

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
1	<p>1. An important element of the proposed process, which is applicable to emergent conditions, is the ability to promptly consider and resolve common cause issues. Guidance is needed on how to identify potential common- cause issues and on strategies and actions to promptly resolve any such issues. Is (will be) plant shutdown an option in this strategy? Please discuss.</p>	<p>PRA models approved for RMTS application must address common cause failure. Common cause failure is a legitimate issue that is currently required to be considered by plant operators when making equipment operability (or inoperability) assessments, and it must also be considered in the RICT evaluation process and associated risk management strategy. While the interim RMTS Guidelines contained general requirements for assessing common cause failure, we have added a new Section 3.5.2.3 to the current draft of the guidelines to address common cause failure consideration in the RMTS process. Shutdown is now, and has always been, included in the strategy via current technical specifications action statements, and must be applied (e.g., via TS 3.0.3) by plants that determine cases where common cause issues result in possible elevated risk configurations.</p>	CCF	CCF, SHD	
2	<p>2. Guidance is required to ensure that the increase in LERF (when equipment important to LERF is out of service) is assessed and considered in the decision-making process when an AOT/CT extension is considered. This guidance should address the adequacy of PRA models for detailed assessments and acceptable bounding-type calculations.</p>	<p>The interim RMTS Guidelines report and the current draft guidelines address ILERP (see Table 3-2) consistent with NRC-endorsed Maintenance Rule guidance. PRA scope and quality requirements outlined in these guidelines and in RG 1.200 are applicable here. Reasonable bounding analyses are those that apply technically-verifiable "conservative" assumptions and/or model simplifications that can be shown to yield conservatively short RICT values. Note that the RMTS Guidelines require that all RICT evaluations be documented and reviewable.</p>	LRF	LRF, QUA	
3	<p>3. Guidance is needed to ensure that uncertainties in PRA models and data do not have a significant impact on the decision-making process. The staff believes that the PRA quality evaluation is not expected to fully address this issue. Please discuss.</p>	<p>Uncertainty is required to be addressed via the RICT evaluations and supporting PRA. The current draft guidelines refer to supplemental requirements addressed via current EPRI work in this area. See text on pp. 3-16 and 3-17 of the current draft. Guidance has been added to focus on the introduction of potential "new" (previously unevaluated) model and/or data uncertainty in the RICT evaluation process.</p>	UNC	UNC	
4	<p>4. Guidance is needed on acceptable ways of calculating and managing the risk increases used in RG 1.174 and other risk criteria. Examples are: (1) Issues related to assessment of configuration risk vs. risk associated with the AOT/CT extensions, (2) credit for contingency actions and compensatory measures, (3) risk increases measured from the "zero maintenance" baseline or the "average maintenance" baseline, (4) bounding calculations and qualitative arguments, (5) tracking aggregate risks, (6) documentation of risk assessments, (7) accounting for uncertainties, (8) areas where plant-specific guidance will be developed, and (9) interfacing with NRC reactor oversight process. Also, if the risks associated with AOT/CT extensions are not assessed separately from the overall configuration risks please explain how the guidance of RG 1.174 will be implemented. Discuss how cumulative risk can be used as a managing metric.</p>	<p>We feel that many of these issues are covered adequately in the interim report and the current draft guidelines, but we provide greater detail below. Permanent AOT/CT extensions are addressed separately via RG 1.177 and 1.174, not via the RMTS, which focuses on temporary configuration risk management. These issues are considered, but, in general, are only quantified when determined necessary to remove conservatism when it appears that the plant may breach conservatively short upper-level RICT thresholds (maximum safety limits). We feel that the essence of RG 1.174 is included in this process. The current draft guidelines document has examples of how cumulative risk can be managed in a plant-specific administrative program. The current draft guidelines require such a program, but we do not intend to establish generic quantitative criteria, as we feel that RG 1.174 guidance is adequate.</p>	RGC	RGC, ACC	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
