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

May 17, 2000

MEMORANDUM TO: ACRS Members

FROM: Michael Markley, Senior Staff Engineer
ACRS

SUBJECT: CERTIFICATION OF THE MINUTES OF THE JOINT MEETING OF THE ACRS SUBCOMMITTEES ON PLANT OPERATIONS AND ON RELIABILITY AND PROBABILISTIC RISK ASSESSMENT APRIL 28, 2000, ROCKVILLE, MARYLAND

The minutes of the subject meeting, issued May 8, 2000, have been certified as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc: via E-mail
J. Larkins
H. Larson
S. Duraiswamy
ACRS Staff Engineers
ACRS Fellows

CERTIFIED BY: Date:5/8/00
J. Sieber - 5/12/00

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
JOINT MEETING OF THE SUBCOMMITTEES ON PLANT OPERATIONS
AND ON RELIABILITY AND PROBABILISTIC RISK ASSESSMENT
MEETING MINUTES - APRIL 28, 2000
ROCKVILLE, MARYLAND

INTRODUCTION

The ACRS Subcommittee on Plant Operations met on April 28, 2000, at 11545 Rockville Pike, Rockville, MD, in Room T-2B3. The purpose of this meeting was to discuss NRC staff efforts in the area of risk-informed technical specifications and associated industry initiatives proposed by the Risk-Informed Technical Specification Task Force (RITSTF). The Subcommittees discussed Initiative 2 on missed technical specification requirements and Initiative 3 on Mode restraint flexibility.

The entire meeting was open to public attendance. Mr. Michael T. Markley was the cognizant ACRS staff engineer for this meeting. The meeting was convened at 8:30 a.m. and adjourned at 1:55 p.m.

ATTENDEES

ACRS Members

J. Sieber, Chairman
G. Apostolakis, Co-Chairman
J. Barton, Member
M. Bonaca, Member
T. Kress, Member
R. Seale, Member
W. Shack, Member
R. Uhrig, Member
G. Wallis, Member
M. Markley, ACRS Staff

Principal NRC Speakers

B. Dennig, NRR*
J. Foster, NRR
S. Newberry, NRR
M. Reinhart, NRR

Principal Industry Speakers

B. Bradley, NEI*
R. Hill, BWROG*
D. Hoffman, EXCEL Consulting
P. Moieni, SCE*
R. Schneider, CEOG

NRR Office of Nuclear Reactor Regulation
NEI Nuclear Energy Institute
BWROG Boiling Water Reactor Owners Group

CEOG Combustion Engineering Owners Group
SCE Southern California Edison Company

There were approximately 7 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 THE SUBCOMMITTEE CHAIRMAN

Mr. John D. Sieber, Vice Chairman of the ACRS Subcommittee on Plant Operations, convened the meeting at 8:30 a.m. He introduced Dr. Apostolakis as the Chairman of the Subcommittee on Reliability and Probabilistic Risk Assessment as well as the ACRS Members in attendance. He stated that the purpose of this meeting was to discuss NRC staff efforts in the area of risk-informed technical specifications and associated industry initiatives proposed by the Risk-Informed Technical Specification Task Force (RITSTF). He noted the Subcommittee on Reliability and Probabilistic Risk Assessment met on December 16, 1999, to discuss these matters. He stated that the Subcommittees would discuss Initiative 2 on missed technical specification surveillance requirements and Initiative 3 on Mode restraint flexibility.

Mr. Sieber stated that the Subcommittee had received no written comments or requests for time to make oral statements from members of the public.

DISCUSSION OF AGENDA ITEMS

NRC Presentation

Mr. Robert Dennig, NRR, led the discussion for the NRC staff. Mr. Mark Reinhart, NRR, provided supporting discussion. Mr. Scott Newberry, NRR, also participated. Significant points made during the presentation include:

- The staff's vision statement proposes to "maintain or improve safety by risk informing technical specification requirements that govern operation, including incorporation of integrated decision making to restore the design basis configuration."

- Most changes are related to improved limiting conditions for operation and surveillance requirements. Changes are not expected for safety limits, limiting safety system settings, design features, and administrative controls.

