack, Member
F. Ford, Member	J. Sieber, Member
T. Kress, Member	M. Snodderly, Designated Federal Official

Principal NRC Speakers

M. Drouin, RES	M. Reinhart, NRR
D. Harrison, NRR	M. Rubin, NRR
S. Magruder, NRR	B. Tjader, NRR
G. Parry, NRR	M. Schiltz, NRR

Other Principal Speakers

R. Bradley, NEI

There were approximately two 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 1:15 p.m. Dr. Apostolakis stated that the purpose of this meeting was to discuss the to discuss the staff's draft plan in response to the Commission's Policy Statement endorsing a phased approach to PRA quality. He said the subcommittee would 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 February 27, 2004.

DISCUSSION OF AGENDA ITEMS

Briefing on Draft Plan for Stabilizing PRA Quality Expectations and Requirements

Gareth Parry, NRR, introduced the working group which is responsible for developing the plan. The group is headed by Mike Tschiltz, PRA Branch Chief, NRR, Donald Harrison and Stu Magruder, NRR, and Mary Drouin, RES. Mr. Parry began by saying there is a lot of ambiguity over the term "quality PRA" or "a high quality PRA." He said the staff was trying to get away from that term and instead say a PRA of sufficient quality to support an application. He said PRA quality is defined the same as in RG 1.174 and 1.200. Mr. Parry thought the Commission's policy statement facilitates near term progress and enhancement of safety through the use of available methods while also building the pathway to getting better methods and more broad reaching applications. He said the associated SRM directs the staff to develop an action plan to define a practical strategy for implementation and address technical issues, such as model uncertainty, external events, and human performance issues. He said the final plan is due to the Commission by July 2004. Mr. Parry then summarized the four different phases of the approach.

Mr. Parry used the flow chart on Slides 17 and 18 to explain the implementation of the approach. He discussed how Box 6 of Slide 17 would discourage adoption of PRAs without an associated standard and, thereby, it would encourage development of the standard. Mr. Parry said that the level of review for applications in which a PRA scope greater than that for which quality guidance exists was identified as a policy issue. Mr. Parry then discussed an informal program to monitor PRA quality during review of the application and periodic check against SPAR models. Mr. Parry discussed seven tasks to be completed in order to implement the action plan: (1) identify types of applications, (2) identify guidance documents needed for phase 2 for each application type, (3) identify staff activities for developing the necessary guidance documents, (4) define the schedule for transition to Phase 2 as a function of application type, (5) develop necessary guidance documents, (6) develop Phase 3 guidance, (7) continued ad hoc monitoring of PRA quality.

General Comments and Observations From the Subcommittee Members

- Dr. Apostolakis asked if the availability of standards and guidance documents distinguishes the phases. Mr. Parry, generally, agreed. He went on to emphasize guidance documents for performing the application, such as Regulatory Guide 1.177 and guidance documents for assessing the appropriate quality for those applications. Mr. Parry thought the guidance document for the application has to specify the appropriate quality for the PRA.

- Dr. Apostolakis and Mr. Rosen discussed the difference between “state of the art” and “state of the practice,” with Mr. Parry. They acknowledged that the Commission’s policy statement refers to the “state of the art” in Phase Four. It was agreed that this was a level higher than “state of the practice” because it includes innovative methods that have not yet been adopted by most practitioners. Dr. Apostolakis and Mr. Rosen agreed that “state of the art” should be encouraged but that the eventual “state of the practice” may be acceptable for all conceived applications.
- Dr. Apostolakis gave binary decision diagrams as an example of “state of the art” because you don’t need to cut off values. He said that you do not necessarily have to apply this method in order to make a regulatory decision because existing tools are good enough. Dr. Apostolakis mentioned that there have been discussions of including binary decisionmaking models in codes, such as Sapphire. He said this demonstrates that the “state of the practice” follows slowly behind, but it is aware of what the “state of the art” is.
- Mr. Parry, NRR, said that the Technical Specification 4(b) Initiative is an example where a fire PRA would be extremely useful, if not essential and yet the standards don’t exist. Mr. Parry pointed out that for controversial issues which are not addressed by a standard will be decided on an ad hoc basis by an assigned reviewer.
- Mr. Tschiltz, NRR, believed there were some licensees who are going to wait till the standard is in place before they invest in developing those PRAs because they don’t want to develop something that’s not in accordance with the standard that’s going to come out a year or two later.
- Dr. Apostolakis complained that in some cases human error probability is not appropriately considered. He gave the example where a particular action takes 42 minutes and has a human error probability of 1 E-03. Because of a power uprate the action must be completed in 39 minutes and the licensee assumes the human error probability goes to 1.5 E-03 to compensate.
- Dr. Bonaca said that the staff’s draft plan was a good interpretation of the SRM. Dr. Bonaca could see the result of incentives for the industry to develop standards. He was concerned that this would be the end of the progress in improvement of methods. He saw the draft plan as providing incentive for people to get standards in place and proceed to better models. He thought the Full Committee should comment where the plan may be counter productive by giving low priority to applications that have a scope for which a standard does not exist.
- Mr. Sieber said that the staff has developed the concept of a plan that addresses the necessary elements to fulfill the requirements of the SRM. Beyond that he did not think that the staff had addressed all of the technical issues that are outstanding at this time but they would be forthcoming.
- Dr. Ford thought that the issue of safety culture should have been addressed by the plan. Dr. Ford was concerned that the plan depends on the collaboration between the NRC, licensee and the standards organizations, and he didn’t see that interaction being there.

