

MSPI IMPLEMENTATION ISSUES

<p>I. MITIGATING SYSTEMS PERFORMANCE INDEX (MSPI)/INSPECTION PROGRAM IMPLEMENTATION ISSUES</p>	<p>SIGNIFICANCE OF ISSUE / ADDITIONAL COMMENTS</p>
<p>1. WHAT SHOULD THE MSPI INITIAL IMPLEMENTATION TEMPORARY INSTRUCTION (TI) INCLUDE? WHAT SHOULD PERFORMANCE INDICATOR (PI) VERIFICATION INSPECTION (ANNUAL) COVER?</p> <p>SSU data collection information: Constants calculated one time only (for 1999-2001 - total train unavailability, fault exposure hours, unplanned unavailable hours, online overhaul and other planned unavailable hours excluded in the Safety System Unavailability (SSU) PI, planned unavailable hours for functions monitored in MSPI but not in SSU, unavailable hours when the reactor was not critical, support system unavailable hours that were cascaded to the front-line systems; train specific critical hours for 1999-2001; component specific risk significant mission time)</p> <p>MSPI data collection information: Constants recalculated as necessary (plant specific internal events at power core damage frequency (CDF), train specific boundaries, train specific fussell-vesely (F-V) for unavailability (UA), plant specific PRA value of unavailability for the train, component specific F-V value for unreliability (UR), plant specific PRA value of component unreliability, front stops, back stops, success criteria)</p> <p>Performance data collected quarterly (train specific unavailable hours, component specific failures to start, component specific start demands, component specific EDG failures to load, component specific EDG load demands, component specific failures to run, component specific run demands)</p>	<p>A well managed TI for initial implementation is critical. NRC/industry workshops will be key.</p> <p>TI for initial implementation review should include a review of Risk significant functions (verify risk significant functions are as determined by M-rule or per guidance in NUMARC 93-01, Resident) success criteria (verify success criteria used are as documented in PRA, Resident/SRA) system boundaries and monitored components (Resident/SRA) train FV/UA and component FV/UR values (SRA) CDF (Resident) Historical 3yr data (train and component data) (Resident) Baseline unavailability (Resident) Backstop values (Resident) Data collection procedure/controls/change process for constants (Resident) Any questions related to PRA adequacy referred to NRR/RES</p> <p>Annual Verification should include: Sample review of data submitted (Resident) Determination if PRA model inputs have been changed; if yes, sample review of changes. (Responsibilities as defined above)</p>
<p>2. WHO IS CAPABLE OF VERIFYING THE ITEMS IDENTIFIED IN ITEM 1 ABOVE?</p>	<p>With training, SRAs, PSA branch, and research (and consultants) should be able to review risk information, including success criteria, and PRA values. Senior residents and residents should be able to review system boundaries and monitored components (with assistance from SRAs, PSA branch and research (including contractors)) and historical data. If success criteria used are design basis, the Resident can verify them.</p>

Attachment 4

<p>3. WHAT ROLE SHOULD THE SENIOR REACTOR ANALYST (SRAs) PLAY IN INSPECTION OF MSPI?</p> <p>Should SRAs have oversight/inspection responsibility for the risk-informed aspects of MSPI? Should they assess whether the appropriate F-V values have been used in MSPI? Should the SRAs evaluate whether the licensee used appropriate PRA success criteria for MSPI? Should SRAs review PRA revisions that cause any F-V value that is used in MSPI to change?</p> <p>If the SRAs should not be assigned to do any of the above, who is the responsible group within NRC to do such inspections/evaluations?</p> <p>What is the resource impact of using the SRAs to perform PRA-related reviews of MSPI?</p> <p>Are current budgeted resources adequate to allow the regional SRAs to perform MSPI baseline inspections and/or periodic audits?</p>	<p>SRA primary responsibility is only verification of FV/UA and FV/UR. Questions of PRA adequacy should be directed to NRC NRR/RES.</p> <p>A combination of SRAs, PSA branch and research should assess the risk aspects of the MSPI. A strong change management and implementation plan combined with implementation workshops will make this possible.</p> <p>If risk values are changed, SRA should be able to assist the SRI/RI during the annual PI verification.</p> <p>With appropriate training, management and leadership, and with the lessons learned from the pilot program, there should not be an overwhelming resource impact. NRC needs to answer that</p>
<p>4. WHAT ROLE SHOULD THE REGIONAL RESIDENT INSPECTORS (SRI/RI) PLAY IN INSPECTION OF MSPI?</p> <p>Should SRI/RIs perform the bulk of the PI Verification Inspection Procedure (IP) for MSPI?</p> <p>Should residents inspect data reporting accuracy, audit of the number of component failures and unavailability data for the systems monitored by MSPI?</p> <p>If not, what is their appropriate role in inspection of MSPI?</p>	<p>SRI/RI should inspect the system boundaries, monitored components, historical data and on an ongoing basis the reported data. SRI/RI should receive assistance from SRA/PSA/Research on questions on boundaries and monitored components.</p> <p>Yes. The more involvement the SRI/RI has with MSPI the greater will be their knowledge of the PRA and what events/components are most risk significant.</p>