- The process of integrated decisionmaking, described in Regulatory Guide 1.174, is expected whereby licensees will still be required to comply with the regulations, maintain defense in depth and safety margins, and monitor performance. The process will allow for incremental changes in risk.

- Risk-informed technical specifications will rely more heavily on licensee configuration risk management programs (CRMP) and the corrective action program.

Industry Presentation

Mr. Biff Bradley of the Nuclear Energy Institute (NEI) introduced the industry representatives in attendance and provided a overview presentation concerning the relationship between technical specifications and the Maintenance Rule, in accordance with 10 CFR 50.65(a)(4). He also discussed the role of CRMP. Messrs. Rick Hill of the Boiling Water Reactor Owners Group (BWROG), Don Hoffman of EXCEL Consulting, Ray Schneider of the Combustion Engineering Owners Group (CEOG), and Parviz Moieni of Southern California Edison provided presentations and supporting discussion. Significant points made during the presentation include:

- NEI proposes to maximize the use of 10 CFR 50.65(a)(4). The goal is to make technical specifications and 10 CFR 50.65(a)(4) complementary. Technical specification aspects addressed by (a)(4) include: allowed outage times, Mode changes and end states (e.g., COLD SHUTDOWN), and action statement requirements. Technical specification aspects not covered by (a)(4) include: safety limits, limiting safety system settings, and surveillances.

- NEI is establishing an executive-level technical specification working group to provide policy-level guidance and coordination of risk-informed technical specifications with (a)(4) of the Maintenance Rule.

- The industry Owners Groups view the major benefit of risk-informed technical specifications to be operational flexibility. It will enable the licensees to avoid high risk plant transitions (i.e., Mode changes) and unnecessary plant shutdowns in favor of improved safety decisions, fewer Notices of Enforcement Discretion, and fewer delays in plant startup/restart.

SUBCOMMITTEE COMMENTS, CONCERNS, AND RECOMMENDATIONS

Subcommittee members raised the following significant points during its discussion with the staff and industry representatives:

- Drs. Seale and Mr. Sieber questioned the staff's development of risk analysis tools to support risk-informed decisionmaking for risk-informed technical specifications. In particular, they questioned whether the tools should exist or be developed before changing the technical specifications. The staff stated that licensees have a variety of risk analysis tools including risk monitors. The staff stated that the NRC has generic tools including Standardized Plant Analysis Risk (SPAR) models. Dr. Apostolakis questioned whether models are available for evaluating transition risk. He also asked how these models handle risk spikes. Representatives of the Combustion Engineering Owners Group (CEOG) stated that they have developed models for transition risk but did not discuss in detail how risk spikes are treated. Drs. Apostolakis and Bonaca requested to review the subject models and the CEOG agreed to make them available for review by the ACRS.

- Mr. Sieber and Dr. Bonaca questioned how extensive the use of expert panels will be in lieu of quantitative analysis. The staff stated that expert panels will be used by

licensees but noted that they will likely have some analyses available depending on the item being requested. Dr. Bonaca expressed the view that it should be a disciplined process rather than an *ad hoc* judgment made during a period of urgent need.

- Mr. Sieber questioned how the NRC would know that technical specification surveillances were missed. The staff stated that there would be increased reliance on the resident inspectors in the revised reactor oversight process (RROP). Mr. Sieber questioned how the staff would evaluate collective increases in risk from missed surveillances. The staff stated that they would evaluate risk using the significance determination process (SDP) which may involve integrating conditional core damage probability (CCDP) over time. Dr. Kress expressed concern about the quantitative risk analysis associated with CCDP.

- Mr. Sieber questioned whether the technical specifications would be expanded in certain areas to include components identified as being risk significant. Industry representatives stated that these risk significant components not currently covered in technical specifications would be addressed through the CRMP and (a)(4). Mr. Sieber expressed the view, based on his experience as a formerly licensed operator, that operators like to know the operating parameters for the plant and expressed some reservation about the clarity of operating the plant based on expert panels and (a)(4). NEI stated that the new executive-level working group plans to address issues such as this in moving forward on the harmonization of technical specifications and (a)(4).