5	The resolution of the staff's RAIs and comments on the CEOG and STP pilots should be incorporated into the RMTS guidance, as appropriate.	In general, we agree. We will try to keep our guidelines within the spirit of those submittals, and the RITSTF has developed a cross-reference database of these RAIs to assist in the RAI coordination process, but our configuration control for the RMTS Guidelines document focuses on the RAIs for this document only.	IMP	GEN, STP	
6	On page 2-1 it is stated: "Risk informed front-stop times will be established based on single SSC outage guidelines of RG 1.177 or using the traditional non risk-informed standard Tech Specs." Please clarify this statement. The general nature of this statement, and the use of future tense, implies that the industry intends to request major revisions to the current TS AOTs/CTs. Is this the intent?	We agree that this needs to be reworded, as there is no intent to change any front-stop AOTs/CTs via envisioned Initiative 4B RMTS programs. It has been revised in the current draft. Front-stop CT changes would be implemented via separate NRC submittals applying RG 1.177 criteria.	RGC	RGC	
7	On page 2-1 it is stated: " the overall use of the RMTS process will be periodically assessed to demonstrate compliance with RG 1.174 guidance for small risk impact plant modifications (i.e., yearly change less than 1E-5 per year)." Please clarify this statement. Are you referring to permanent changes to the baseline risk (plant modifications) or risk increases due to outages (plant configurations)? Also, provide the basis for interpreting a yearly increase in CDF of up to 1E-5 as small risk impact. Please discuss.	This has been reworded in the current draft guidelines. In Initiative 4B we are referring only to plant temporary configuration risk, not permanent change risk addressed via RG 1.177.	RGC	RGC, ACC	
8	On page 2-1, statements, such as "risk-informed CT (RICT) targets and limits" and "The RICT will have an ultimate maximum CT limit..." are made. Please define the terms, "limit," "max limit" and "ultimate maximum limit" and clarify the relationship among them. The staff expects this document, as a guidance document, to be precise and clear.	We have changed the current draft guidelines to refer to a "target risk management action (RMA)" RICT (the lower-tier RMTS threshold) and a "maximum safety limit" RICT (the upper-tier RMTS limit). We feel that Table 3-2 of the guidelines clearly identifies the RMTS threshold-limit scheme, and we feel that this scheme is consistent with NRC-endorsed maintenance rule guidance.	ACC	DEF	
9	On page 2-1 it is stated: "The RICT is the time from the initiation of a maintenance configuration until....." This definition fails to link the RICT to the time of a specific equipment outage. A simple and clear definition could just state: "The RICT is the time interval that starts when the specific equipment is taken out of service until...." Also, the definition of "maintenance configuration" provided in Appendix A (Glossary of Terms), is confusing. Please discuss.	A RICT is related to a composite maintenance configuration, and therefore may be associated with one or more specific equipment items. The RICT applies to the configuration as a whole, and therefore also applies to all associated TS equipment in affected LCOs. Some example risk profiles are provided in Appendix C of the guidelines. In light of these changes, the definition of "maintenance configuration" in Appendix A should no longer be confusing.	IMP	DEF	
10	On page 2-1 it is stated: ".....application of RICTs for individual maintenance configurations....." Please define the term "individual maintenance configurations."	In the current draft, we direct the reader to the "maintenance configuration" definition in Appendix A of the report. Examples are provided in Appendix C of the report.	IMP	DEF	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG-CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
11	11. On page 2-2 it is stated: "Risk assessments should be performed in accordance with the plant's Maintenance Rule program and supported by a plant's PRA and other risk management tools (e.g., plant safety monitor or risk monitor software, risk matrices, lists of pre-analyzed maintenance configurations, PRA sensitivity studies, etc.) for specified hazards and operational plant states." The staff believes that this statement needs clarification through the use of exact wording and explanation of terminology. For example, it appears that risk assessments should be performed in accordance with guidance provided in this document (RMTS Guide) while the requirement to perform a risk assessment will be in accordance with the Maintenance Rule program. Also, terms, such as, "plant safety monitor," "risk monitor software" and "risk matrices" need to be defined and characterized. In addition, acceptance criteria and guidance for using the above listed risk management tools should be provided. Please discuss.	We have revised the associated wording in the current draft guidelines. On the definitions of terms like "safety monitor," we feel that this guide is not a general tutorial on PRA. These terms are common among many PRA applications including, but not unique to, RMTS programs. We have added a common term, "configuration risk management tool," to apply here. Acceptance criteria are outlined in these guidelines and RG 1.200.	RGC, DEF	IMP, DEF	