<p>5. WHAT ROLE SHOULD HEADQUARTERS RISK ANALYSTS HAVE IN MSPI INSPECTION?</p> <p>Should Headquarters SRAs and risk analysts perform the more detailed evaluations of a licensee's use of PRA information in MSPI?</p> <p>What other role should Headquarters analysts have in MSPI?</p> <p>What is the resource impact of using headquarters personnel?</p>	<p>Headquarters role should be to answer all questions related to PRA adequacy. Any scope, success criteria, boundary issues that are elevated to FAQs would involve headquarters staff for resolution. This approach will help ensure consistency across regions and the industry.</p> <p>NRC must answer. Being involved in MSPI will provide learning experience for headquarters staff.</p>
<p>6. LEVEL OF EFFORT AND RESOURCE UTILIZATION IN MSPI BASELINE INSPECTION</p> <p>What is the estimated level of resources required to implement MSPI?</p> <p>What is the estimated level of resources required to maintain MSPI after full implementation?</p> <p>Is the level or resource utilization more or less than for the current SSU PI and expenditure of Significance Determination Process (SDP) evaluations for areas covered by the PI?</p>	<p>Training and participation in implementation workshops and TI for initial implementation. NRC should look at the resources required to do its initial assessment of maintenance rule implementation. This inspection will look at many of the same items but have a smaller scope.</p> <p>About the same as current</p> <p>Time will tell. Industry believes there will be less resources expended overall with better accuracy and faster results.</p>
<p>II. REPORTING AND DATA COLLECTION ISSUES</p>	<p>SIGNIFICANCE OF ISSUE ADDITIONAL COMMENTS</p>
<p>1. INDUSTRY BURDEN ON MSPI DATA COLLECTION</p> <p>Industry believes that the data collection burden is roughly the same as it is now for the SSU PIs. This is because the failure and unavailability data are already being collected for various industry data bases. With INPO's Nov '03 launch of Consolidated Data Entry (CDE) 2.0, will data collection efficiency increase?</p> <p>Is there a burden issue because licensees under MSPI will keep track UA and UR for 30-50 components? What impact will this have on Maintenance Rule tracking, thresholds, action levels?</p>	<p>Yes. Data collection efficiency and quality will improve with the CDE system in place. In addition, the greater similarity in basic data elements will also reduce data collection burden reduction.</p> <p>No. UA will be easier to track because it is less complicated (only at power, no cascading, don't need to distinguish planned, unplanned and overhaul). Licensees for the most part already collect data on all the components, although some small number of components may be added. The effect on MRule tracking thresholds should be minimal. No need to change M rule performance criteria, but some plants may chose to reevaluate and align values as some plants have already done with INPO SSPI</p>