- Mr. Sieber questioned the potential for risk-informed technical specifications to erode the plant safety culture. In particular, Mr. Sieber questioned the potential for lax personnel attitudes with respect to missing surveillances and noted that it is difficult to assess plant safety status and equipment degradation if surveillances are not completed. Industry representatives stated that missed surveillances are rare occurrences and noted that licensees would still have to take appropriate action if there was uncertainty about equipment passing the test.

Overall, members of the Subcommittees expressed generally favorable remarks about the proposed initiatives. Dr. Seale stated that the proposed changes were less offensive than they appeared based on review of the written materials. Dr. Kress expressed the view that risk-informing the technical specifications was good but noted that there were a number of missing pieces missing pieces (e.g., risk criteria, uncertainty, defense in depth, and handling risk spikes).

STAFF AND INDUSTRY COMMITMENTS

During the discussion of risk analysis tools, representatives of the Combustion Engineering Owners Group (CEOG) stated that they have developed models for transition risk. Drs. Apostolakis and Bonaca requested to review the subject models and the CEOG agreed to make them available for review by the ACRS.

SUBCOMMITTEE DECISIONS

At the conclusion of the meeting, Dr. Apostolakis stated that the staff had been responsive to the Subcommittee's prior comments and suggestions in developing a vision statement, goals, and objectives, etc. He suggested that a Committee report/letter may not be warranted at this time. Mr. Sieber questioned whether the staff needed a letter from the Committee during the May 2000 ACRS meeting. The staff stated that a letter was not needed and the Subcommittees subsequently decided to recommend that the ACRS not prepare a report at this time.

FOLLOW-UP ACTIONS

None.

BACKGROUND MATERIALS PROVIDED TO THE SUBCOMMITTEE PRIOR TO THIS MEETING

1. Subcommittee agenda.
2. Subcommittee status report.
3. Letter dated November 17, 1999, from James W. Davis, NEI, to William D. Beckner, NRC, Subject: Initiative 2 and 3 industry submittals and associated requests for information/comment.
4. Written handouts dated April 13, 1999, concerning a meeting between the NRC staff and industry representatives on risk-informed technical specifications.

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Note: Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, 2120 L Street, N.W. Washington, D.C. 20006, (202) 634-3274, or can be purchased from Ann Riley & Associates, Ltd., (Court Reporters and Transcribers) 1250 I Street, NW, Suite 1014, Washington, D.C. Rhode Island Avenue, N.W. Washington, D.C. 20036 (202) 842-0034.

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

MEMORANDUM TO: Michael T. Markley, Senior Staff Engineer

FROM: John D. Sieber, Vice Chairman
Plant Operations Subcommittee

George Apostolakis, Chairman
Reliability and Probabilistic Risk Assessment Subcommittee

SUBJECT: CERTIFICATION OF THE SUMMARY/MINUTES OF THE JOINT MEETING OF THE ACRS SUBCOMMITTEES ON PLANT OPERATIONS AND ON RELIABILITY AND PROBABILISTIC RISK ASSESSMENT, APRIL 28, 2000 - ROCKVILLE, MARYLAND

I do hereby certify that, to the best of my knowledge and belief, the minutes of the subject meeting on April 28, 1999, are an accurate record of the proceedings for that meeting.

John D. Sieber 5-12-00

John D. Sieber, Vice Chairman Date
Plant Operations Subcommittee

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

PRE-DECISIONAL

May 8, 2000

MEMORANDUM TO: John D. Sieber, Vice Chairman
Plant Operations Subcommittee

George Apostolakis, Chairman
Reliability and Probabilistic Risk Assessment Subcommittee

FROM: Michael T. Markley, Senior Staff Engineer

SUBJECT: WORKING COPY OF THE MINUTES OF THE JOINT MEETING OF THE ACRS SUBCOMMITTEES ON PLANT OPERATIONS AND ON RELIABILITY AND ON PROBABILISTIC RISK ASSESSMENT, APRIL 28, 2000, 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. Copies are being sent to each ACRS Member who attended the meeting for information and/or review.