Specifically he mentioned the amount of time it has taken to develop and endorse previous standards.

- Mr. Rosen felt the policy statement was headed in the right direction and he supported it. Mr. Rosen was concerned that Phase 3 is held hostage by the schedule for completion of the standards. Mr. Rosen felt that to have a requirement for staff review and approval as part of Phase 4 is unrealistic and well beyond anything the staff could ever do. auctioned 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. Kress said he liked the draft implementation plan. He said he was not as concerned about the development of holding Phase 3 hostage. He thought that industry would see the benefit in this approach and would not lag. Dr. Kress did not think the Committee was ready to make any recommendation on either safety culture or aging in PRA at this time. Dr. Kress felt that the technical issues should receive higher priority and the guidance on how to deal with uncertainty should receive the highest priority. Dr. Kress felt that the staff should review and approve PRAs as part of Phase 4.

STAFF AND INDUSTRY COMMITMENTS

The staff committed to briefing the Full Committee at the 512th Meeting.

SUBCOMMITTEE DECISIONS AND ACTIONS

Dr. Apostolakis committed to drafting bullets for possible presentation at the upcoming meeting with the Commissioners.

BACKGROUND MATERIALS PROVIDED TO THE SUBCOMMITTEE PRIOR TO THIS MEETING

1. Subcommittee status report, including agenda.
2. Staff Requirements Memorandum from Annette Vietti-Cook, Secretary, to Chairman Diaz, Subject: COMNJD-03-0002 - Stabilizing the PRA Quality Expectations and Requirements, dated December 18, 2003.
3. Letter from Gareth Parry, NRR, to Michael R. Johnson and Suzanne Black, Division of Systems Safety and Analysis, NRR, Subject: Draft Plan for Implementation of the Commission's Phased Approach to PRA quality, March 15, 2004.

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.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D.C. 20555-0001

February 23, 2004

MEMORANDUM TO: Sam Duraiswamy, Acting Associate Director
for Technical Support, ACRS/ACNW

FROM:

Michael R. Snodderly
Michael R. Snodderly, Senior Staff Engineer

SUBJECT:

FEDERAL REGISTER NOTICE REGARDING THE MEETING
OF THE ACRS SUBCOMMITTEE ON RELIABILITY AND
PROBABILISTIC RISK ASSESSMENT, MARCH 25, 2004,
ROCKVILLE, MARYLAND

Attached is a Federal Register Notice regarding the subject meeting. Please have this Notice transmitted for publication as soon as possible.

Attachment:
FR Notice

cc with Attachment:

G. Apostolakis, ACRS

J. Larkins, ACRS

D. Weaver, OEDO

J. Szabo, OGC

A. Bates, SECY

S. Burnell, OPA

D. Harrison, NRR

S. Magruder, NRR

S. Black, NRR

M. Tschiltz, NRR

PMNS

Public Document Room

NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETING OF THE ACRS SUBCOMMITTEE ON RELIABILITY
AND PROBABILISTIC RISK ASSESSMENT

Notice of Meeting

The ACRS Subcommittee on Reliability and Probabilistic Risk Assessment will hold a meeting on March 25, 2004, Room T-2B1, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Thursday, March 25, 2004 - 1:00 p.m. until the conclusion of business

The purpose of this meeting is to discuss the NRC staff's draft action plan for the implementation of the phased approach to PRA Quality. The Subcommittee will hear presentations by and hold discussions with representatives of the NRC staff regarding this matter. The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Members of the public desiring to provide oral statements and/or written comments should notify the Designated Federal Official, Mr. Michael R. Snodderly (telephone: 301-415-6927) five days prior to the meeting, if possible, so that appropriate arrangements can be made. Electronic recordings will be permitted during the meeting.