12	12. On page 2-2 it is stated: "Once the LCO is entered, the functional impact.....of the inoperability will be considered within the scope of the risk assessment. For example, HPSI inoperability may vary in risk significance, dependent on the degree of residual capabilityof the system." What is meant by "the scope of the risk assessment?" Please clarify this statement.	We are using "inoperability" in the conventional sense to define when we are entering a TS LCO, just as we do in conventional TS, but we apply the definition of functionality when we calculate a RICT (see Appendix A for definitions of key terms). The scope of a configuration risk assessment will depend on the configuration evaluated and the plant-specific RMTS program. We have revised some of the wording in the current draft guidelines to address this issue.	CEO	IMP	
13	13. On page 2-2 it is stated: "For emergent conditions (or for forced, unscheduled extension of planned maintenance) a maximum RICT equivalent to an ICDP of 1.0E5 is identified." What criteria are there to ensure that "forced, unscheduled extension of planned maintenance" will not be used for operational convenience? Also, the phrase ".....RICT equivalent to an ICDP....." should be replaced by the phrase ".....RICT based on an ICDP....." Please discuss.	We have revised some of the wording in the current draft guidelines to address this issue. We use the term "emergent conditions," to eliminate use for operational convenience. If the resident inspector finds that abuse is occurring within a plant-specific RMTS program that has been previously approved by the NRC, then enforcement action could follow. See Appendix A for definitions of key terms used in the guidelines.	DEF, MAT	IMP	
14	14. Please clarify the statement (page 2-2): "The use of administrative maintenance target risk values at levels significantly below the RICT will ensure adequate margin to unanticipated concurrent failures." Provide examples, if necessary.	This simply means that plants will generally establish administrative limits that are lower (more restrictive) than regulatory action limits. We have revised some of the wording in the current draft guidelines to address this issue.	MAT	IMP	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG-CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
15	<p>15. On page 2-2 it is stated: "If, during application of a specified RICT, the plant transitioned to a different maintenance configuration....., then that RICT would be required to be recalculated and revised within a specified time period (24 hours, for example) after the change in configuration. It is important to note that this 24-hour ...period is simply an example applied in this report." See also a similar statement on page 3-3. Please discuss the following:</p> <p><input type="checkbox"/> What is the basis (or even the point) for the stated 24-hour example period? The staff requested clarification of this issue also in its acceptance review comment #45. However, the industry's response does not appear to answer the staff's question. It is stated: ".....RICT re-calculation time will be required to be within the associated relevant front-stop CT for the maintenance configuration of interest." How is this possible for emergent conditions? Please clarify. The staff believes that for emergent configuration changes the acceptability of the new configuration should be verified expeditiously (e.g., within one hour) to ensure that it is safe to operate the plant.</p> <p><input type="checkbox"/> Will the plant be allowed to transition to a different planned maintenance configuration?