Attachment:
As Stated

cc: ACRS Members
J. Larkins
H. Larson
S. Duraiswamy
ACRS Staff and Fellows

Master
MTM

REVISED 4/27/00

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETING OF THE JOINT SUBCOMMITTEES ON PLANT OPERATIONS
AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT
ROOM T-2B3, 11545 ROCKVILLE PIKE, ROCKVILLE, MD
APRIL 28, 2000

ACRS Contact: Michael T. Markley (301) 415-6885

- PROPOSED SCHEDULE -

	TOPIC	PRESENTER	TIME
1)	**Introduction**		8:30-8:35 am
•	Review goals and objectives for this meeting	J. Sieber, ACRS	
•	Review points raised during December 16, 1999 Subcommittee meeting concerning NRC staff activities in risk-informed technical specifications (TS) and industry initiatives proposed by Risk-Informed Technical Specification Task Force (RITSTF)	G. Apostolakis, ACRS	~~9:30~~ 10:15 ~~9:50~~
2)	**Introductory Presentation**		8:35-~~9:00~~ am
•	Introductory remarks	S. Newberry, NRR ~~R. Dennig, NRR~~	
•	Discussion of vision statement, goals , and objectives; purpose and application of TS in plant activities	R. Dennig, NRR ← J. Foster, NRR M. Reinhart, NRR	
•	Discussion of need for TS improvement, including risk considerations (e.g., quantitative versus qualitative)	B. Bradley, NEI ~~D. Hoffman, ETCEL~~ R. Hill, BWROG	
	X BREAK X		10:15 - 10:30 am
3)	**Initiative 2 Presentation**		10:30 - 11:25 ~~9:00 10:15~~ am
•	Discussion of industry proposal for missed TS surveillance requirements	B. Bradley, NEI ~~R. Hill, BWROG~~ R. Schneider, CEOG ~~P. Mooni, SCE~~ D. Hoffman, ETCEL	
•	Staff perspectives on issues requiring resolution	B. Dennig, NRR M. Reinhardt, NRR	
	~~** BREAK **~~		~~10:15-10:30 am~~

4)	**Initiative 3 Presentation**		11:25- ~~10:30-12:00 noon~~
•	Discussion of industry proposal for Mode restraint flexibility	B. Bradley, NEI ~~R. Hill, BWROG~~ R. Schneider, CEOG ~~P. Moeni, SCE~~ D. Hoffman, ETCEL	
•	Staff perspectives on issues requiring resolution	B. Dennig, NRR M. Reinhardt, NRR	
	**** LUNCH ****		12:00-1:00 pm
5)	**Discussion of other Initiatives**		1:25 1:00-~~1:30~~ pm
•	Initiative 1: Safe end states	B. Bradley, NEI	
•	Initiative 4: Replace allowed outage times with configuration risk management	D. Hoffman, ETCEL R. Hill, BWROG R. Schneider, CEOG	
•	Initiative 5: Optimize surveillance requirements	P. Moeni, SCE	
•	Initiative 6. Revise Limiting Condition for Operation for TS 3.0.3		
•	Initiative 7. Operability versus functionality		
6)	**General Discussion and Adjournment**		1:55 pm 1:30-~~2:30 pm~~
•	General discussion and comments by Members of the Subcommittee; items for May 11-13, 2000 ACRS meeting	J. Sieber, ACRS G. Apostolakis, ACRS	

Note: **Presentation time should not exceed 50% of the total time allocated for a specific item. Number of copies of presentation materials to be provided to the ACRS - 35.**

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

PLANT OPERATIONS AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

APRIL 28, 2000
Today's Date

ATTENDEES - PLEASE SIGN BELOW

PLEASE PRINT

NAME	AFFILIATION
Thomas Morgan	SCIENTECH, Inc.
Rick Hill	GE
Parviz Moieni	SCE
Donald R Hoffman	TSTF / EXCEL
Biff Bradley	NEI
Ray Schneider	ABB
Jerry Holm	SPC