<p>2. NRC BURDEN WITH MSPI DATA</p> <p>Is there any increase in staff burden on manipulation of PI data between current SSU PI and MSPI for posting to the web, analyses, etc? What data will be submitted, will it only be the MSPI indices of UAI and URI? This potential burden is not because of what is reported (which may only be two numbers), but what needs to be assessed during PI verification.</p> <p>Any other staff burden issues?</p>	<p>The NRC web pages for MSPI will need to be created. There will be fewer data elements to report and display (UAI and URI for each system). The displays will look pretty much the same (the detail of showing negative values or not is a very minor issue).</p> <p>On an ongoing basis, the data which needs to be assessed during PI verification will be in an easily retrievable format in CDE and in licensee records Note that today, all NRC receives is the total hours of planned, unplanned, fault exposure and required hours. To determine whether this is correct, the inspector must look at the raw data at the site.</p>
<p>3. WHAT ARE THE ISSUES ASSOCIATED WITH EPIX, CDE 2.0 AND TRANSMITTAL OF DATA?</p> <p>Staff can get access to EPIX data by requesting it from INPO. This process allows INPO to share industry data with the NRC. Are there any 10 CFR 50.9 issues with this arrangement?</p> <p>Does CDE 2.0 meet Government standards for records retention?</p> <p>How will the staff handle FOIA requests concerning MSPI? What data would be made available to the requester?</p> <p>What are the implications from this arrangement? Who is submitting PI data to the NRC and how is it being accomplished?</p>	<p>INPO provides EPIX data to NRC on a quarterly basis. The agreement is that NRC does not reveal individual plant results. 10CFR 50.9 does not apply.</p> <p>CDE is a data warehouse. Individual licensees are responsible through their own procedures for records retention. NEI 99-02 specifies on page 4 what the records retention requirements are for PIs.</p> <p>FOIA should be handled as it is today.</p> <p>PI data has been and will continue to be from licensees to NRC as they are responsible for its accuracy.</p>
<p>What should be displayed on the NRC web page and in what format? Is it appropriate to display negative MSPI values?</p>	<p>The UAI and URI and their sum should be listed. The plot should show the sum and the thresholds. As to whether negative numbers are shown, that is a minor issue open for discussion.</p>
<p>4. What are the requirements or guidelines necessary to ensure that the MSPI spreadsheets and how the data is collected, compiled, and tabulated in done in a manner that best suits the needs of the NRC and industry?</p> <p>What quality controls need to be established on data entry?</p>	<p>The MSPI data will be entered in a computer software package (CDE) which will allow high quality, easy verification, and resource savings. The guidelines for the MSPI will be included in a revision to NEI 99-02, replacing the SSU.</p>

<p>How should verification of calculated values (e.g., F-V values) be done?</p>	<p>The same that exist under NEI 99-02 page 4 (“standard commercial quality practices to provide reasonable assurance that the quarterly data submittals are correct”). Review the licensees methodology and sample some calculations.</p>
<p>III. MSPI PRA-RELATED IMPLEMENTATION ISSUES</p>	<p>SIGNIFICANCE OF ISSUE ADDITIONAL COMMENTS</p>
<p>1. INSENSITIVE PIs</p> <p>For insensitive systems, the ability to monitor incremental changes in performance is a factor of deterministically-set performance thresholds for unreliability (i.e., demand failures). There is no proposed backstop for unavailability. Current estimates (without consideration of common-cause contributions) predict somewhere between 10to 20 percent of monitored MSPI systems may have one or more components that are insensitive. From an efficiency and effectiveness point-of-view, do these systems add value to the MSPI? Should another approach be pursued that would consider selecting systems based on risk?</p> <p>Would there be any need to monitor UA for insensitive systems, since the MSPI would for all practical purposes, never change color based on UA input?</p> <p>Inspectors have no incentive to inspect insensitive systems because of the perception that the PI will always remain green and that any non-conformances will have little impact on the ROP. What is the impact of this perception?</p> <p>What are the disadvantages to selecting the MSPI monitored systems using the highest risk-worth systems?</p>	<p>Actually, the backstop is not set deterministically; it is statistically set based on industry performance statistics, the number of demands placed on the components and a certain confidence level that performance is not an outlier.</p> <p>Unreliability is the dominant factor in risk, not unavailability. This is because tech specs and AOTs won't permit long periods of unavailability.</p> <p>The MSPI tracks systems that are common across the industry. In the future we might shift to other systems.</p> <p>Unavailability and unreliability both contribute to determining the health of the system and both should be included.</p> <p>The basic concept of the ROP and especially MSPI is that inspectors and licensees should be focusing their attention on things that are important. Remember that non conformances affecting common mode failure and multiple failures will receive SDPs, and that compliance with regulations is still required.</p> <p>Assessing the same systems across all plants is an appropriate first step. In addition, the high risk systems already receive a high level of focus.</p>