</p> <p><input type="checkbox"/> Discuss how a plant will utilize the I4b RICT process to manage risk for situations</p>	<p>We agree that reference to a 24-hour recalculation period should be eliminated from the guide. We have proposed a revised approach in the current draft guidelines. Based on practical needs to collect information, 12 hours after an emergent condition is considered an appropriate time to propose an interim RICT for continued operation, with 24 hours allowed for a detailed calculation. If there is reason to believe the RICT is above the risk criterion under this new configuration, the operators would revert to the front-stop limits of the Tech Specs. There seems to be a great deal of confusion on the concept of front-stop CTs here. We are not proposing anything new regarding front-stop CTs. They are interpreted exactly the same as they are under current conventional TS. In all cases of plant configuration change, a new RICT must be calculated and approved (see current draft guidelines for details). In cases with multiple AOT front stops, a single RICT would apply in lieu of these multiple AOTs. If the RICT is exceeded, the most restrictive action called for would apply.</p>	CAL, DEF, IMP	CAL, IMP	<p>On September 9, 2004, the RITSTF Initiative 4B Working Group discussed a recommendation by Prairie Island to change the approach for RICT calculation to treat address separate risk "clocks" for RMTS implementation. This recommendation was considered by the working group, but rejected, based on established definition of configuration risk and on previous experience with NRC review of similar issues.</p>
16	<p>11. On page 2-2 it is stated: "Case-specific re-assessment periods applied within a plant-specific RMTS program will need to be consistent with the application of associated front-stop CT requirements." The staff is unable to understand this statement. Please clarify, providing examples if necessary.</p>	<p>Again, we have proposed a revised approach in the current draft guidelines. See response to RAI 15 above.</p>	DEF	IMP	
17	<p>12. On page 2-3 it is stated: "If a revised RICT were found to exceed a RMTS threshold, the plant would re-evaluate the impact and enter a plant shutdown process. If the revised RICT exceeds the upper-level RMTS threshold based on specified ICDP/ILERP limits (see... Table 3-2), the plant would be required to take the actions required for "ACTION NOT MET" for the affected Technical Specifications." Describe the process, including criteria, for initiating a plant shutdown. How will this process address the proposed removal of current constraints to plant operation at power imposed by the fixed AOTs/CTs? The staff believes that the guidance provided in maintenance rule (a)(4) regarding the initiation of plant shutdown needs improvement to compensate for the proposed removal of current constraints to plant operation at power imposed by the TS fixed AOTs/CTs. The staff believes that a risk-informed shutdown process based on clear generic principles and criteria is needed. Please discuss.</p>	<p>We have reworded the current draft guidelines to address this issue. The Initiative 4B RMTS process does not eliminate or change any plant shutdown requirement that is currently in TS LCO action statements. It simply extends, in some cases, the time duration before that action must be implemented. Therefore, the plant shutdown process remains the same as it now is under conventional TS, as part of the LCO actions for "ACTIONS NOT MET" in the TS.</p>	SHD	SHD	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
18	<p>13. On page 2-3 it is stated: "Note that, during the time period following the front-stop CT but before the expiration of the applicable RICT, plant actions will escalate to be commensurate with the projected risk during the maintenance configuration period, consistent with the current maintenance rule guidance (Reference 3)." Please clarify what do you mean by "plant actions will escalate.....commensurate with projected risk....consistent with the current maintenance rule guidance." This statement appears to refer mostly to contingency actions and compensatory measures. If contingency actions and compensatory measures are credited in assessing risk increases, risk-informed regulation requires procedures and administrative controls as well as appropriate PRA modeling for such actions and measures. Please discuss how this requirement will be implemented.</p>	<p>We have reworded the current draft guidelines to address this issue, eliminating the term "escalate." We are referring to incremental risk management actions (RMAs) here. Section 3.5 of the current draft guidelines addresses how to credit RMAs in the RICT evaluation process. These actions would generally not be quantitatively included in the risk assessment unless they were already in the PRA model, or if their inclusion could meet all of the PRA requirements for quantification.</p>	FBS	FBS, IMP	