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

PLANT OPERATIONS AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

APRIL 28, 2000
Today's Date

NRC STAFF SIGN IN FOR ACRS MEETING

PLEASE PRINT

NAME	BADGE #	NRC ORGANIZATION
Mark Reinhart	B-6988	NRR/DSSA/SPSB
JACK FOSTER	B-8044	NRR/DRIP/RTSB
Bob Dennig	B-6588	NRR/DSSA/SPSB
Scott Newberg	A-7579	NRR DRIP
[redacted]		
Millard Wohl	B-7295	NRR/DSSA/SPSB
MAGDALEAN W WESTON	B 7260	ACRS
Nick Salter	B-7065	NRR/DSSA/SPSB
Gareth Parry	B-8060	NRR/DSSA
[illegible]		

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

PLANT OPERATIONS AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

APRIL 28, 2000
Today's Date

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Thomas Morgan	SCIENTECH, Inc.
Rick Hill	GE
Parviz Moieni	SCE
Donald R Hoffman	TSTF / EXCEL
Biff Bradley	NEI
Ray Schneider	ABB
Jerry Holm	SPC

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

PLANT OPERATIONS AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

APRIL 28, 2000
Today's Date

NRC STAFF SIGN IN FOR ACRS MEETING

PLEASE PRINT

NAME	BADGE #	NRC ORGANIZATION
Mark Reinhart	B-6988	NRR/DSSA/SPSB
Jack Foster	B-8044	NRR/DRIP/RTSB
Bob Dennig	B-6588	NRR/DSSA/SPSB
Scott Newberry	A-7579	NRR DRIP
[redacted]		
Millard Wohl	B-7295	NRR/DSSA/SPSB
MAGGALEAN W WESTON	B-7260	ACRS
Nick Sulton	B-7065	NRR/DSSA/SPSB
Gareth Parry	B-8060	NRR/DSSA
[illegible]		

INTRODUCTORY STATEMENT BY THE CHAIRMAN OF THE
SUBCOMMITTEES ON PLANT OPERATIONS AND ON
RELIABILITY AND PRA
11545 ROCKVILLE PIKE, ROOM T-2B3
ROCKVILLE, MARYLAND
APRIL 28, 2000

The meeting will now come to order. This is a meeting of the ACRS Subcommittees on Plant Operations and on Reliability and Probabilistic Risk Assessment. I am Jack Sieber, Vice Chairman of the Subcommittee on Plant Operations. George Apostolakis is Chairman of the Subcommittee on Reliability and PRA.

ACRS Members in attendance are: John Barton, Mario Bonaca, Thomas Kress, Robert Seale, William Shack, Robert Uhrig, ~~and Gramm Wallis?~~

The purpose of this meeting is to discuss NRC staff and industry initiatives related to risk-informed technical specifications. The Subcommittees will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full Committee. Michael T. Markley is the Cognizant ACRS Staff Engineer for this meeting.

The rules for participation in today's meeting have been announced as part of the notice of this meeting previously published in the *Federal Register* on April 5, 2000.

A transcript of the meeting is being kept and will be made available as stated in the Federal Register Notice. It is requested that speakers first identify themselves and speak with sufficient clarity and volume so that they can be readily heard.

We have received no written comments or requests for time to make oral statements from members of the public.

(Chairman's Comments-if any)

- Reliability and PRA Subcommittee met on December 16, 1999, to discuss initiatives proposed by the Risk-Informed Technical Specification Task Force (RITSTF).
- Today, the Subcommittees will discuss:
    - Initiative 2 on missed technical specification surveillance requirements,
    - Initiative 3 on Mode restraint flexibility, and
    - Plans for submittal and review of other RITSTF initiatives.