<p>2. INVALID PIs (RISK SENSITIVE)</p> <p>For risk sensitive PIs, there may be no incentive for licensees to update PRAs or to have detailed modeling of support systems and other plant effects. What is the impact of this perception?</p> <p>For invalid PIs, a single failure could actually be greater than 1E-6 CDF, but still remain green. Given one failure, what are the ramifications of this assessment on inspectors and the baseline inspection program?</p>	<p>This is factually incorrect. Updating PRAs, or modeling support systems in detail may increase or decrease the risk sensitivity of any PI. PRAs are updated to reflect plant changes, to reflect operational experience, and to address quality issues.</p> <p>An invalid PI is generally one with a very low failure rate and which may not be tested at a high frequency. As a result, the likelihood that a single failure has truly caused the threshold of E-6 to have been crossed is low. This likely false positive is corrected by the risk cap. Inspectors will continue to monitor corrective action so there are no ramifications.</p>
<p>3. PRA UPDATES</p> <p>PRA updates can impact CDF and F-V values used in MSPI, so what should be the appropriate level of PRA review by inspectors of these updates?</p> <p>Do we limit the number of times a licensee can change PRA information in the MSPI or do we allow licensees to change the F-V values anytime they update their PRA?</p> <p>How do we limit MSPI changes (e.g., 1, 2 or 4 per year)?</p> <p>Or, no change unless FV and/or CDF changes by 25%? (see #4 below)</p>	<p>PRA updates should be performed as appropriate, on any schedule which is appropriate as directed by licensee management. There is no reason why the PRA information needs to be inspected with every PRA update. It will be adequate to inspect them periodically on a fixed schedule to allow more predictive use of NRC resources. MSPI constants will change as the PRA is updated. The ground rule for MSPI is that the PRA values in place at the beginning of a quarter must be used for that quarter's MSPI calculation. A comment should be made in the quarterly report when these values have changed.</p>
<p>4. FUSSELL-VESELY IMPORTANCE MEASURES</p> <p>Are F-V importance measures accurate/complete enough to support a reliance on MSPI?</p> <p>Should we adopt a no change rule to F-V coefficients unless PRA cutsets that contain that component change by more than 25%?</p> <p>What should the staff do for those plants where the staff has concerns with PRA accuracy?</p>	<p>With the exception of a resolution of the common cause issue, yes. Industry and NRC agree on the theory. There has been no identification of a problem with FV values during the pilot and the TIs. In fact, the modified SPAR models show very close agreement with the PRA FVs. See above for modification of risk values in MSPI.</p> <p>The concern needs to be framed in some reasonable format other than "concerns about PRA." Identify specific issues and get them resolved during the pre-implementation workshops by NRC headquarters.</p>

<p>5. CIRCUMSTANCES THAT MAY REQUIRE SDP TO BE PERFORMED</p> <p>MSPI includes risk contributions from PRA cut sets that only considered internal events. External events that impact the monitored component may still need an SDP to assess its impact on CDF. What is the importance if this issue?</p>	<p>If the reliability of the component is better than industry baseline, then any SDP, internal or external should conclude the impact is green. If MSPI > E-7 do the external event SDP.</p>
<p>IV. ROP ASSESSMENT ISSUES</p>	<p>SIGNIFICANCE OF ISSUE ADDITIONAL COMMENTS</p>
<p>1. WHAT IS THE IMPLICATION OF NO SDP ON ENFORCEMENT SIGNIFICANCE?</p> <p>One conditional prerequisite of the MSPI is that the SDP would not be performed for those 5 to 7 active components in each system monitored by the MSPI (with some exceptions). Currently, inspection finding significance is generally determined by the SDP and findings that are greater than green go through a SERP and a possible regulatory conference. MSPI implementation would result in determination of inspection finding significance through MSPI, as such, the need for the SERP and/or regulatory conference may be unnecessary (unless there is a desire or need to discuss the validity of the performance deficiency). The practical impact of all of this is that the color of the PI will determine significance characterization of the finding as well as the enforcement significance, absent of course, traditional enforcement issues/concerns.</p>	<p>Sounds reasonable. But let's make it clear. IF there is a finding (performance deficiency or violation, and the PI goes white, there will only be one white counted in the action matrix.</p> <p>(Note: SDP should use MSPI to characterize the significance not only for the 5-7 monitored components, but for all components of the same type in the system. There may only be 3 MOV's that are monitored in the system, but the non-monitored MOV's in the system can be assumed to be not risk significant because to be excluded from the indicator calculation, they were determined to be not significant using the deterministic redundancy rules or they were not active components.)</p>
<p>2. PI - ROP ACTION MATRIX ASSESSMENT ISSUES</p> <p>What happens if a MSPI system is white and more performance issues are identified (would each of these additional issues be colored as white)</p> <p>(Each would be white (and be an NOV if a violation); no need for discussion of significance in a regulatory enforcement conference since there would be no discussion on significance (color) of finding.)</p> <p>OE may need to change enforcement policy to recognize MSPI used to determine significance of some inspection findings.</p>	<p>There needs to be a table top "what if" discussion of various combinations and permutations of inspection findings and failures to ensure we agree on this important issue)</p> <p>If the performance issue is another failure, the inspection finding would be characterized as white, but would not be counted as a second white in the action matrix. (Note: this is the same concept as when you go white in a PI. Further movement in the white is still just one white).</p> <p>If the issue were not a failure covered solely by the MSPI (ie, a degraded condition not discoverable by normal surveillance, or a failure which requires an SDP, such as common cause failure) it would receive an SDP and the resultant color.</p>