19	<p>14. On page 2-3 it is stated: "However, the issue of equipment "functionality" (see Appendix A) is broader and relates more directly to the equipment's availability to support its intended risk mitigation function. Equipment functionality will generally be considered in the RMTS program when assessing risk for RICT calculation." The staff believes that guidance is needed to ensure that "inoperabilities" are properly analyzed, understood and modeled in the PRA.</p>	<p>Simply put, "inoperabilities" are not explicitly modeled in PRAs except where they also cause loss of functionality. In other words, loss of functionality associated with equipment inoperability is modeled in the PRA. Equipment inoperabilities are the basis for TS compliance, and therefore provide the same "entry process" for the TS LCOs in an RMTS program as they do in conventional TS. We are continuing to use "inoperability" to define when TS LCOs are entered (i.e., when a front-stop AOT/CT requirement becomes applicable), but that we are analyzing that "inoperability" in greater detail when we calculate a RICT. At that time, we are considering its integrated impact on risk, where functionality is key. We provide formal definitions of "operable" and "functional" in Appendix A of the guidelines.</p>	DEF	IMP	
20	<p>15. On page 3-1 it is stated: "The RMTS process shall:2. Include procedures for performing a risk assessment when the maintenance items are outside the scope of the quantitative assessment tool." This statement appears to delegate to the plants full responsibility for developing plant-specific guidance regarding items outside the scope of the quantitative assessment tool. The staff believes that at least some high level generic guidance on this issue may need to be included in the RMTS Guide. Please discuss.</p>	<p>We have reworded the current draft guide to stress that, to calculate a valid maintenance configuration RICT, the supporting PRA and configuration risk management tool(s) must be capable of quantifying risk for associated equipment states directly, or the plant must be able to develop a technically-defensible bounding analysis (shown to be conservative relative to RICT determination), OR the plant must provide a technically-defensible qualitative (screening) argument for why the associated equipment states do not materially impact plant risk for the maintenance configuration of interest.</p>	SHD, IMP	IMP	
21	<p>16. On page 3-3 it is stated: "The timing of the plant shutdown will reflect plant cumulative risks, the likelihood of repair and transition and shutdown risk considerations." A well-thought, well-understood clear process for shutting the plant down must be included in the RMTS Guide. This process may need to address separately planned maintenance and emergent conditions. Of particular importance is the timing of alternative actions (e.g. continued operation at power vs. shutting the plant down). Any credit for avoiding transition risk, should be properly applied in the assessment of alternative actions. Please discuss.</p>	<p>The RMTS process does not eliminate or change any plant shutdown requirement that is currently in TS LCO action statements. It simply extends, in some cases, the time duration before that action must be implemented. Therefore, the plant shutdown process remains as part of the LCO actions for "ACTIONS NOT MET" in the TS. There is no need to estimate transitional or shutdown risk as part of the RMTS risk analysis, as no credit is taken for this offsetting risk in the RICT calculation. The current draft guidelines have been reworded to address this issue.</p>	SHD	SHD, IMP	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
22	17. On page 3-3 it is stated: "In addition, risk assessments will be performed to assess the incremental risk of the inoperable equipment associated with maintenance configuration addressed by the extended CT (RICT)." Please clarify this statement. Do you refer to incremental risks beyond the front stop?	The current draft guidelines have been reworded to address this issue. We perform a configuration risk assessment to calculate a RICT. Incremental risk is calculated from the time of entry into a new plant maintenance configuration. In effect, the front-stop CT has nothing to do with the calculation of a maintenance configuration RICT.	ACC	IMP	
23	18. A discussion is needed to explain the general process flowchart of Figure 3-1 (page 3 6). Please clarify the following: <input type="checkbox"/> Define "no-maintenance" configuration and explain the purpose of the top square block. Is "no-maintenance" state the same as "no maintenance configuration?" <input type="checkbox"/> Explain the last oval block on the left of the figure "Establish risk management actions to prevent exceeding the RICT." This step appears to emphasize the need for risk management actions to prevent plant shutdown at any cost (no option for shutting the plant down is shown). The concern is that some plants may try to "justify" continued operation at power even when they should shut the plant down. Please discuss. <input type="checkbox"/> The flowchart does not show any outcome requiring plant shutdown. Please explain.	