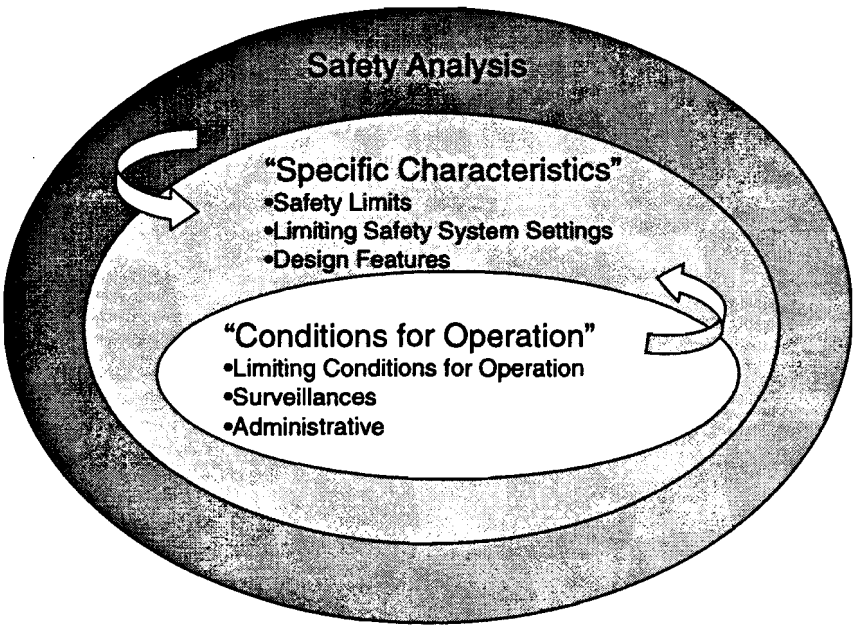
We will now proceed with the meeting and I call upon Messrs. Bob Dennig and Mark Reinhart, NRR, to begin.

Markley
(1)

ACRS Joint Subcommittees on Plant Operations & Reliability and Probabilistic Risk Assessment

Risk-Informed Technical Specifications

Robert Dennig, Technical Specifications Branch
Mark Reinhart, Probabilistic Safety Assessment Branch
Office of Nuclear Reactor Regulation
April 28, 2000



Vision

Maintain or improve safety by risk informing technical specification requirements that govern operation, including incorporation of integrated decision making to restore the design basis configuration.

Proposed Change

- Maintain in general
  - Safety Limits
  - Limiting Safety System Settings
  - Design Features
  - Administrative Controls
- Improve LCO & SR (RISK INFORMED)
  - *How* to restore Design Basis
  - Flexibility and location of SR

Not Changing

Subject of proposed changes

Integrated Risk-Informed Technical Specifications

- In Accordance with Current Rule
- Integrated Acceptably Low Risk Locus
  - At Power, Transition, Mode Specific Risk
  - Compensatory Actions
    - » Success Paths: Least Risk or Most Risk Reducing
    - » Identify and Avoid High Risk Situations

Licensee Program

- Formal process
- Evaluate configuration and make decision
  - Criteria Levels
  - Expert Panel
  - Appropriate Management Decisions
  - Compensatory Measures
- Performance Indicator(s)

Markley
(2)

Industry Initiatives on Technical Specifications

ACRS Subcommittees

April 28, 2000

NEI

Evolution of Plant Configuration Control

- Custom Tech Specs
- Standard Tech Specs
- NUMARC 91-06
- Improved Standard Tech Specs
- Risk-informed line item improvements
- Maintenance Rule 10CFR50.65(a)(4)

NEI

Current Opportunity

- Advent of MR (a)(4) requirement presents conflict with existing TS (and principle opportunity for reform)
- Goal: effect regulatory changes that make TS and MR (a)(4) complementary
- Identified to Commission as industry priority

NEI

50.65 (a)(4) provisions

- Assess and manage risk resulting from maintenance activities
  - on line/shutdown
- (a)(4) much better at addressing multiple component outages
  - Scope and process of (a)(4) are risk-informed
  - Scope and process of TS are deterministic

NEI

50.65 (a)(4) - Continued

- Objective: manage plant risk such that existing baseline risk level is maintained
- Addresses temporary and aggregate risk impacts of planned and emergent configurations
- Results of (a)(4) evaluation may be inconsistent with TS

NEI

50.65 (a)(4) - Continued

- TS aspects addressed by (a)(4)
  - Allowed outage times
  - Mode changes, end states
  - Action requirements
- TS aspects not addressed by (a)(4)
  - Safety limits, limiting safety system settings
  - Surveillances
  - Others

NEI

Current TS Risk-Informed initiatives

- 1. End states
- 2. Missed surveillances
- 3. Mode change restrictions
- 4. Allowed outage times
- 5. Surveillance tests and intervals
- 6. LCO 3.0.3
- 7. Operability versus availability