<p>If an SDP is performed for a common cause or multiple failure event involving an MSPI monitored component, the event could trigger a white inspection finding as well as a white MSPI. What are the implications from this scenario?</p>	<p>There would be two whites. Only one failure would be counted in the action matrix.</p>
<p>3. MSPI PERFORMANCE ISSUE DOCUMENTATION How will inspectors document performance deficiencies that are going to obtain their color from the MSPI? Will they have to wait till the end of the quarter when MSPI data is submitted because there is no official document delineating the PI color until the PI data is submitted? Wait till MSPI data is submitted. If MSPI-monitored system crosses a performance threshold, the finding would be colored. Supplemental inspections would be done (based on MSPI results).</p>	<p>Good question. It would be best to wait for the quarter to end. (We do not use mid quarter PI results now; we should not change this approach).</p>
<p style="text-align: center;">V. MAINTAIN SAFETY</p>	<p style="text-align: center;">SIGNIFICANCE OF CONSEQUENCE</p>
<p>1. The current ROP uses both an SSU PI and the SDP (inspection findings) to characterize licensee performance for the monitored system for single failures or unavailability. The more conservative value is entered into the action matrix. MSPI would replace the current process to be the sole input into the action matrix for same performance issues. Does this maintain safety?</p> <p>2. Because of the use of risk informed methods, some systems under MSPI will not likely ever indicate non-green, even though an adverse performance trend could be detected. Unavailability may no longer be of practical monitoring value in these systems. Yet, low risk may indicate performance issues are of less concern. Does this approach maintain safety?</p>	<p>Yes. Actually, both are now entered in the PIM which is used to determine where you are in the action matrix. Neither the PI nor the SDP are the “more conservative” estimate; as they are different measures, and they are both used. The MSPI will give a more accurate indication of the probability of the system performing as expected than the SSU. It will also identify repeat failures which the SDP ignores. The SDP will be used for more complicated failures (common cause and multiple current events) and design issues which surveillances do not catch. This approach will maintain safety and save resources. NRC will still perform follow-up inspection of the corrective action whether it is through baseline inspection or a 95001.</p> <p>Yes. Actually, backstops have been established to identify negative trends, even if low risk. And, through modeling, Office of Research has determined that over 90% of the systems with these “insensitive” components would go white before the backstop is hit because of the combination of other component failures and unavailability. Safety will continue to be maintained</p>

<p>3. Because of the use of risk-informed methods, some systems under MSPI are risk-sensitive, yet for a single failure, their risk assessment would be less conservative than under the current ROP using the SDP process. Additionally, the risk-significance of the first failure within an "invalid" system would be intentionally reduced. Does this approach maintain safety?</p>	<p>These questions all reflect a fundamental lack of acceptance of the premise that led to the commission policy statement in the first place. Risk Informed approaches always increase safety by focusing attention on those SSCs that contribute most to the safety of the plant and not on those SSCs that do not contribute to the safety of the plant.</p> <p>SDP was expressly designed to be biased in the conservative direction, leading, as we know, to many false positives. The use of a risk cap is designed to reduce false positives also. There is no change in safety caused by the color chosen for a failure. The licensee is responsible for safety; fixing the deficiency is what maintains safety. The approach is balanced and uses state of the art risk concepts. Yes, it maintains safety.</p>
<p>VI. INCREASE PUBLIC CONFIDENCE</p>	<p>SIGNIFICANCE OF CONSEQUENCE</p>
<p>1. Raw data used by MSPI is not publicly available (EPIX/CDE 2.0 and PRA). Only two MSPI indices will be available on the NRC PI web. Does this change in the amount of available information from the SSU PI to the MSPI increase or decrease public confidence?</p>	<p>The NRC public website will continue to show color coded windows of performance as it does now. At the next level, it will continue to show charts of performance over time and the red, yellow, white and green thresholds of performance. Instead of showing the planned, unplanned, and fault exposure unavailable hours and the required hours, the MSPI will show the change in risk due to unavailability and the change due to unreliability. For those interested in determining how the indicator is calculated, the website will have a link to the Performance Indicator Guideline and NRC basis documents. Just as the current indicator does not display individual instances of equipment failure or train unavailability, the MSPI will not provide this level of detail. Members of the public interested in more detail can read the inspection reports which describe individual failures in the plant. The MSPI will also not include train or component risk factors. These are not part of the SSU at all, and will not be provided to the public. The dissemination of PRA information has been determined by the NRC to not be in the public interest for security reasons. In conclusion, the public will be provided with information in the same format as before, but with additional information regarding the significance of changes in unavailability and new information on the significance of changes in unreliability.</p> <p>1. Raw data is not provided in the SSU either; The SSU provides the sum of the hours in each category not the raw data. The NRC will be providing more information on the risk significance of the performance, not just the % of unavailability.</p>

