

MSPI Pilot Success Criteria Status

- a. The occurrence of a single failure of an MSPI monitored component by itself, absent any other failures or unavailabilities, should rarely exceed the green/white MSPI threshold as measured from the baseline value. The term "rare" is defined as minimizing the inconsistencies across plants, within plants, and within systems such that there is no undue burden on resources, and the objective of having consistent publicly displayed results can be achieved.

This objective is not yet met – potential solutions exist and the problem is considered solvable. Some solutions are:

- *Grey indicator for a system*
- *Use N+2 as the minimum number of failures to the green/white threshold*
- *Establish a threshold based on statistical significance of the indicator*
- *Exclude problem components from the indicator*

- b. False positive and false negative rates can be established for the chosen statistical method, and instances where the MSPI cannot meet the criteria are rare.

False negatives have not been a problem. For false positives see criteria a above.

- c. Instances where the results from the MSPI calculation methodology are not consistent with the SPAR-3 models are rare and the differences are explainable.

This objective is not yet met. It will be resolved through the SPAR benchmark effort. It appears that the objective will be met.

- d. The MSPI pilot plant participants can identify and compile the risk significant functions for the monitored systems in a readily inspectable format and can compile a set of predetermined success criteria for those risk significant functions.

Clarifications to the guidance can be made based on questions raised in the pilot. This objective will be met.

- e. The active components in the monitored systems are appropriate for inclusion in the MSPI and are a manageable number of components under the MSPI.

This objective is not met. It can be met with the inclusion of guidance for excluding some low worth valves.

- f. By the end of the pilot, MSPI data can be accurately reported and quality checked.

This objective was met. Clarification needs to be put in the guidance to: 1. allow the use of actual demands, 2. clarify that the unavailabilities less than 15 minutes are not required to be included, but are allowed, and 3. provide direction for the inclusion of Post Maintenance Test demands.

- g. By the end of the pilot program, inspection procedures and MSPI pilot guidelines are sufficiently detailed to minimize MSPI Questions and NRC feedback forms.

This objective is not yet met. Inclusion of lessons learned from the pilot effort will result in meeting this objective.

- h. MSPI Questions and NRC feedback do not reveal any unresolvable issues.

This objective is met.

- i. Data collection inconsistencies between maintenance rule and the MSPI can be reconciled in order to eliminate or significantly reduce separate reporting.

This objective is not yet met. Actions required are:

- *Develop a summary of changes that are required for the maintenance rule guidance. (Industry)*
- *Involve the appropriate NRC Maintenance Rule personnel (NRC)*
- *Resolve possible conflicts between Maintenance Rule Performance criteria and MSPI thresholds.*

- j. Differences between the linear approximation models generated by licensee probabilistic risk assessments and those generated by the NRC SPAR-3 models can be reconciled.

This objective is not yet met. NRC Research activities should continue to evaluate this objective.

- k. The MSPI produces no new unintended consequences that cannot be resolved.

Unanticipated results from the pilot included:

- *The possible need to revise plant PRAs*
- *Non-risk significant systems being monitored*
- *The need to maintain the basis for the unavailability baseline for each plant*

Conclusion: All issues appear to be resolvable. All success criteria can be met. Given that all success criteria are met, implementation should proceed.