POWERS™

Maintenance Assessment (Discovery)

Professional Management Development

Assessment Protocol

- Walk into every assessment with an **Open Mind**
- **Understand** the initiatives that have been taken to improve the facility
- **Accept** the barriers that prevent the department/facility from being successful
- **Understand** what barriers the manager/supervisor/mechanic must face daily to keep the plant running
- **Be Ready to Listen** to information that may not line up with your perception or point of view
- **“What have we done today to ensure success for the facility tomorrow?”**

Assessment Key Elements

- **Work Order System**
  - Does the organization have a system which takes a work request and generates a work order to assign work?
  - How do supervisors/mechanics engage employees on the floor to create work to be completed?
    - **Ex. Phone, E-mail, Notes, Shoulder Taps, etc.**
  - How do other facility employees help generating work?
  - Is the work requested put into a priority of when it should be completed?
  - Is there a feedback loop to employees on when the work will be completed, when it was completed, and how it will be completed?

Assessment Key Elements

- **Work Estimates**
  - Estimates of work content which are communicated as expectations
  - Are the work estimates correct? Loose or Tight?
    - **Ex. 1 hr. of work estimated for 2 hrs. of work**
  - Do follow ups have time estimates? If yes, who assessed the time and is it correct?
  - How much work is not being captured?
  - Is the work being completed line up with downtime reporting?
    - **Critical Areas/Non-Critical Areas**

Assessment Key Elements

- **Backlog In Hours**
  - Means of monitoring backlog of work in hours by craft
    - **Ex. Electrical work hrs. to be completed**
  - Is there a system that allows for maintenance to understand how much work (in hrs.) is in the system to be completed?
  - **Consists of PM hrs., Follow-Up hrs., Predictive hrs., Capital Project hrs.**
- Is the planner/scheduler incorporating all work assignments into the plan? Does the planner/scheduler fill the mechanics day?
- Does backlog work have priority settings and is aligned with downtime reporting functions to ensure the right work is taking place first?

Assessment Key Elements

- **Staffing Required**
  - Is there a means of converting backlog of work into staffing required?
  - Is there a tool or system in place that tells me how many mechanics are needed to complete the work that is available?
  - Is there a tool that identifies weekend work, the number of mechanics or production personnel that is needed to complete the work, and that all the parts have been delivered/kitted to complete the work?
  - Does the department currently have the correct amount of staffing?
    - **Short or Long?**

Assessment Key Elements

- **Work Assignments**
  - Is there a means of recording assignment and expectations of job assignment?
  - How are work orders assigned to mechanics?
    - **Daily or weekly?**
    - **8/10 hrs. or 40 hrs.?**
    - **Priority?**
    - **Equipment Downtime?**
    - **Skills?**
    - **Training Opportunities?**
    - **Equipment Down/Equipment Scheduled not to run**

Assessment Key Elements

- **Assignment and Follow-Up**
  - Is there a tool that requires periodic follow-up and identification of operational problems?
  - What drives supervisors to the floor on a periodic basis to follow-up with mechanics and their progress of work for the day?
  - Is there a tool that allows supervisors to understand the workload of a mechanic and identify barriers employees may have in completing work?
  - What behaviors does the supervisor demonstrate when they run into barriers?
    - **Ex. Do they train? Do they repair themselves?**

Assessment Key Elements

- **Problem Record**
  - Is there a means of communicating operating problems within the organization?
  - How does the department track downtime? What are the barriers that exist with downtime?
    - **Ex. Production, Mechanical, Lost Time, Planning/Scheduling**
  - How do supervisors know where to send their people and what critical equipment to attack first?
  - Does a report exist that communicates to operations problematic equipment based off of mean time to failure or mean time to repair?
  - How does the manager develop a strategy for the plant on equipment to repair first?

Assessment Key Elements

- **Individual/Department Productivity**
  - Is there an evaluation method of determining labor productivity?
  - Is the productivity of each mechanic, entire shift, and department able to be measured?
  - Do the Kronos hrs. paid match to the daily, weekly, monthly work in hrs. that are being completed?
  - What tool exists to capture “Firefighting” work and how does it get entered into Maximo?
  - Is the parts room included in any of these measures to understand their level of execution of delivery to mechanics
    - **Ex. Parts, Kitted Jobs, Ordering/Receiving of Parts**

Assessment Key Elements

- **Preventative Maintenance**
  - Does the structured preventative maintenance program cover all major equipment in detail?
  - Are PM's written to actively engage mechanics onto equipment and perform work?
    - **Good Ex. Replace bearing | Bad Ex. Look at Belt**
  - Do start up PM's exist to ensure the facility will have a first piece quality product at the time in which the facility begins its day?
  - When was the last time a PM was reviewed for relevance and updating?
  - Can all mechanics perform standard PM's?

Assessment Key Elements

- **Downtime Reporting**
  - Is there a tool to document downtime for all major equipment by reason?
  - Is there a tool that allows the Manager/Supervisor to understand maintenance downtime on the top 10 pieces of equipment each week?
    - **Ex. Pareto Chart that identifies in order mechanical downtime**
  - Is the downtime tool used to understand reoccurring problematic areas no matter how small or big?
  - Does the downtime report drive action to the supervisor to create work orders to revive problematic equipment?
  - How do mechanics know where to block/tackle equipment first to get the largest financial impact?