2. How is public to know if F-V values are accurate since the NRC has no requirements on PRA use and compilation? Are SPAR results adequate to make this comparison?

3. The construct of the MSPI could allow the use of negative numbers for plant performance that is better than industry baseline data. Would the use of negative values diminish public confidence?

4. Negative UA contributions may offset a declining trend with unreliability values. What are the implications from this effect?

5. Is MSPI too complex for a majority of stakeholders?

6. SECY-00-0049 (dated 2/24/2000) states that the staff will continue to improve the PIs to: 1) provide more meaningful data, thus enhancing NRC effectiveness and efficiency as well as public confidence, and 2) will be easier to understand and simpler to implement, thereby reducing unnecessary regulatory burden, while continuing to maintain safety. Yet, UCS states in their August 22, 2003 letter that MSPI has a heavy reliance on plant PRAs, which information is not available to the public and of questionable quality (or accuracy), thus UCS perceives this change as a decrease in public confidence and less effective. Does the complexity and lack of publically available information on MSPI impede the public's ability to understand MSPI?

2. These same questions can be asked about NRC phase II and III analyses, and about licensee amendment and AOT decisions. The NRC has conducted a large sample of 20% of the plants using its SPAR models and found strong evidence that the FVs are accurate enough for the application.

3. . If NRC does not believe a reasonable man can comprehend negative numbers, then something can be worked out on the display.

4. The implications are as expected: availability and reliability are both contributors to risk and must be balanced. To do otherwise would be dishonest.

5. No, the MSPI graphics provide the level of detail the vast majority of stakeholders are interested in. Those who are of a statistical bent can immerse themselves in the details of how calculations are performed. The public does not review criticality calculations or RELAP but relies on NRC to do that technical review. They do not review phase III analyses either, but accept the NRC professional capability to do so.

6. A series of SECY papers (99-007, 99-007a, 00-049, 01-0114, 02-0062 and 03-0062) have stated the need to enhance the SSU indicator to resolve: problems with multiple sets of definitions for maintenance rule, WANO indicators and the ROP; problems with the fault exposure term; and failure to include a reliability term. The MSPI will provide more meaningful data than the SSU. Data collection is simplified for unavailability and the unreliability data is for the most part already collected for maintenance rule and EPIX. For public members with a background in engineering or science, the indicator is easily understandable and obviously superior to the SSU. For the general public, the information is provided at the same level of detail as the SSU, i.e., figures of merit plotted on graphs and compared to colored thresholds representing increasing levels of risk. The NRC has determined that it is not in the interest of public safety to reveal the details of PRAs to the public; therefore it is disingenuous to suggest that a better method should not be used when it is clearly not in the public's interest to have that information. As to the quality of PRA, the NRC relies on SPAR and industry PRA models in many applications far more vital to the operation and maintenance than the PIs.