Further information regarding this meeting can be obtained by contacting the Designated Federal Official between 7:30 a.m. and 4:15 p.m. (ET). Persons planning to attend this meeting are urged to contact the above named individual at least two working days prior to the meeting to be advised of any potential changes to the agenda.

Date 2/23/04


Sam Duraiswamy, Acting Associate Director
for Technical Support, ACRS/ACNW

**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETING OF THE SUBCOMMITTEE ON
RELIABILITY AND PROBABILISTIC RISK ASSESSMENT
ROOM T-2B3, 11545 ROCKVILLE PIKE, ROCKVILLE MD
MARCH 25, 2004**

Contact: Michael Snodderly (301-415-6927, mrs1@nrc.gov)

-PROPOSED SCHEDULE-

	TOPICS	PRESENTERS	TIME
I.	Opening Remarks	G. Apostolakis, ACRS	¹⁶ 1:00 -1:05 p.m.
II.	Briefing on Action Plan for Stabilizing the PRA Quality Expectations and Requirements <ul style="list-style-type: none"> • Objectives • Definition of Phases • Implementation 	G. Parry, NRR M. Drouin, RES D. Harrison, NRR S. Magruder, NRR	1:05-2:45 p.m.
	BREAK		2:45-3:00 p.m. 2:55 - 3:15 PM
III.	Briefing on Action Plan for Stabilizing the PRA Quality Expectations and Requirements (Continued) <ul style="list-style-type: none"> • Staff and Industry Activities • Resolution of Technical Issues • Schedule 	G. Parry, NRR M. Drouin, RES D. Harrison, NRR S. Magruder, NRR	3:00 -4:30 p.m. 3:15
IV.	Subcommittee Discussion	G. Apostolakis, ACRS	¹⁰ 4:30 -5:00 p.m.
V.	Adjourn	G. Apostolakis, ACRS	5:00 p.m.

NOTE:

- Presentation time should not exceed 50 percent of the total time allocated for specific item. The remaining 50 percent of the time is reserved for discussion.
- 35 copies of the presentation materials are to be provided to the Subcommittee.

The FEIS describes the proposed action and alternatives to the proposed action, including the no-action alternative. The FEIS assesses the impacts of the proposed action and its alternatives on human health, air quality, water resources, waste management, geology, noise, ecology, land use, cultural resources, socioeconomic, accident impacts, and environmental justice. Additionally, the FEIS analyzes and compares the costs and benefits of the proposed action.

After weighing the impacts, costs, and benefits of the proposed action and comparing alternatives (see Sections 2.6, 4.15, and 7 of the FEIS), the NRC staff, in accordance with 10 CFR 51.91 (d), sets forth its final NEPA recommendation regarding the proposed action. The NRC staff recommend that, unless safety issues mandate otherwise, the action called for is the issuance of the proposed license to FWENC. In this regard, the NRC staff concludes (i) the applicable environmental monitoring program described in Section 6 of the FEIS, and (ii) the proposed mitigation measures discussed in Section 5 of the FEIS would eliminate or substantially lessen any potential adverse environmental impacts associated with the proposed action.

The NRC staff has concluded that the overall benefits of the proposed Idaho Spent Fuel Facility outweigh the disadvantages and costs, based on consideration of the following:

- The proposed Idaho Spent Fuel Facility will have small impacts on the physical environment and human communities in the vicinity. Long-term impacts of the no-action alternative are likely to be similar to the impacts of the proposed action.
- The proposed action is designed to support the INEEL mission and comply with agreements and commitments negotiated by DOE, including the 1995 Settlement Agreement among DOE, the State of Idaho, and the U.S. Navy to remove SNF from Idaho by 2035.
- Currently, most of the SNF to be received by the proposed Idaho Spent Fuel Facility is stored at the Idaho Nuclear Technology Center. Transfer distances from current storage locations to the proposed facility are relatively short.
- The current storage configuration does not prepare the SNF for shipment from INEEL to a national HLW repository.

