

MRO Materials Management

Do you have good MRO materials management practice to support maintenance?

It is a well known fact that maintenance cannot be fully effective without the support of good materials management practice. Have you ever been in the situation where you and your crew were all ready to complete a particular scheduled maintenance job, got all the required tools, only to find that the required spares is not there. And not even in the warehouse? If this is a proactive maintenance job, or a corrective maintenance work that resulted from a proactive maintenance, it MAY be possible to delay the work to wait for spares. However, any delay increases the risks that the organization is exposed to for the impending failures. What worse is, if the maintenance work waiting for the spares is actually corrective maintenance work resulting from production critical equipment breakdown. When this happens, then undoubtedly, it will lengthen the downtime for the production line. Then operation would normally demand for maintenance to pour all of its resources by any means necessary to ensure that the corrective action can be completed as soon as possible. This would normally involve paying the penalties to expedite the required spares from the vendor and spending the premium costs of express freight. Hence, the costs of not having the required spares are, amongst others; the lost of an otherwise productive maintenance time, unnecessary downtime leading to reduced production capacity, as well as increased costs due to penalties and premium freights. SO, how often have you experienced stock out? Does your organization experienced high stock out rate?

The impact of poor MRO materials supports do not stop there. MRO materials normally accounts for 50-60% of maintenance expenditures. Or even more in Indonesian plants. Often this means millions of dollars in many organizations. If your plant has high MRO spares inventory, YET experiences high stock out rate, then chances are, you are stocking the WRONG spares in the warehouse. This means your valuable resources, (such as money) are tied up in your warehouse for nothing!! Many organizations have experienced this situation in their warehouse and engaged in rampant stock reduction exercises, only to experience numerous stock outs later on. Driving the emergency costs up and again ended up filling the warehouse excessively. And the cycle continues.

Hence, the impact of poor MRO materials management ranges from the lost of valuable maintenance time to reduction of revenues. Improvement in materials management will improve the strategic advantage of your organizations. Organizations must firstly understand, that the objective of any stockholding must be: To support maintenance policy and mitigating the consequences of stockouts.

If you would like to find out what constitutes of good materials management practice. Please read on.

The elements of good MRO materials management

As with any good management practice, good MRO materials management practice should consist of strategy development and implementation processes. These elements and their interactions are depicted in the figure-1 below.

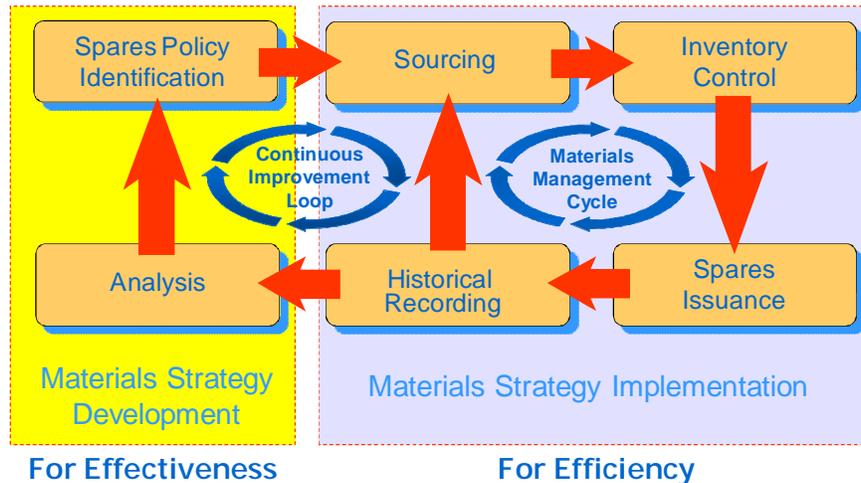


Figure – 1 : MRO Spares Materials Management

Brief descriptions of the elements above are as follow:

1. Spares policy Identification, this is where we firstly need to identify the need for spares. Bearing in mind that not all of the identified spares needed is required to be stocked. As the objective of spares strategy are to: i) support the maintenance policy, and ii) to mitigate the consequences of stock out; we need to align our spares holding policy to our maintenance policies and understand the stock out consequences. The outcome of this process is stockholding policy and if we decide to stock spares, their corresponding re-ordering points.
2. Sourcing, this is where we analyze our needs, consolidate our part requirements and evaluate our options to get them. These include analyzing our spending for the best available options on bulk materials, commodities, standard parts, insurance item / OEM parts, etc. Evaluating our vendors' locations, positions, and performance to establish strategic relationship. The outcome of this process is sourcing strategy for the various parts with good requisitions and Purchase Order practice preferably covered by contract, or long term supplier agreement for vendor support schemes for our strategic parts.
3. Inventory Control involves the various processes of parts receiving, returning, parts maintenance, management of non inventories catalogue items, obsolete parts management, stock taking, stock valuation, and pre-approved stock re-ordering process. One of the more important processes in this element is also the management of repairable spares. As repairable

is both equipment and inventory, it is very important to establish the right process to collect the necessary information such as historical deployment and life cycle related costs, needed to enable good decisions.

4. Spares Issuance is about ensuring optimum materials management supports for the maintenance function. Increasing the efficiency of the maintenance function in executing their work and thus reducing operational down time / MTTR. This include ensuring efficient and hassle free processes of: parts issuing, free issuing, consignment issuing, clear cost allocation rules, pick list, kitting, and site delivery of parts.
5. Historical Recording, this is about capturing the right information about the spares, policy, usage, costs, and even supplier performance to be used so that we can analyze our MRO materials and sourcing strategies to improve its support to maintenance. More than the other elements, the ability to establish the right historical recording practice is dependent on the CMMS as the enabler technology used for managing the materials and maintenance work.
6. Analysis, is about LEARNING from the current performance of the materials management performance and the captured data in the historical recording step above, and uses them to produce information which will enable better decisions for the MRO spares management and sourcing strategies. There are many tools widely available to be used for this element, from the simple ABC classifications, service level assessment, economic order quantity, to the more advanced Reliability Centered Spares Methodology

In the end, these 6 key step above, should continually be improved to ensure the materials management practice increase the value delivered in supporting the operation and maintenance functions

Materials Management is a strategic advantage

Improving your materials management practice will have tremendous impact to your maintenance function and the overall performance of your plant. Specifically, in a reactive maintenance environment, improvement in materials management support will results in:

- Improved speed and accuracy of repair. (improved MTTR and reduce rework) and,
- Less downtime and improved availability

In a planned maintenance environment, improvement in materials management will results in:

- Increased planning volume and speed
- Improved planning accuracy
- Planned jobs are 30-50% more efficient

All of the above will lead to better financial performance for the organization

So do you have a good MRO materials management practice?

So how can you tell if your organization is doing good job in managing MRO materials? Below are some indications of good Materials Management practices. Do you know if your organization has these characteristics?

- Parts and materials are readily available for use where and when needed.
- Service Levels are measured and are usually high. Stockout represent less than 3% of orders placed in the store room
- Distributed (satellite) stores are used throughout the plant for commonly used items (e.g.: fasteners, fittings, common electrical parts).
- Parts and materials are restocked automatically before the inventory on-hand runs out and without prompting by the maintenance crews.
- Inventory is reviewed on a regular basis to delete obsolete or very infrequently used items. An ABC analysis is performed monthly.
- Purchasing / Stores is able to source and acquire rush emergency parts that are not stocked quickly and with sufficient time to avoid plant downtime.
- Average inventory turnovers are greater than 1.5 times.
- Order points and quantities are based on lead time, safety stock and economic order quantities.
- Inventory is controlled using a computerized system that is fully integrated with the maintenance management / planning system.

If there is a specific question you need to clarify on these good practices, please visit our website, or contact us through our address below:

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