VII. INCREASE EFFICIENCY AND EFFECTIVENESS	SIGNIFICANCE OF CONSEQUENCE
<p>1.) MSPI will monitor somewhere between 30-50 individual components/unit. Under MSPI, the support cooling water system(s) are monitored MSPI systems. MSPI will be the sole significance input into the action matrix for single failures. Yet SDP may still be performed under certain scenarios (e.g., external event significance associated w/single failures). Some SDPs performed currently would no longer be performed under MSPI. Hours the staff may spend to complete the baseline inspection may increase under MSPI. The best estimate of assessing impact on the FAQ process is that the resources needed may either remain constant or increase due to complexity of MSPI and other concerns when performance is determined to be approaching threshold values. Given the above, what is the estimate of efficiency and effectiveness of MSPI?</p>	<p>Upon implementation of the MSPI, the efficiency and effectiveness of NRC processes will be improved, as will the current deployment of NRC resources. While there will be additional one time NRC resources required to perform initial inspections to support implementation of the MSPI, the overall NRC resource requirement should be reduced over time. Because the MSPI will use very similar definitions for unavailability and failures as the Maintenance Rule, NRC inspection resources should be able to be saved in validating data. Also, since the MSPI uses plant-specific thresholds to determine the significance of performance changes, fewer NRC resources should be required to achieve an accurate characterization of a given issue or performance problem at a plant.</p> <p>The principal challenge associated with the MSPI is that it takes a significant effort to setup and establish the indicator. The MSPI Working Group (NRC and Industry personnel) have recognized this drawback and developed a sequence of three comprehensive workshops and a detailed communication plan to help NRC and industry personnel through this initial setup effort. These workshops also will help to ensure a smooth transition from the SSU PI to the MSPI.</p> <p>MSPI will initially represent some resource tradeoffs. The initial data verification will require additional effort. This inspection will look at system boundaries, selection of components, success factors, historical data and the MSPI risk weight factors. Based on experience and lessons learned from the pilot program, this effort will not be overwhelming and in fact will enhance the inspector's ability to understand the risk significance of equipment and where they should focus their inspection efforts, making them more effective and efficient. Changes to the risk weight factors will not be changed on a frequent basis and should not add significant additional burden.</p> <p>Subsequent to implementation, NRC resource requirements will decrease. Ongoing inspection burden to validate performance indicators will be easier than it is today. Unavailability will be easier to check because it is only measured at power, it is consistent with maintenance rule data collection, and the complication of determining the effects of cascading will not be</p>

<p>2.) If the industry does not include common cause risk contributions in MSPI, then the number of non-green findings will be under prediction (non-conservative). Including common cause will likely increase the number of invalid systems and with a small increase in the number of expected non-green findings. What is the estimate of efficiency and effectiveness of including/excluding common cause within MSPI?</p> <p>3.) The statements in SECY-00-0049 (as outlined above in VI. above) informs the Commission that the staff will continue to revise and work on PIs such that they will: 1) provide more meaningful data, thus enhancing NRC effectiveness and efficiency as well as public confidence. Does MSPI meet these commitments?</p>	<p>necessary. Unreliability consists of failures and demands which are also readily available. The MSPIs treat component reliability similar to the treatment described in NUREG-1753. This treatment is based on a failure-per-demand approach rather than using the fault exposure time as a surrogate measure of reliability as used in the SSU PIs. Furthermore, new industry software to consolidate equipment performance data collection and improve quality will further simplify data verification.</p> <p>Reducing the number of required phase II and III evaluations will also improve effectiveness and efficiency. Last year, NRC inspectors complained about the burden imposed by the significance determination process to assess failures which their intuition told them were of little safety significance, but their procedures required many hours of assessments using phase II notebooks. The MSPI will remove the need to conduct many of these low value add phase II assessments because single failures will be assessed using the MSPI. In addition, the MSPI will provide quicker results, which will address another concern of the public: the time it takes to reach a conclusion using the SDP process.</p> <p>The MSPI will be much more effective than the SSU in focusing NRC resources on the most safety significant SSCs at each plant. A risk informed plant specific performance index will direct NRC resources to the safety significant issues and avoid wasting resources on issues and equipment that have little or no safety significance.</p> <p>The issue of common cause needs to be addressed in terms of the additional information it provides to the MSPI calculation and whether it can be consistently applied across all plants. This is an area in which we believe the diversity of methodology will result in a significant increase in FAQs (based in part on the pilot plant workshop, in which no consistency was achieved in calculating the effect of common cause.)</p> <p>See comments in previous section.</p>
<p>VIII. REDUCE UNNECESSARY REGULATORY BURDEN</p>	<p>SIGNIFICANCE OF CONSEQUENCE</p>