The "no-maintenance" or "zero-maintenance" configuration is simply the plant configuration where all equipment within the scope of the RMTS program is functional (see definition of "maintenance configuration" in Appendix A). The guidelines are not trying to "prevent plant shutdown at any cost," as the commenter suggests. The concept here is that, if possible, the plant should consider transitioning to a safer maintenance configuration, when feasible, which may include shutting the plant down. Transitioning to a safer configuration subsumes potential plant shutdown (see discussion in Section 3.5.3). In all cases, when a RICT is exceeded, the associated most restrictive TS LCO actions (including plant shutdown) must be implemented, just as we do now when we exceed a front-stop CT in conventional TS. Initiative 4B is not intended to revise or replace any conventional TS LCO action requirements. We are only, in some cases, revising the equipment CT observed before those actions are required. We are revising Figure 3-1 in the current draft guidelines.	DEF, SHD	IMP	
24	19. On page 3-7 it is stated: "The risk assessment may use quantitative approaches supported by qualitative approaches." This statement appears to imply that in most cases the assessments will be qualitative, which is not the intent. Please clarify.	We have changed this statement to read: "The risk assessment method for RICT determination must use quantitative approaches, but will also be supported by qualitative approaches."	CAL	IMP	
25	20. On page 3-8 it is stated: "Maintenance may involve altering the facility or procedures for the duration of the maintenance activity.....The assessment should include consideration of the impact of these alterations on plant safety functions qualitatively or quantitatively depending on the significance of the alteration." The staff believes that guidance is needed to address the issue of "altered facility or procedures" during maintenance due to its potential high risk significance. Also, the link of this issue with Initiative 7 should be established. In addition, it is not clear how facility and procedure alterations are modeled in most PRAs. Please discuss.	These "altered facility or procedures" aspects must be modeled within the PRA in order to include it in the calculation of RICT. However, we have added specific guidance to the current draft. We do not want to link other NEI initiatives to these guidelines, explicitly, as this document is designed to support only Initiative 4B. However, the NEI RITSTF is conducting general reviews to help ensure that it is not presenting conflicting guidance among the initiatives. We have revised the current draft guidelines to address how to address the implementation of RMAs in the RICT evaluation process.	DEF, QUA	IMP	
26	21. On page 3-8 it is stated: "Emergent conditions (or forced, unscheduled extension of planned maintenance) may require action prior to completing the assessment..." Please define "forced, unscheduled extension of planned maintenance." The staff requested the definition of this term with its "acceptance review" comments (comment #66). However, the industry did not address this question in its response. Also, in its response to comment 66, the industry states that there are "...no longer separate criteria for emergent and plant maintenance." Please discuss how the risk be managed.	The term "emergent event" was defined in Appendix A of the interim report reviewed by the NRC. This definition has been retained in Appendix A of the current draft guidelines. The criteria being applied for RICT implementation are listed in Table 3-2 of the report.	DEF, IMP	DEF, IMP	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
27	22. On page 3-10 it is stated: ".....The PRA.....must reasonably reflect the plant configuration." Please clarify. There is a large number of plant configurations.	By definition, the PRA and configuration risk management tools supporting a RMTS program submittal must be able to address RICT calculations for all plant maintenance configurations in the requested scope of the plant-specific RMTS program. Plants intending to implement RMTS programs have developed configuration risk management tools designed specifically to support operators and risk analysts in assessing risk associated with numerous (often thousands of) conceivable maintenance configurations.	QUA	IMP, QUA	
28	23. Internal fires are not listed (at least not explicitly) in Section 3.4.2 "Qualitative Considerations" where other external events are listed. Please clarify.	We have revised the wording of the current draft guidelines to include internal fires, explicitly.	EXT	EXT	