NRC staff in the Spent Fuel Project Office are currently completing the licensing and safety review of FWENC's proposed action. The final licensing

decision is currently scheduled for the Spring of 2004.

Dated at Rockville, Maryland, this 3rd day of February 2004.

For the Nuclear Regulatory Commission.

Lawrence E. Kokajko,

Chief, Environmental and Performance Assessment Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards.

[FR Doc. E4-413 Filed 2-26-04; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

* Advisory Committee on Reactor Safeguards Meeting of the ACRS Subcommittee on Reliability and Probabilistic Risk Assessment; Notice of Meeting

The ACRS Subcommittee on Reliability and Probabilistic Risk Assessment will hold a meeting on March 25, 2004, Room T-2B1, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Thursday, March 25, 2004—1 p.m. Until the Conclusion of Business

The purpose of this meeting is to discuss the NRC staff's draft action plan for the implementation of the phased approach to PRA Quality. The Subcommittee will hear presentations by and hold discussions with representatives of the NRC staff regarding this matter. The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Members of the public desiring to provide oral statements and/or written comments should notify the Designated Federal Official, Mr. Michael R. Snodderly (telephone: 301-415-6927) five days prior to the meeting, if possible, so that appropriate arrangements can be made. Electronic recordings will be permitted during the meeting.

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Dated: February 23, 2004.

Sam Duraiswamy,

Acting Associate Director for Technical Support, ACRS/ACNW.

[FR Doc. E4-414 Filed 2-26-04; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

[Docket Nos. (as shown in the Attachment), License Nos. (as shown in the Attachment), EA-03-009]

In the Matter of All Pressurized Water Reactor Licensees; First Revised Order Modifying Licenses

I

The Licensees identified in the Attachment to this Order hold licenses issued by the Nuclear Regulatory Commission (NRC or Commission) authorizing operation of pressurized water reactor (PWR) nuclear power plants in accordance with the Atomic Energy Act of 1954 and title 10 of the Code of Federal Regulations (10 CFR) part 50.

II

The reactor pressure vessel (RPV) heads of PWRs have penetrations for control rod drive mechanisms and instrumentation systems. Nickel-based alloys (e.g., Alloy 600) are used in the penetration nozzles and related welds. Primary coolant water and the operating conditions of PWR plants can cause cracking of these nickel-based alloys through a process called primary water stress corrosion cracking (PWSCC). The susceptibility of RPV head penetrations to PWSCC appears to be strongly linked to the operating time and temperature of the RPV head. Problems related to PWSCC have, therefore, increased as plants have operated for longer periods of time. Inspections of the RPV head nozzles at the Oconee Nuclear Station, Units 2 and 3 (Oconee), in early 2001 identified circumferential cracking of the nozzles above the J-groove weld, which joins the nozzle to the RPV head. Circumferential cracking above the J-groove weld is a safety concern because of the possibility of a nozzle ejection if the circumferential cracking is not detected and repaired.

Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), which is incorporated into NRC regulations by 10 CFR 50.55a, "Codes and standards," currently specifies that inspections of the RPV head need only include a visual check for leakage on the insulated surface or surrounding area. These inspections may not detect small

STABILIZING THE PRA QUALITY EXPECTATIONS AND REQUIREMENTS

Presentation to ACRS Subcommittee on
Reliability and Probabilistic Risk Assessment
March 25, 2004

D. Harrison, S. Magruder, G. W. Parry,
M. Tschiltz, NRR
M. T. Drouin, RES

1

PURPOSE OF MEETING

- To present the draft action plan for response to SRM COMNJD-03-0002 - Stabilizing The PRA Quality Expectations and Requirements
- To solicit stakeholder input

2

OUTLINE OF PRESENTATION

- Background and objectives
- Definition of phases
- Implementation
- Staff and industry activities
- Resolution of technical issues
- Potential policy issues
- Schedule

3

PRA QUALITY

- Some ambiguity about the meaning of the term “PRA Quality”
- Defined in RG 1.200
 - For a given application, PRA Quality is determined by the appropriateness of
 - Scope
 - Level of detail
 - Technical acceptability
 - The greater the emphasis on risk insights the more stringent the requirements for the PRA in terms of scope, level of detail and assessment of delta risk

4

PURPOSE OF THE SRM

- Commission's objectives:
 - Increase the use of risk insights through the use of high quality, more complete PRAs, thus enhancing safety
 - Provide a pathway for predictability by establishing clear expectations on PRA quality
 - Facilitate near-term progress and enhancement of safety through the use of available methods
 - Create efficiencies in the staff's review of risk-informed applications
 - Strive for increased effectiveness in the longer term