<p>1. MSPI's regulatory burden may consist of PI verification inspection hours, time spent performing SDPs, resources spent on resolving FAQs and internal feedback forms, and performing supplemental inspections for non-green performance due to MSPI output. What is the estimate whether MSPI will increase or decrease unnecessary regulatory burden?</p> <p>2. Some staff-licensee interaction may be reduced the significance of the color is not subject to a regulatory conference. However, the need to hold a regulatory conference may still be warranted if a determination of the validity of a proposed violation needs to be determined. What is the estimate of the change in unnecessary regulatory burden with regard to the lack of ability of the industry to discuss significance of MPSI findings?</p> <p>3. What is the estimated overall staff regulatory burden with/without MSPI?</p>	<p>The initial implementation inspection will add some burden, but is an essential part to moving to a better and more effective indicator. Based on a well thought out and implemented change management plant, implementation workshops and lessons learned from the pilot, good leadership and management should minimize the resources expended. On an ongoing basis, the inspection will be less burden because of the more common definitions, an improved software program to collect data, and less subjectivity in unavailability due to fault exposure, cascading, planned vs. unplanned. The reliability information will also be readily available. After full implementation, FAQs will be about the same or less than now, and deal mostly with questions regarding failure mechanisms, as they do now.. The time spent on SDPs, phase II and III will be less, and there will be fewer reg conferences.</p> <p>There will be no lack of ability to discuss the significance of MSPI findings.</p> <p>Industry believes there will be a reduction in unnecessary regulatory burden due to the smaller number of SDPs, the simplification of data definitions (making the PI verification easier). The initial implementation will create some burden, but it will not be "unnecessary" because it is needed to implement the MSPI.</p>
<p>UNINTENDED CONSEQUENCES</p>	<p>SIGNIFICANCE OF CONSEQUENCE</p>
<p>1. Licensees with higher CDFs have higher MSPI results, providing disincentive to include more in PRA models.</p>	<p>Actually, including "more" in the PRA models may increase or decrease the CDF. PRA models are updated for several reasons, including adding equipment, events, or faults not previously incorporated; new modeling techniques, new performance data, etc.</p>
<p>2. If there is an actual CCF or an issue where multiple systems are affected (MSPI is not to be used), should the unavailability or failures of monitored systems be included in the MSPI data?</p>	<p>This is an incorrect premise. MSPI includes all failures and unavailability.</p>
<p>3. Could industry manage the MSPI through UR by increasing the</p>	<p>Within reason, it is an appropriate action to increase the testing frequency</p>

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<p>number of demands when the observed failure rate increases?</p>	<p>after a failure has occurred. Tech specs require this in the case of diesel generators and Section XI.</p>
<p>4. Could industry manage UA by deferring planned maintenance if they are close to a threshold?</p>	<p>Planned maintenance is included in the baseline and therefore provides no penalty in the MSPI calculation. Licensees must decrease the baseline if they decrease planned maintenance in any significant way.</p>
<p>5. Could industry change maintenance practices and actually do less on "insensitive" systems, since they could absorb many failures and a lot of unavailability?</p>	<p>You can't change maintenance practices arbitrarily. In the maintenance program, there are numerous drivers, including maintenance rule, vendor recommendations, and risk considerations</p>
<p>6. Currently errors in PI reporting that affect crossing a threshold are reported via mid-quarter corrections and only affect the PI. With MSPI, errors that affect the PI threshold will also have an impact on past inspection findings (previous green violations characterized as NCVs would now be white and should be an NOV).</p>	<p>Since only one white would be counted in the action matrix, the effect of finding a PI error that results in crossing a threshold in a previous quarter is the same as it is now. Previous green violations not involving failures would remain green.</p>
<p>7. For multiple or common-cause events involving the monitored systems, it may be possible to have two non-green inputs into the action matrix. The UA and/or a demand failure would be counted for MSPI, and the SDP would be performed for the common-cause or multi-failure event. Depending on where licensee performance was prior to the discovered event/condition, the MSPI may have a non-green output.</p>	<p>All failures are included in the MSPI. The same event cannot result in two entries into the action matrix.</p>
<p>8. The use of the constrained non-informed prior (CNIP) causes indicated trends to perhaps respond slower than actual plant specific data would. Will MSPI respond in an acceptable manner for use in the ROP?</p>	<p>The CNIP provides a more accurate indication of whether performance has changed or not. Refer to the Risk Based Performance Indicators (NUREG 1753) for a discussion and analysis of why the CNIP is the most appropriate approach for the MSPI.</p>
<p>9. Output of MSPI is a specific number. Is there confidence that this number is accurate enough to use in the ROP (i.e., typically risk values have a confidence band).</p>	<p>The MSPI is a performance indicator, not an exact measure. There is very high confidence that it is a far better indicator than the current SSU which ignores reliability and does not consider plant specific risk factors.</p>