Keys to Successful CMMS Implementation

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CMMS implementation cannot stand alone without maintenance best practice implementation. A total maintenance audit must be included. We must determine the scope of work needed to improve the total maintenance operation. Develop needed best practices as part of an overall strategic maintenance plan along with the CMMS implementation plan. The strategic maintenance plan provides the road map for the maintenance improvement process with timelines, resources required, the associated costs and the projected benefits.

Successful results requires viewing CMMS as part of the solution; not "The Solution". The costs and benefits related to maintenance best practices implementation should be part of the CMMS economic justification process. To add credibility to the overall maintenance improvement process and to validate projected benefits, we must include measurement of overall maintenance performance. We must include in our measurement process the same key elements we use for economic justification. The major elements for economic justification will typically come from these areas:

- Craft Productivity Improvement
- MRO Inventory Reduction
- Value of Increased Uptime/Capacity

We recommend that a high priority be placed on developing or upgrading three key CMMS databases:

- Parts inventory data,
- Equipment master data
- PM/PdM procedures

Establishing these three databases is an important first step for successful CMMS implementation. The parts inventory master file and the equipment master file provide the foundation for the work order system, costing, inventory management, overall work control and planning. Updates to these two databases before start up is essential.

Do not underestimate the time and effort required to establish these two databases. Take the time to do this part right the first time. Once the job is complete and the new CMMS is up and running, assign direct responsibility for maintaining these two databases to someone in your operation.

The PM procedures with task/frequency data are essential to a proactive, planned maintenance operation that is able to avert major failures through regularly scheduled inspections, lubrication services and overhauls. Application of predictive maintenance technologies such as vibration analysis, infrared testing, ultrasonic testing and oil analysis, likewise can be used for condition-based monitoring to go beyond the limitations of a PM program.

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Most operations will have some PM procedures in place that can be converted to the new CMMS if a complete PM program review and update is not possible before actual start-up. It is best to try and upgrade PM/PdM procedures before starting the new CMMS but it is not always possible. The key here is to get the commitment to a complete review and update of the old procedures.

Work in each of these areas is ideal for using the team process with sub teams under the CMMS Team. Also within multi-plant operations, we recommend using a Data Standards Team to ensure that the data structure for the parts master file, the equipment master file and PM/PdM procedures are consistent across all plant sites. As support to CMMS implementation, the chartering of an Equipment Master Team, a PM Review Team and a Parts Review Team is highly recommended.

The Implementation Process

The actual CMMS and best practice implementation presents by far the greatest challenges and the toughest part of the total process. The reason is that the real work is just starting. Typically, only about ten percent of the real work is during the up-front steps devoted to planning, evaluation and selection. Ninety percent or more of the real work comes during implementation. This is the step where the pre-defined CMMS functional requirements are compared to actual system performance, capabilities and results.

During implementation is where other maintenance best practices will be coming together to establish the new way of doing business. This becomes a total process for improving the maintenance function and achieving full utilization of CMMS capabilities. Organizations that have used a cross-functional CMMS team during evaluation/selection phase should continue a team approach during actual implementation. There are a number of important considerations for a successful CMMS implementation.

- Again, do not underestimate the time and effort required for getting the parts database and the equipment master file established particularly if there is a need to develop this database from scratch. The full use of the basic CMMS module requires that these two databases be in place.

- For organizations still using a manual system, this data may be incomplete or not available and will require a major project to identify and inventory parts and to identify and number equipment. Resources to collect and input data for all features of a CMMS should be established very early as part of the initial planning process.

- Reducing CMMS start-up costs by reducing vendor or outside consultant help can result in long-term loss of system performance as well as failure to receive planned benefits. A “do it yourself approach” will often cost much more over the long term than getting resources up front when they are needed the most. Do not use CMMS to automate existing procedures within a reactive maintenance environment. Most organizations fail to achieve the full benefits of CMMS because they did not take the time to completely re-evaluate and refine current practices first.

- Full integration of the basic CMMS modules is the key to achieving maximum benefits. Many CMMS's fail because the easy tasks are completed first and the harder tasks are put off or never completed. Without effective use of the work order and equipment history modules, for example, we can very easily have just a computerized version of the manual "fat file" where work orders are stored in manila folders by equipment number.

- If the storeroom inventory module never is developed, the equipment history module loses its capability for providing total repair costs or parts listing by equipment asset number. Likewise, if a PM program is never developed or if maintenance planning is never formalized; the full benefits of an integrated CMMS never occur.

- The CMMS Team must work closely with the CMMS vendor and all internal resources and external consultant to define a CMMS implementation plan. The plan should include key activities, time lines and designated responsibilities. Key implementation activities may include tasks such as those shown below:

We must remember that an overall strategic maintenance plan must include the CMMS implementation plan. We must always remember that a new CMMS is not "The solution". The strategic maintenance plan developed after a complete maintenance audit using The Scoreboard for Maintenance Excellence provides the road map for the maintenance improvement process.