The right parts at the right time
How to develop a comprehensive storeroom management process

The establishment of a sound MRO storeroom operation is one of the key requirements of an effective equipment reliability program.

Reliability

Problems in a Material, Repair and Operations (MRO) storeroom usually occur from a lack of maintenance support and management focus, and an ineffective operating process. To tackle these problems and fulfill the MRO storeroom deliverables, providing the right part at the right time at a cost-effective price is critical. It is necessary to understand the specific areas related to these deliverables.

The right parts

What is meant by “the right part” and who determines what this should be? The process of determining the right parts begins at the engineering design stage where all equipment and component parts are identified. Equipment selection and approval decisions are typically made by production, maintenance and engineering personnel; and are based on experience with similar equipment, operating parameters and engineering specifications. During the later phases of a project, the detailed equipment and component information is transferred to equipment records in the site’s CMMS (Computerized Maintenance Management System). This information is available to those who work with or support the equipment. —The establishment of a sound MRO storeroom operation is one of the key requirements of an effective equipment reliability program.

The main reason for the existence of a storeroom is to supply a maintenance team with the parts and materials necessary for them to ensure that plant assets continue to operate at maximum design capacity. In fact, Material, Repair and Operations (MRO) storeroom personnel state that their deliverable is “to provide the right part at the right time at a cost-effective price.” Yet, in many MRO storeroom operations, customers complain that the right part is never in stock when needed, or there aren’t enough parts, or that original parts were replaced with cheaper parts due to a price reduction effort. Having to fly a missing part in from anywhere is very costly, and production suffers while the part is in transit.
02 A typical Maintenance, Repair and Operations (MRO) plant storeroom

03 Ensuring the right parts are available at the right time requires a proactive response in which a system or process is in place to properly identify spare part needs along with a scheduled date for future use.

The next step, carried out immediately prior to equipment installation, is to determine if the equipment or spare parts need to be kept in the MRO storeroom. The considerations used to make these decisions include Original Equipment Manufacturer recommendations, prior history of repairs on the same or similar equipment, the quantity of assets at the site utilizing the same parts, and part availability from the local vendor. At this point, all equipment and associated parts have been identified using engineering specifications, and only those parts that meet these specifications are locally stored.

If the process is followed correctly, the organization can be assured that the selected parts stored in the MRO storeroom will be the right ones. To maintain this assurance, any part being reviewed as a potential replacement for an existing storeroom part must be approved by the same cross-functional group that determined the need for storing the original part and current users of the part. These processes must be in place to ensure that the "right parts" are in the MRO storeroom.

At the right time

This element of the MRO storeroom deliverable has somewhat of a twist. What is the "right time?" Does the "right time" mean "anytime?" If "anytime" is the "right time," then this implies a reactive mode of operation in the field because it is not known when the spare part will be needed since it could be anytime. What is needed for "the right time" to materialize is an organized or scheduled time. A scheduled time implies that the need for a spare part was predetermined, and ideally this would have been identified with enough time to communicate this need to the MRO storeroom personnel. Therefore, a proactive rather than a reactive response requires that a system or process be in place to properly identify spare-part needs together with a scheduled date for future use. A well-established work management process will provide the necessary information along with a scheduled need date for the equipment spare parts. Once the work management process has been established, then it can be said that the processes are in place.
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One possible reason for equipment failure is the price of spare parts. Spare parts play a critical role in ensuring reliability. Service engineers provide the specifications for equipment and associated parts used in the manufacturing area. These engineering specifications account for operating conditions and ensure safe, environmentally sound and reliable performance. Deviations from the engineering specifications can potentially do more harm than good.

Vendors and parts manufacturers may claim their parts are just as good, this must be verified against the originally defined the specifications for the equipment. Less expensive parts sound like a bargain, but the consequences of using them may yield very negative results, including environmental breach or serious injury, or both. To be cost effective does not mean purchasing cheaper parts: it means the total cost of ownership during operational life. In other words, a cost-effective price is what matters, not the cheapest price.

Cost-effective ownership encompasses a number of areas. Spare part performance can be verified if the historical performance data is utilized to determine that the manufacturer employs proven quality manufacturing techniques along with performance tracking of the product. In short, product verification can only be assessed by involving the engineering, maintenance and production functions.

Another area related to cost-effectiveness is the service provider for the equipment. Service providers can offer technical assistance as needed, introduction of higher quality, more reliable parts along with stable pricing for extended periods of time. In this area, the purchasing function takes the lead role in building long-term alliances with vendors and manufacturers to ensure consistent product performance with stable pricing. Purchasing must include the engineering and maintenance teams to qualify vendors as preferred providers of products and services. Additionally, a goal for purchasing would be to establish long-term itemized priced contracts for all stocked parts. Service agreements could be utilized to minimize the costs associated with order placement.

Having these processes in place will help provide assurances that the right parts being stocked were purchased at a cost-effective price.

Who can help?

A reliable service provider can help companies develop a comprehensive storeroom management process that includes all of the elements of storeroom deliverables – “the right parts at the right time at a cost-effective price.” Additionally, services providers can help develop and implement a robust work management process by working side by side with company representatives to train, coach and mentor company employees involved in the processes described above.