How to Create Big Wins With New Maintenance Planning and Scheduling Strategies

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People and Processes, Inc.
Struggling to get solid traction with maintenance planning and scheduling?

Everything but ...

Decade of struggles ...

50% turnover ...

Partnerships ...
# Framework for Planning and Scheduling

<table>
<thead>
<tr>
<th>Organization</th>
<th>Roles and Responsibilities</th>
<th>Develop</th>
<th>Execution</th>
<th>Sustain</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Management Support</td>
<td>• Business process</td>
<td>• Staff the Role</td>
<td>• CMMS</td>
<td>• Auditing</td>
</tr>
<tr>
<td>• Return on Invest.</td>
<td>• RACI</td>
<td>• Education</td>
<td>• Plan</td>
<td>• Continuous Improvement</td>
</tr>
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<td>• Strategic Planning</td>
<td>• Procedures/SOPs</td>
<td>• Coaching</td>
<td>• Schedule</td>
<td></td>
</tr>
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<td>• Change management</td>
<td></td>
<td>• Certification</td>
<td>• Coordinate</td>
<td></td>
</tr>
<tr>
<td>• Head Count</td>
<td></td>
<td></td>
<td>• Feedback Loop</td>
<td></td>
</tr>
</tbody>
</table>
## Section 4.0 - Work Identification and Review

<table>
<thead>
<tr>
<th>No.</th>
<th>Description of Task</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The asset hierarchy in the CMMS system identifies functional locations/ assets in a parent-child relationships, where the lowest child asset listing stops where the maintenance strategy stops (not continuing down to list parts vs. assets). Only in rare cases should the functional location be utilized over the asset number.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A policy of “no work order, no work or parts” exists and is enforced.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Notifications can be entered by any production or maintenance personnel on the plant floor</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>Breakdown (emergency or urgent) notifications are reviewed by supervision before breaking the week’s schedule</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The maintenance planner is not involved in planning emergency or breakdown work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Assess the current state**

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Got Planning but ... Not Sure Where to Start?
Framework for Planning and Scheduling

Organization
- Management Support
- Return on Invest.
- Strategic Planning
- Change management
- Head Count

Roles and Responsibilities
- Business process
- RACI
- Procedures/SOPs

Develop
- Staff the Role
- Education
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- Certification

Execution
- CMMS
- Plan
- Schedule
- Coordinate
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Sustain
- Auditing
- Continuous Improvement
Develop
Framework for Planning and Scheduling

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## Project – Strategic Roadmap

<table>
<thead>
<tr>
<th>FY2022</th>
<th>FY2023</th>
<th>FY2024</th>
<th>FY2025</th>
<th>FY2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>Completed workshop</td>
<td>Added Scheduler position for maintenance</td>
<td>Added position for Maintenance Crafts</td>
<td>95% of critical 70-99 equipment has repeatable work identified and model work orders created for the repeatable work</td>
</tr>
<tr>
<td>Planner Projects</td>
<td>Added Salt Planner full time</td>
<td>Benefits</td>
<td>Benefits</td>
<td>Benefits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Increased wrench time</td>
<td>• Applied best practice across site</td>
<td>• Increased planner productivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improved safety record</td>
<td>• Increased planner effectiveness</td>
<td>• Increased uptime</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Increased schedule compliance</td>
<td>• Decreased emergency maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Increased safety</td>
</tr>
</tbody>
</table>
Project – Improvement Measures

% Critical equipment that has repeatable work identified

No. of model work orders created for repeatable work (2 per week into CMMS)

Estimated vs. Actual – Planner Accuracy

Improved Wrench Time
Framework for Planning and Scheduling

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Execution
- CMMS
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- Feedback Loop

Sustain
- Auditing
Developed a robust planning process flowchart
Definitions/procedures defined for each step of the process
Templates & tools developed

Standardized Model
Job Plan Template

19 different mechanical seal replacements

Estimated vs. Actual Hours

<table>
<thead>
<tr>
<th>Column1</th>
<th>Column2</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
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<td>14</td>
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<td>16</td>
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<tr>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>14</td>
<td>29</td>
</tr>
</tbody>
</table>

Total Estimated: 80.335 hours
Total Actual: 80.29 hours

19 different mechanical seal replacements
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Sustain
- Auditing
Project – Scheduling Processes

- Developed a robust scheduling process flowchart
- Definitions/procedures defined for each step of the process
- Scheduling meeting flow
- Templates & tools developed

**Metrics**

- **Average Time to Create Schedule**
  - Short Term Scheduling
  - Medium Term Scheduling (2-3 weeks out)
Framework for Planning and Scheduling

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- Procedures/SOPs

**Develop**
- Staff the Role
- Education
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- Certification

**Execution**
- CMMS
- Plan
- Schedule
- Coordinate
- Feedback Loop

**Sustain**
- Auditing
Developed a feedback process flowchart

Training developed and delivered

Metrics and reporting

Metric
Percent of Work Orders with Accurate Feedback
= (Number of Work Orders with Feedback/Total Work Orders Processed) x 100
Results – Multiple organizations

- 50%+ reduction in job durations and increased precision work/wrench time using model job plans
- Formalizing planning and scheduling returns $1.3M to the plant budget in a single year
- 78% to 22% reactive Mtce spend reduced
- 0 to 79% Sch Compliance
- 88% to 96% Uptime increase
- Site hits Mtce budget for the first time in 10 years
Questions?