

efficiency bulletin

July 12, 2016

Color Code: Green

Efficiency Bulletin: 16-16 High-Cost, Noncritical Preventive Maintenance Reduction

There are large numbers of high-cost, high-frequency and resource-intensive preventive maintenance (PMs) performed on noncritical equipment without a return value in equipment reliability. Identifying the highest cost noncritical PMs and then challenging the value to reliability of those PMs will result in content optimization, a reduction in PM frequency or reclassification as run-to-maintenance. Targeting the highest cost noncritical PMs provides immediate opportunity for real annualized operations and maintenance cost savings.

Addressees: Chief nuclear officers, NEI APCs and INPO APCs

Issue: PMP-005, High-Cost, Non-Critical PM Reduction

Summary of Efficiency Opportunity

- Desired end-state—Reduction in maintenance labor, parts and planning costs due to a reduction in PM frequency, content optimization or elimination of PM tasks. Project results will help minimize requirements for intrusive maintenance and reduce the chance for post-maintenance equipment issues and rework due to human error.
- Value proposition (vision of excellence)—A reduction in the most costly PMs on noncritical equipment (or component groups) where the cost of the maintenance activity does not justify the expected gains in equipment reliability.
- Why it is important?—This review provides opportunities to reduce or delete low-value tasks in order to focus resources on critical equipment PMs or maintenance work backlogs.
- Industry benchmark value(s)—Results do not increase critical component failures, adversely affect the Equipment Reliability Index, and improve annualized total labor and material cost savings.



NUCLEAR ENERGY INSTITUTE

The Nuclear Energy Institute is the nuclear energy industry's policy organization.

This bulletin and additional information about nuclear energy are available at nei.org.

**1201 F Street, NW
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NEI.org**

Relevant Standards

- Performance Objectives and Criteria (INPO) - ER.2, Preventive and predictive maintenance and performance monitoring are used to prevent failures of equipment important to safety, reliability and emergency response.
- INPO AP-913, Equipment Reliability Process Description.
- INPO AP-928, Work Management Process Description.

Relevant Regulatory Requirements

- 10CFR50.65, Maintenance Rule
- Station-Specific Regulatory Requirements (e.g., NFPA 805, FLEX)

Guidance

This is a one-time activity and does not require revision to any industry guidance.

General guidance can be found in the Equipment Reliability Working Group white paper, Management of Maintenance Costs, Rev. 0, June, 2015.

Recommended Industry Actions

- Involvement by responsible industry groups such as the Equipment Reliability Working Group and Preventive Maintenance Working Group to provide further guidance, if required.

Change Management Considerations

Industry Activities

- Industry webinar to provide background for initiative, industry peer discussion, and provide an open forum to clarify expectations and ask questions. Webinar information can be found at <https://web.inpo.org/Pages/Nuclear-Promise-Issues.aspx>
- Discuss at regional/industry work management, engineering and maintenance working group meetings.

Company Actions

- Identify the highest total cost noncritical PMs (including PMs for large populations of components such as air-operated valves using existing data table fields from the station work management system. Compile the list of top ten most costly noncritical PMs.
- Establish cross-functional review team and charter the team to review past site-specific performance, historical as-found condition, technician input, resource cost, engineering recommendations and industry operating experience. Analyze high-cost, noncritical PMs for a reduction in frequency, content optimization, or elimination of PM tasks.
- Perform engineering evaluations, as required, including enhanced preventive maintenance optimization using the latest proven industry approaches that assess age-related degradation and provide a sound engineering technical basis for further optimizing PM intervals. The EPRI PM database vulnerability calculator can assist with the evaluation.
- Obtain team challenges to classification, value, frequency, etc. and recommend changes, generate preventive maintenance change request, and update the PM technical bases or other engineering records.
- Capture projected annualized operations and maintenance cost savings using plant-specific labor and material costs.

- Implement the team's approved recommendations, including updating the work management PM database to drive full benefit of the changes.
- Capture site lessons learned and feedback and adjust the process accordingly.

Guidrails

- Revisions to component PM tasks must be documented in the station's PM technical bases or other engineering records.

Report Your Site's Results

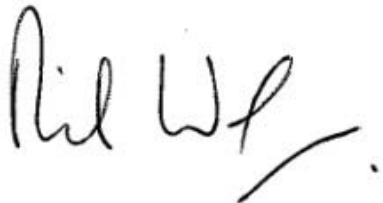
Please report your company's implementation of this improvement opportunity, including the date of completion. Send this information, along with your company point of contact, to EfficiencyBulletin@NEI.org.

Industry Contacts

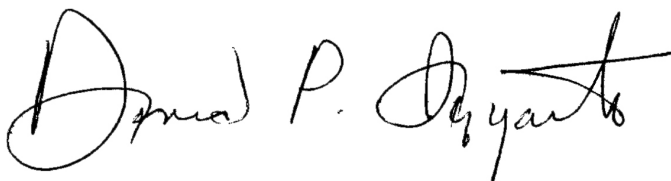
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