5

APPROACH IN THE SRM

- Adopts a phased approach to achieving an appropriate quality for licensee PRAs for NRC's risk-informed regulatory decision-making
- Allows continued practical use of risk insights while progressing towards more complete, and technically acceptable PRAs

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SRM DIRECTION

- Directs the staff to develop an action plan to:
 - Define a practical strategy for implementation
 - Address the resolution of technical issues, such as:
 - Model uncertainty
 - Seismic and other external events
 - Human performance issues

7

STATUS

- Interoffice (NRR/RES) working group established
- Draft plan made available 3/15
- Soliciting input from stakeholders
- Final plan due to Commission 7/04

8

THE PHASED APPROACH

- The phases are differentiated by the availability of the guidance documents for using PRA in regulatory applications, and establishing that the PRAs are of sufficient quality. These include:
 - industry consensus standards
 - industry guidance documents
 - regulatory guides
- Staff guidance documents addressing performance of reviews are required for implementation.

9

PHASE 1

- Currently in Phase 1
- PRA quality judged only in the context of what is needed for the application - no requirement for the review of the base PRA
- All contributors to risk (operational modes and initiating event types) are addressed
- Contributors to risk not in the scope of the PRA model are addressed in a number of ways including qualitative arguments, bounding analysis, and restricting the scope of application

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PHASE 2

- An application type (“issue-specific”) approach to PRA quality
- PRA quality demonstrated by comparison with an applicable consensus standard for those elements required by the application
- All contributors to risk (operational modes and initiating event types, internal, seismic, fire, etc.) are addressed
- All significant risk contributors applicable to the issue are included in the PRA scope
- Significance of a contributor is determined by whether taking it into consideration could change the decision substantially

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PHASE 2 (Cont'd)

- To achieve Phase 2, guidance must exist for
 - Use of PRA in making the decision (e.g., regulatory guides), including definition of scope
 - Assessment of the quality of the PRA for each scope item used to support the application (e.g., Standards, RG 1.200)

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PHASE 3

- Regulatory framework is in place that enables licensees to develop a base PRA to conform to all the existing Standards in sufficient depth to address all currently envisioned applications
- Phase 3 is scheduled to be completed by December 31, 2008
 - Consistent with schedule for Standards development
- A licensee enters Phase 3 when its base PRA conforms to all the existing Standards in sufficient depth to address all currently envisioned applications

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PHASE 4

- Phase 4 will be reached when a PRA has been developed to the state-of-the-art (e.g., CC III)
- It is recognized that reaching this goal will be resource intensive both for licensees and NRC
- Phase 4 involves direct staff review and approval of licensee PRAs
- This plan does not address Phase 4

