

Maximizing your MRO purchasing dollar

The quandary that faces any maintenance manager is how to minimize the cost of carrying inventory while still maintaining all the stores necessary to keep a plant running. From upper management all they hear is "I don't care how you do it, but cut costs!" From the shop floor all they hear is "But I need a . . ." Every business day maintenance managers face this seeming paradox and ponder how to strike a balance between these two extremes.

According to Mike Brown, Principal at New Standard Institute, a management consulting firm based in Milford, Conn., there is no paradox. "Keeping your inventory low and making sure you have every part you need are the constraints of a well-managed storeroom." Yet, how do you maintain the proper balance? It's simple; manage your maintenance, repairs, and operations (MRO) purchasing.

Find a partner

There are several viable options to keep MRO purchasing costs in line. One of these options is partnering. Partnering is an arrangement in which one supplier provides everything needed from a particular commod-

ity or product line. This arrangement can be taken even one step farther where one supplier provides everything needed for the plant's storeroom. This is known as integrated supply. Jeff Rose, president of WACO—an industrial distributor of filters, pumps, and controls based in Norristown, Pa.—says, "I think partnering on a commodity-group basis is the way to go." He points out that with integrated supply, where you have one supplier for virtually everything, you lose the cost-effective application expertise you get with commodity-group partnering.

There are some seeming disadvantages to partnering—the loss of competitive pricing, for example. However, if you choose your partner wisely, certain checks and balances can be put in place. WACO, for example, guarantees its customers productivity improvements of between 3 and 12% annually based on an audit the company conducts upon accepting a new client.

Another potential drawback is a stock out. How do you ensure that your only supplier in a particular commodity group isn't stocked out of a part you desperately need? The answer here is dedicated inventory. This is a situation in which your partner company agrees to hold a portion of its inventory in reserve for you.

But, what about turn around time? Fine, your partner has the part you need in stock, but you need it right now, not in an hour or a day. When you do "enough" business with a particular supply company, it can offer you the option of consignment. You keep the inventory in your stock room, but the supply company owns it and records carrying costs for it. You don't "buy" the item until you use



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it and reorder it. This may seem like a losing deal for the supplier, but according to Rose, "In reality, some of my costs are down because selling is expensive."

Organize your storeroom

Another critical element to managing your MRO purchasing is organizing your storeroom, says Brown. In his estimation, doing so can both reduce inventory carrying costs and prevent stock outs. Some of the key elements to effectively organizing your storeroom include:

- Limiting the amount of space you use. New shelving can pay for itself by returning real estate to the operation.
- Monitoring inventory. Perpetual inven-

tory procedures and scheduled cycle counts must be in place to ensure that records accurately reflect what you actually have in stock.

- Organizing inventory. Time spent looking for a part is wasted money and productivity.

- Analyzing and adjusting reorder points (RPs) and reorder quantities (RQs). The reorder point and the reorder quantity are the two key figures that determine the average inventory value. Optimizing these figures will reduce maintenance costs and prevent downtime due to lack of parts. Reorder points should be determined by lead time and usage rate (for the formula, see the accompanying box). A safety stock may be necessary for important items with particularly erratic usage. Reorder quantities are often determined by balancing the cost of purchasing and holding costs.

- Reviewing inventory for obsolescence. Make sure you are not storing parts for equipment you no longer have or use.

Don't just fix it, maintain it

In addition to organizing your storeroom, implementing a preventative maintenance (PM) program can have a profound effect on inventory levels. According to Brown, "If you have regularly scheduled maintenance such as a PM program, the requirements of the storeroom become less and less." As he points out, by moving away from break-down maintenance and toward routine maintenance, it becomes clear—except in rare cases—exactly which parts you need and how many of each.

Maintain your equipment, don't just fix it; organize your storeroom; and work with your suppliers to find solutions. Doing these three things will make the "paradox" disappear and will earn you well-deserved praise from both upper management and the shop floor. **ED**

Reader response: I found this column:

Very helpful—Circle 368

Somewhat helpful—Circle 369

Not helpful—Circle 370

Determining RP and RQ

Determining the appropriate reorder point and reorder quantity is imperative to optimizing the stock level in your inventory. The following formulas should help you determine these figures.

Reorder point: $RP = (n \div t_1) \times t_2$, where n = number of items used, t_1 = a time period, and t_2 = average lead time. So, for example, if you use 60 widgets per year and the widgets have a 30-day lead time, your reorder point would be 5. ($60 \div 365 \times 30 = 4.93$)

$$\text{Reorder quantity (estimated)} = \sqrt{\frac{2 \times N \times P}{I \times U}}$$

N = number of items used per year,
 P = cost of purchasing and receiving,
 I = carrying percentage, and
 U = unit cost. So, for example, if you use 56 widgets per year @ \$100 apiece, you spend \$30 per order on average for processing costs (this includes personnel and overhead), and your average inventory carrying cost is 20%, your reorder quantity would be 13 per order.