29	24. On page 3-11 it is stated: ".....and to take additional actions beyond routine work controls to address situations where the temporary risk increase is above specified RMTS thresholds (see Table 3-2). These thresholds may be set on the basis of qualitative considerations (e.g., remaining mitigation capability)," Please explain what is meant by setting the thresholds of Table 3-2, which are quantitative, on the basis of qualitative considerations. Also, explain how thresholds may be set on the basis of qualitative considerations without compromising the desired risk management objectives of the process.	We have revised the current draft guidelines to exclude establishing RMTS thresholds based on qualitative considerations alone.	ACC, RGC, IMP	IMP	
30	25. On page 3-12 it is stated: "Plants that implement RMTS should develop measures to assess the aggregate risk relative to the average risk. This assessment could be accomplished through a periodic assessment of previous out-of-service conditions. Such an assessment may involve quantitatively estimating cumulative risks or may involve qualitatively assessing the risk management approach employed." It is not clear to the staff what measures plants are expected to develop to assess aggregate risk relative to the average risk. Are not aggregate risks measured by the incremental CDP and LERP? What is the reason for plants to develop such measures instead of developing them generically and include them in the RMTS Guide? Why is it proposed to measure increments from the average risk base instead of the "zero maintenance" base? How are increments in CDF and LERF considered in the decision making process? The staff notes that there is not clear discussion on how the process will meet RG 1.174. Please discuss.	We have revised the current draft guidelines to address this issue. The ICDP and ILERP thresholds in this guide pertain to configuration cumulative risk, but not directly to long-term cumulative risk for many successive maintenance configurations. We measure ICDP and ILERP for aggregate risk from a zero-maintenance starting point, not from the average risk basis. However, the guidance suggests criteria for aggregate risk relative to average risk. We have added some examples of reasonable administrative guidelines for cumulative risk management in the current draft of the RMTS guidelines.	ACC, DEF, SHD, RGC	ACC, RGC	
31	26. On page 3-14 it is stated: "Individual plants may choose to propose application of a similar risk management scheme based on absolute risk metrics versus incremental risk metrics." Please explain how absolute risk measures can be used to achieve the same risk management objectives as incremental risk measures. In your discussion please address such topics as PRA quality needs, risk management tool needs, tracking and documentation needs.	We have revised the current draft guidelines to eliminate reference to absolute risk metrics, and now refer only to incremental risk metrics for RICT determination. We have revised the guidelines to state that RMTS supporting PRAs and configuration risk management tools will comply with these guidelines and RG 1.200 requirements.	FBS, ACC, QUA	IMP	
32	27. On page 3-15 it is stated: ".....must be able to perform a reasonable bounding analysis of the external events (Reference 20) contribution to configuration risk....." Does Reference 20 provide adequate guidance on how to perform "bounding analyses" of external events that is suitable for use in the RMTS process? Please discuss.	We have revised the current draft guidelines to enhance the discussion of acceptable bounding analyses.	EXT	EXT	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
33	28. On page 3-18 it is stated: "The compensatory measures are expected to reduce the overall risk of the maintenance activity; however, the impact of the measures on plant safety functions should be considered as part of the risk evaluation." Please clarify this statement. If compensatory measures are credited in assessing risk increases, risk-informed regulation requires procedures and administrative controls as well as appropriate PRA modeling for such actions and measures. Please discuss.	We generally agree with the commenter here, and we have revised the current draft guidelines to address this issue. Our view is that we should state that compensatory measures should be considered whenever there is a reasonable chance that RICT thresholds could be exceeded, and that these measures may be factored directly into the RICT calculation if the compensatory measures are of a nature to be quantifiable in the PRA. However, we do not think that all compensatory measures can or need to be quantified.	RMA	IMP, RMA	