14

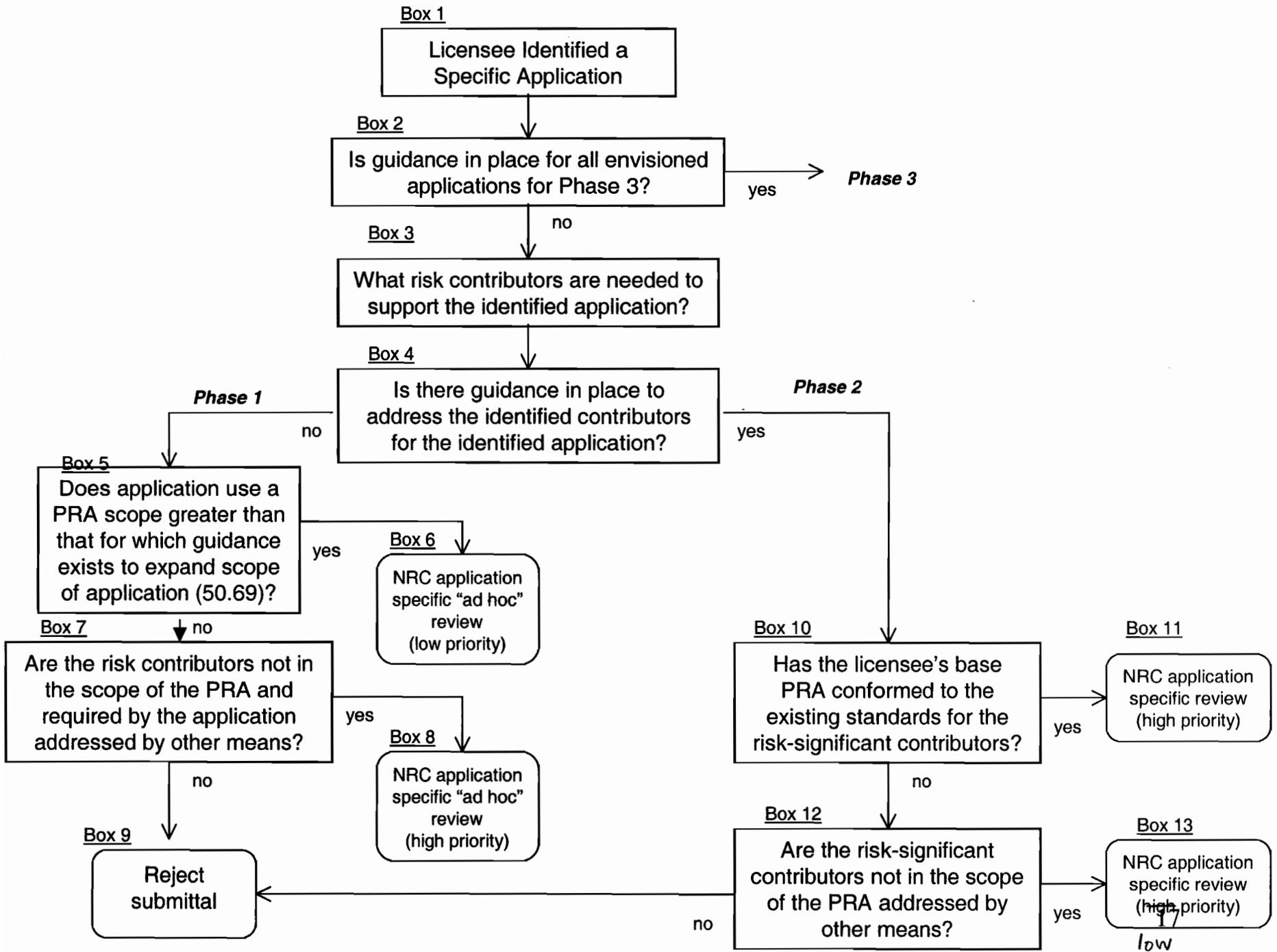
STAFF REVIEW OF PRA

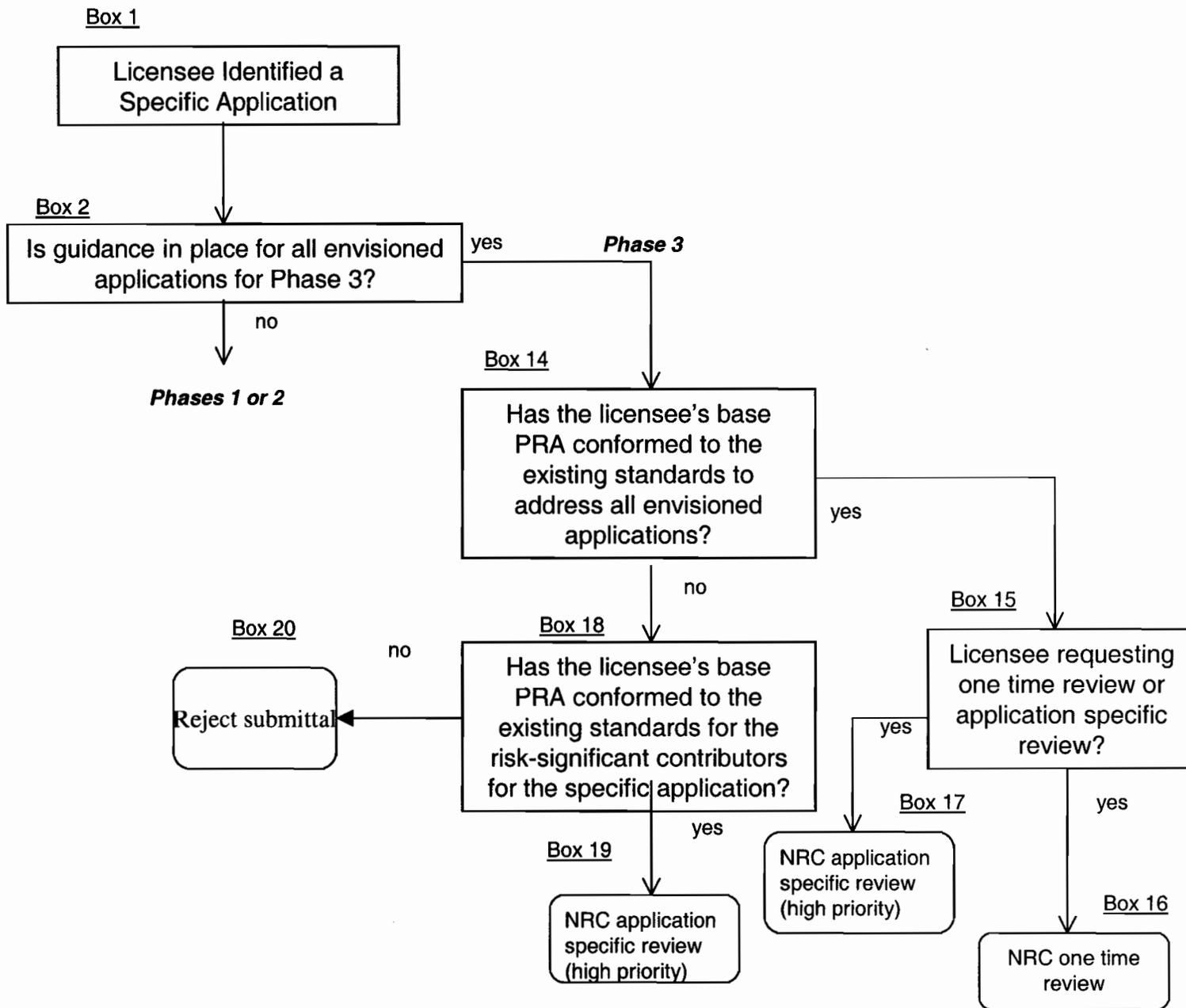
- Phase 1: ad hoc review
- Phase 2: reliance on peer review in accordance with RG 1.200 with audit for each application
- Phase 3: as for Phase 2 but performed one time sufficient to address all applications
- Phase 4: staff review and approval of base PRA