NEI

Approach

- 7 existing initiatives are incremental step towards comporting TS and MR (a)(4)
- MR (a)(4) requirements are integral to initiatives
  - e.g., Initiative 2 - missed surveillance is rolled into (a)(4) assessment and treated as emergent condition

NEI

Industry Plans

- NEI is establishing executive level Tech Spec working group to provide policy level guidance and coordination of TS and MR (a)(4)
  - Initiative 4 presents opportunity to move all TS AOTs into (a)(4) type evaluation
  - Next step: TS configuration control elements globally replaced by (a)(4) type evaluation

NEI

Markup
(3)

BWR Owners' Group

Risk Informed Technical Specification Committee

ACRS Subcommittee Meeting

Rick Hill
GENE

BWROG Vision

Purpose & Participants

- The objective of this committee is to enhance current Technical Specifications
  - To reflect the safety significance of the condition or requirement and thereby,
  - In most cases gain additional operating flexibility.
- This is a generic committee which means all BWRs are participating

BWROG is Actively Pursuing

- Initiative 1: RI End State Changes
  - Industry efforts focused on this initiative for 2000.
- Initiative 2: Missed Surveillance Requirement
- Initiative 3: Mode Restraint Flexibility

Initiatives Status

- Initiative 1 was formulated to test the risk informed process
  - The BWR/4 model being developed is more sophisticated than may be needed for Initiative 1, but
  - Other initiatives, such as 4 and 6, may require this model sophistication

Initiatives Status (Continued)

- Initiatives 2 and 3, were viewed by industry and NRC policy issues
  - Initiative 2: BWROG is supporting the draft TSTF where risk evaluations will be done for all surveillances delayed greater than 24 hours.
  - Initiative 3: BWROG is supporting evaluation on a case by case basis. Some generic development may be done in the future.

What are the Opportunities?

- Improve decisions in favor of safety
  - Avoids the transition risk of plant shutdown or configuration changes for non risk-significant problems.
  - Missed surveillances will not force inappropriate urgent plant actions.
  - Longer AOTs for repairs where appropriate
  - Focus on safety significant SSCs maintained and enhanced

- Improve Decisions in Favor of Safety (Continued)
  - Improves decisions on safety when multiple component or LCOs are impacted
- Reduced NRC and utility resource needs
  - Fewer NOEDs
  - Fewer startup delays

What are the Challenges?

- Since Initiative 1 is not as beneficial for BWRs, will BWRs be allowed to pursue remaining in Mode 2 versus Mode 3?
- Will a BWR 4 model + sensitivity analyses be sufficient for other initiatives?
- Will sufficient progress be made before the BWROG annual Executive session to support continued resource expenditure?

SUMMARY

- There is a window of opportunity with the NRC to make substantial use of PRA insights to:
  - Reduce the regulatory burden
  - Increase overall plant safety and performance. RITS is one of these opportunities
  - Reduce costs to correct non-risk significant problems

Markley (4)

RISK INFORMED TECHNICAL SPECIFICATIONS INITIATIVES 2 AND 3

ACRS JOINT SUBCOMMITTEES ON PLANT OPERATIONS AND RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

04/28/00

Don Hoffman, ETCEL

INITIATIVE 2
SR 3.0.3 MISSED TECHNICAL SPECIFICATION SURVEILLANCES (TSTF 358)

- HISTORY OF SR 3.0.3 TO THE CURRENT TECHNICAL SPECIFICATION REQUIREMENTS
- PROBLEM THESE REQUIREMENTS PRESENT
- PROPOSED CHANGE AND HOW PROPOSED CHANGE ADDRESSES THE PROBLEMS OF THE CURRENT TECHNICAL SPECIFICATION
- RISK INFORMED ASPECTS OF THE PROPOSED CHANGE

INITIATIVE 2
SR 3.0.3 MISSED TECHNICAL SPECIFICATION SURVEILLANCES (TSTF 358)