34	29. The 30 day CT backstop needs to be explained and justified in the RMTS Guidance. In general, times need to be justified.	The justification for the 30-day backstop CT is discussed below. A time limit is necessary in order to implement RMTS programs without a rule change, and it helps to ensure that plants cannot use RMTS programs to voluntarily remain in plant configurations that could significantly increase long-term cumulative risk. The 30-day time was selected to provide a reasonable assurance of safety: it is a very conservative limit when compared with the 90-day design change criteria of 10 CFR 50.59; and existing conventional TS front-stop CTs are set as high as 30 days. We have revised the current draft guidelines to clarify the basis of the 30-day backstop CT.	DEF	IMP	
35	30. The RMTS Guidance must explain that a plants ability to apply RMTS Initiative 4b must be commensurate with its PRA Quality. The plants PRA Quality must satisfy the principles of DG-1122 (trial Reg Guide 1.200) guidance. The minimum scope requirements for a plants PRA needs to be addressed, including PRA requirements that go beyond the scope of Reg. Guide 1.200.	We think the term PRA "quality" here should be changed, in most places, to PRA "scope and capability" The guide is general in nature and is designed to allow plants with varying PRA scope and capability to develop their own RMTS programs, some of which could be quite extensive in scope, while others could be more limited. These guidelines reference industry and NRC PRA capability guidance (which is now extensive). We have revised these guidelines to more fully address conditions beyond the current scope of RG 1.200, so that requirements of RMTS supporting PRAs and configuration risk management tools will be completely defined by these guidelines and RG 1.200 requirements.	QUA	QUA, DOC	
36	36. The level of documentation required for an RMTS Initiative 4b risk assessment must be described.	We prefer to leave specific documentation requirements to be described in individual plant Initiative 4B submittals to the NRC, as the scopes of requested RMTS programs may vary widely from plant to plant. However, we have revised the current draft guidelines to clarify this issue.	None	DOC	
37	31. The RMTS Guidance must be consistent with the processes described in the STP and CE pilot plant proposals. Terminology needs to be consistent between the RMTS Guidance, the pilot proposals, and the (a)(4) program.	In general, we agree and we are collaborating with the STP and CE projects to make these consistent. The NEI RITSTF has developed an associated RAI cross-reference database to support coordination and consistency. However, this set of RAI responses intends to specifically address RAIs only for the RMTS Guidelines.	DEF	IMP	

NRC RAIs for NEI RMTS GUIDE - JULY 2004

1/18/2005

NRC Comment Number	NRC Comment Text	EPRI Response	WOG- CEOG Category	EPRI Preliminary Category	Additional Internal Remarks
38	The RMTS Guidance should provide direction on the scope of the process; what LCOs fall within the process.	That scope could vary from plant to plant, and it, therefore, must be described in the individual plant RMTS submittals. In general, the scope will be commensurate with the capability of the plant's supporting PRA and associated configuration risk management tools to adequately assess specific equipment maintenance configuration risk.	GEN	IMP	
39	39. The RMTS Guidance needs to address the nexus between Initiative 4b and the other Initiatives.	EPRI and the NEI RITSTF intend this guide to stand alone for Initiative 4B. The guidelines only apply to Initiative 4B RMTS programs, and not to other NEI initiatives, in general. We do not want approval of this guide to be formally interdependent with the varying states of other industry initiatives.	RGC	IMP	
40	40. Personnel qualifications for the operations and support staff needs to be addressed.	Qualifications for risk-informed regulation applications are not unique to RMTS programs. This applies to the complete array of PRA applications. EPRI intends to leave this issue to be addressed in plant specific submittals requesting to establish RMTS programs. We expect that these submittals will include specific personnel qualifications requirements for RICT calculation and implementation, if necessary.	QUA	IMP	
41	41. Quality control requirements for PRAs and risk monitors needs to be addressed.	PRA scope and capability requirements are addressed above in RAI response number 35. Some PRA quality requirements are specifically addressed in the applicable PRA Standards and, therefore, by the Regulatory Guidance that will be applicable (RG 1.200 and, presumably, a successor to RG 1.200). These include peer reviews, self assessments, update and upgrade requirements, and documentation. Additional quality control requirements on the risk monitors would be defined by individual licensees, as appropriate, to meet the intent and scope of their plant-specific RMTS applications submittals.	QUA	QUA, IMP	