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IMPLEMENTATION

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EXAMPLE

- What could this mean for the current vision of 50.69?
 - The NEI-00-04 categorization process allows for the use of non-PRA methods. SSCs relied on in non-PRA methods are not within scope of re-categorization
 - Currently RG 1.200 together with a Reg Guide endorsing NEI-00-04 would qualify it as a phase 2 application for those licensees using only a level 1 and limited level 2 (LERF) internal events PRA at full power
 - However, for a licensee using a fire PRA in addition to the above, this would remain as a phase 1 application until a standard for a fire PRA is completed and addressed in RG 1.200

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OTHER ISSUES TO BE ADDRESSED IN THE PLAN

- Binning of applications into focus areas
 - Operational applications
 - Licensing basis changes
 - Rulemaking
- Resolution of technical issues and relationship to other staff initiatives, e.g., treatment of uncertainty in decision-making
- Informal program to monitor PRA quality
 - Application reviews
 - Periodic check against SPAR models

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STAFF AND INDUSTRY ACTIVITIES NEEDED TO IMPLEMENT THE PHASED APPROACH

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ACTION PLAN TASKS

- Task 1: Identify types of applications within the following general categories
 - Operational uses (e.g., to support maintenance rule)
 - Oversight program (e.g., use of licensee PRA in phase 3 of SDP)
 - License amendments (e.g., 50.69, risk-informed ISI)
 - Implementation of new rules (e.g., 50.46)

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ACTION PLAN TASKS (Cont'd)

- Task 2: Identify guidance documents needed for Phase 2 for each application type and specify:
 - How PRA results are used in decision-making
 - Scope and level of detail of PRA required
- Some guidance documents already exist, but may need to be modified to address quality expectations

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ACTION PLAN TASKS (Cont'd)

- Task 3: Identify staff activities for developing the necessary guidance documents:
 - Supporting development of and endorsement of PRA standards
 - Updates to regulatory guides (including RG 1.200)
 - Development of regulatory guides for new applications (e.g., 50.69, 50.46)
 - Developing methods and supporting documents for technical issues (e.g., NUREGs)
 - Developing staff implementation guidelines (e.g., SRP, office instructions)

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ACTION PLAN TASKS (Cont'd)

- Task 4: Define the schedule for transition to Phase 2 as a function of application type.
Dependent on:
 - Existence of endorsed standards for significant contributors
 - Ability of licensees to develop peer reviewed PRAs for significant contributors
 - Development of staff guidance document
- Schedule will allow time between endorsement of standards and full implementation