- The current ITS SR 3.0.3 allows a delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is less, to perform a missed Surveillance prior to having to declare the equipment inoperable
- The proposed change will modify SR 3.0.3 to allow a delay period of 24 hours or up to the Surveillance Frequency interval, whichever is longer to perform a missed Surveillance prior to having to declare the equipment inoperable, provided there is appropriate evaluation of this action. The missed Surveillance will be performed at the next opportunity. Any missed Surveillance requiring a change in MODE or plant conditions for performance would be performed at the first reasonable opportunity.
- This change will reduce the need to apply for regulatory relief for the performance of missed Surveillances

CURRENT SR 3.0.3

SR 3.0.3

If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be

declared not met, and the applicable Condition(s) must be entered.

INITIATIVE 3
LCO 3.0.4 MODE RESTRAINT FLEXIBILITY (TSTF 359)

- HISTORY OF LCO 3.0.4 TO THE CURRENT TECHNICAL SPECIFICATION REQUIREMENTS
- PROBLEM THESE REQUIREMENTS PRESENT
- PROPOSED CHANGE AND HOW PROPOSED CHANGE ADDRESSES THE PROBLEMS OF THE CURRENT TECHNICAL SPECIFICATION
- RISK INFORMED ASPECTS OF THE PROPOSED CHANGE

INITIATIVE 3
LCO 3.0.4 MODE RESTRAINT FLEXIBILITY (TSTF 359)

- The current ITS LCO 3.0.4 allows entry into a MODE or other specified condition in the Applicability, while relying on the associated ACTIONS, only if the ACTIONS permit continued operation in MODE or other specified condition in the Applicability for an unlimited period of time, or in those instances where exceptions to LCO 3.0.4 are stated in the individual Specifications
- The proposed change will modify LCO 3.0.4 to allow entry into a MODE or specified condition in the Applicability while relying on the associated ACTIONS, provided that there is appropriate management review and approval, for this action or the ACTIONS to be entered permit continued operation in the MODE or other specified condition in this Applicability for an unlimited period of time

INITIATIVE 3
LCO 3.0.4 MODE RESTRAINT FLEXIBILITY (TSTF 359)

- This change will reduce unnecessary restrictions on startup and the need to apply for regulatory relief to allow entry into a MODE or other specified condition in the Applicability while relying on the associated ACTIONS
- There are frequent startup delays due to maintenance activities which are almost complete
- Allowing continued startup will permit work to be completed without creating error likely situations and avoid unnecessary changes in other activities

CURRENT LCO 3.0.4

LCO 3.0.4

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

Exceptions to this Specification are stated in the individual Specifications. These exceptions allow entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered allow unit operation in the MODE or other specified condition in the Applicability only for a limited period of time.

LCO 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4.

Reviewers's Note: LCO 3.0.4 has been revised so that changes in MODES or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented. In addition, LCO 3.0.4 has been revised so that it is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4. The MODE change restrictions in LCO 3.0.4 were previously applicable in all MODES. Before this version of LCO 3.0.4 can be implemented on a plant-specific basis, the licensee must review the existing technical specifications to determine where specific restrictions on MODE changes or Required Actions should be included in individual LCOs to justify this change; such an evaluation should be summarized in a matrix of all existing LCOs to facilitate NRC staff review of a conversion to the STS.

Markup
(5)

Initiative 3
Mode Change Restraints
PRA Perspective

D. Henneke, Senior PRA Engineer
San Onofre Nuclear Generating Station
Ray Schneider
ABBCENP
April 28, 2000

EDISON
CEOG COMBUSTION ENGINEERING OWNERS GROUP

Purpose

- Modify LCO 3.0.4 to allow entry into specific mode TS ACTION STATEMENT when TS components or trains are inoperable.
  - Entry into TS limited to low / negligible incremental plant risks
  - Risk increase may be offset by benefits of being in desired mode
  - Component/train is expected to be repaired within AOT, with redundant components/trains expected to be operational (defense-in-depth)

EDISON
CEOG COMBUSTION ENGINEERING OWNERS GROUP

Markly
(5A)

ENGINEERING EVALUATION

Figure 5-1
Representative End State Results
SONGS Transition Risk Model

SONGS 2/29/00