Preventive Maintenance 103

PM Optimization - “A Process used to optimize preventive maintenance (PM) tasks and frequencies to reduce or mitigate likely failure modes by utilizing tools/techniques such as FMEA, RCM, and Failure Modes Mapping resulting in increase equipment uptime and reduction of cost”

1. Identify which asset or functional area the PM Optimization will be executed
2. Identify a cross functional team (Operator, Maintenance Tech, Reliability Engineer, Maintenance Planner)
3. Establish expectations from everyone engaged in this process
4. Define end goal of this process (ex: Increased PMs Effectiveness, Decrease breakdowns)
5. Define how you will measure if the PM Optimization Process is effective or not
6. Present copies of PMs to team, one PM at a time
7. Review equipment history for the past 30, 60, and 180 days
   - # of breakdowns
   - Causes of critical breakdowns based on a formal RCA
   - PM Labor Hours vs EM/Urgent Labor Hours
8. Identify by the following for each task on a PM Procedure/Procedures

<table>
<thead>
<tr>
<th>PM Eval Recommendation</th>
<th># of Tasks</th>
<th>% of Total Tasks</th>
<th>Labor Hrs. Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task is Good as Found</td>
<td>2,289</td>
<td>20%</td>
<td>3,923</td>
</tr>
<tr>
<td>Re-Write Task</td>
<td>2,387</td>
<td>20.8%</td>
<td>11,043</td>
</tr>
<tr>
<td>Replace with PdM</td>
<td>1,983</td>
<td>17.3%</td>
<td>4,876</td>
</tr>
<tr>
<td>Reassign to Operator/Case</td>
<td>1,889</td>
<td>16.1%</td>
<td>4,987</td>
</tr>
<tr>
<td>Reassign to Lube Route</td>
<td>1,167</td>
<td>10.0%</td>
<td>3,980</td>
</tr>
<tr>
<td>No Value – Delete Task</td>
<td>1,740</td>
<td>15.2%</td>
<td>1,832</td>
</tr>
<tr>
<td>Total PM Tasks</td>
<td>11,455</td>
<td>100%</td>
<td>30,641</td>
</tr>
</tbody>
</table>

Outcomes of PM Optimization
- Increase in Asset Availability
- Increase in Production Throughput
- Increase in OEE
- Maintenance Labor Hours freed up to perform other work which is needed
- Reduction in Total Maintenance Cost
- Reduction is outside Contractors

Measure the Outcome of the PM Optimization Process with PM KPIs

Preventive Maintenance Leading and Lagging KPIs