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ACTION PLAN TASKS (Cont'd)

- Task 5: Develop the necessary guidance documents
- Resolve key implementation issues, such as:
 - Levels of review for licensee submittals
 - Definition of significance of a contributor as it relates to the regulatory decisions
 - What does it mean to issue a document “for trial use”

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ACTION PLAN TASKS (Cont'd)

- Task 6: Develop phase 3 guidance
 - An “umbrella” document for all PRA quality requirements sufficient to support all current applications

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ACTION PLAN TASKS (Cont'd)

- Task 7: Continued ad hoc monitoring of PRA quality
 - Use opportunities provided by risk-informed license application reviews, exercising SDP phase 3 reviews, benchmarking of SPAR models and SDP notebooks
- Will phase out as transition to Phase 3 occurs

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INDUSTRY ACTIVITIES

- Develop consensus standards:
 - low power and shutdown PRA (2005)
 - Fire PRA (2005)
- Develop guides for applications (e.g., NEI-00-04)
- Provide update to NEI-00-02 (self-assessment process)

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RESOLUTION OF TECHNICAL ISSUES

- Model uncertainty
 - Guidance document (e.g., NUREG) being developed that addresses the issue of treatment of uncertainties (e.g., model) in both the PRA and in decision making
- Seismic and other external events
 - ANS standard on external events under staff review (preliminary staff position for public review and comment this summer)
 - Above document (on uncertainties) also includes guidance for acceptable alternative methods (e.g., bounding, sensitivity analyses) to a PRA
- Human performance issues
 - NUREG on good HRA practices to supplement the PRA (HRA) standard

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NEXT STEPS

- Finalize plan
- Incorporate stakeholder comments
- Send to Commission in July
 - anticipate policy issues related to implementation

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POTENTIAL POLICY ISSUES

- Level of review for applications in which a PRA scope greater than that for which quality guidance exists is used to expand the scope of application, i.e., increase relaxation (e.g., 50.69)
- Whether licensees are expected to develop Phase 3 PRAs in order to participate in risk-informed regulatory activities

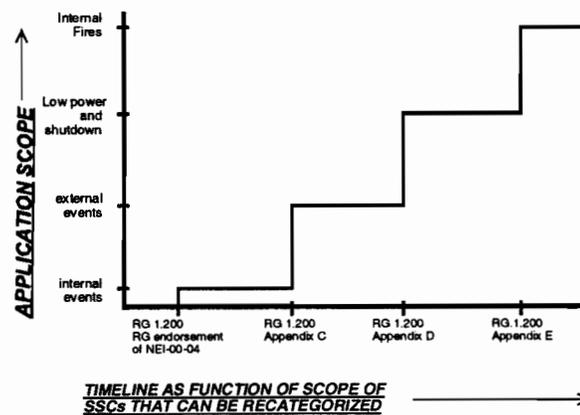
32

SCHEDULE

- Revise plan in response to stakeholder comments (May)
- Return to full ACRS to request letter
 - Concept only (April 15), or
 - Complete plan (?)
- Forward to EDO by end of June, 2004

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BACKUP SLIDE



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REQUEST FOR COURT REPORTING SERVICE

NRC

DATE OF REQUEST

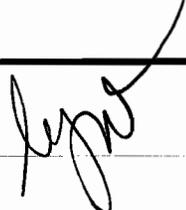
03/01/2004

REQUESTING OFFICE

REQUESTER

ACRS

Barbara Jo White



TIME OF REQUEST

9:00am

NAME AND TYPE OF PROCEEDING

DOCKET NUMBER(S)

RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

LOCATION OF PROCEEDING

**ROOM T-2B1
11545 ROCKVILLE PIKE
ROCKVILLE, MD**

CONTACT(S) AND TELEPHONE NUMBER(S)

Barbara Jo White - 301-415-7130

CHAIRMAN / MEMBERS

DATE(S) OF PROCEEDING

Thursday, March 25, 2004

TIME(S) OF PROCEEDING (FROM - TO)

1:00 p.m. - 5:00 p.m.

ADDITIONAL INFORMATION

**Contact @ Meeting: Mr. Michael R. Snodderly, DFO
Reminder: 3-copies of Handouts should be given to the Court Reporter (1-original, 1-extra and 1-working).**

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TITLE:				

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NAME	DATE	NAME	DATE

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