Assessment Key Elements

- **Root Cause Analysis**
  - Is there a tool that allows for managers/supervisors/mechanics to drive down to the root cause of the problems and not the symptoms?
  - Are their cross-functional teams to drive to the root cause?
    - **How often do they meet?**
    - **What are the current projects?**
    - **How long have they been going on?**
    - **Are there action items that are being completed on a timely basis to move forward on improvements?**
  - **Who is responsible for initiating Root Cause Analysis?**
  - What methods are used to drive to the Root Cause?
    - **Examples:**
      - **5 Whys**
      - **8 Types of Waste**
      - **5M's**
      - **Fishbone**
      - **Cause & Affect**

Assessment Key Elements

- **Planning and Schedule**
  - How many hours are planned for each mechanic?
  - Are assignments given out on a daily basis? By whom?
    - **Weekly assignments allow mechanics to choose their own work to be completed and the time to do it**
  - How does the work that is incomplete re-enter the system to be completed? Lead time?
  - Does the planner/scheduler work with production planning/scheduling to understand “work windows”?
  - Is the planner/scheduler performing their role or the role of a supervisor?
  - How many days in advance is the schedule being planned for?
  - Does the planner/scheduler provide reports to Manager to determine the performance status of the department?
  - How is the relationship between the planner/scheduler and Manager?

Assessment Key Elements

- **Parts Room**
  - What is the current level of inventory? Has there been any improvements on inventory levels in the last year to 6 months?
  - Are parts stored in other locations?
  - What is the rate/cost of parts being expedited into the facility?
  - How many parts have been expedited in and have not been consumed?
  - Are orders being made outside the system or out of sync in the system?
    - **Ex. Buy first, send to purchasing second/ Company Credit Cards**
  - Is the cycle count accuracy truly above 95%?
  - What are the shrink levels?
  - Is there communication between parts room, planner/scheduler, and mechanics when parts arrive?
  - How long from when parts arrive until work is completed?
  - What is the process for rebuilds? Does it work? Is it being completed?

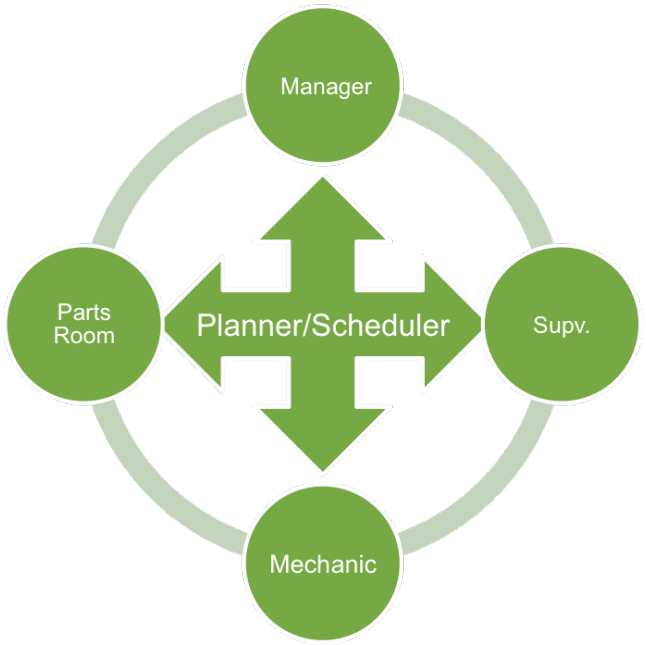
Assessment Key Elements

- **Maintenance Spend**
  - Under or Exceeded Budget? How is the Up-time?
  - What is the daily/weekly spend goal and has it been communicated to supervisors and mechanics?
  - How does spend get tracked on the front end before it reaches accounts payable to accounting.
    - **Parts Requisitioned and Parts Issued**
  - Is there a spending approval process? How many levels of approval? Is it followed?
  - Is there a reporting tool that is published to allow managers to understand where they stand on a daily/weekly basis?
  - What is tracking and trending spend to help the manager make effective decisions on spend?

Assessment Key Elements

- **Mechanics Utilization**
  - Is there a system that captures the utilization of each mechanic?
  - Is there a tool that identifies what work has been completed by a mechanic on a daily basis?
  - Is there a tool that allows supervisors to follow up (PM Audit) on work completed throughout the day?
  - What is the ratio of planned: unplanned work in a day per mechanic, shift and department?
  - Has the mechanic been given work that they have the skill level to complete?
  - Are mechanics “piggy backing” on jobs that only require one person?
  - Are training hours being captured?
  - For one on one help, outside/inside schooling, or corporate mandated training?

Maintenance Strategy



- What is the current strategy for improvements?
- Have the right tools been developed to assist in those improvements?
- Have the goals been communicated?
- Are results currently being measured?
- What are the opportunities the manger see's as need for improvement?
- What are the opportunities the supervisor see's as need for improvement?
- What are the opportunities the mechanics see as need for improvement?