

Developing a Best Practices MRO Storeroom for a Building Products Firm: **Technology Leads the Way**

When a Gastonia, North Carolina building products firm wanted to eliminate staggering time and parts waste with an advanced, technology-driven MRO storeroom facility, the organization called on PCA for assistance. Today, the company has eliminated its inefficient and extremely costly ad-hoc MCO approach in favor of a best practices MRO storeroom, with accompanying systems, that deliver astounding results.

Through the effort, the firm has exponentially reduced parts retrieval and search time as well as parts losses. So successful was the project that it is externally recognized for its excellence, and the firm now hosts visitors who want to tour a “best-in-class” MRO storeroom.

PROJECT SUCCESS METRICS

Based on increased parts retrieval efficiency alone, the client forecasts astounding results from the storeroom project:

Monthly Parts Retrieval Time*

Before storeroom:

Average Retrieval:	167 hours
Cost:	\$335,188 per month

After Storeroom

Average Retrieval:	.5 hours
Cost	\$1,063 per month

Annual Savings: \$4,009,488

*Calculation based on “average” parameters: 3 retrieval requests per day and a site maintenance charge-out rate of \$33.76 per hour

A Disorganized Start

During plant construction and startup, OEM spares, capital spares and construction parts had been received by contractors, construction workers and various plant employees. Typically, these parts had been placed wherever space was available and therefore were scattered throughout the facility, unprotected and often open to the elements.

Many of the parts had accumulated at one end of the facility, while some had been placed outside in Conex containers. So serious was the problem that a planned maintenance shop could not be built due to the accumulation of spare parts in the shop’s designated location. The chaos also resulted in many parts being lost or damaged.

With the emphasis for the new facility being on installation of new product technology, few, if any, MRO parts storeroom details had been included in the original design. No real thought had been given to MRO parts management, and no plans had been made to hire a dedicated storeroom attendant. The result of these oversights was an accounts payable, maintenance, and purchasing nightmare.

- Receivables paperwork for incoming parts was lost.
- Failure to catalog receipts led to unnecessary duplicate ordering.
- Contractors and construction workers could not find parts when needed.
- Vendors were not getting paid, causing some subsequent orders to be delivered on a cash basis only.

Finally, a Senior VP of Supply Chain at the corporate level concluded that the situation was totally out-of-hand. He ordered corrective changes to be made as soon as possible.

A Challenge Is Accepted

The beleaguered company was a former PCA client and its management sent a request for immediate assistance. PCA assigned one of its senior MRO experts to develop a plan for improvement that could start right away. With the PCA plan and process fully championed and supported by both local and corporate management, PCA began to develop a framework for the effort.

① Allocate Space

Designate a space at the end of the production line, behind the maintenance shop, to build the new MRO storeroom.

② Ensure Management

Hire, onboard and train a storeroom supervisor.

③ Develop Program/Allocate Resources

Develop an onsite storeroom design and a project plan, and assemble a team to organize MRO stores operations. This step involved key client stakeholders, including a corporate materials management professional, the local plant supply chain leader, the storeroom supervisor, a new maintenance leader and the reliability engineer.

④ Secure the Area

The new storeroom area was fenced off and secured. Purchasing eventually bought high-density cabinetry, heavy storage racking, light storage racking and cylindrical storage units.

Construction Begins

PCA experts and the new storeroom supervisor then designed and built-out a best practices storeroom to conform to classic storeroom organization, supported by best practices and procedures.

- Parts were organized using space activity indexing by row, section, level, horizontal space and vertical space using an alternating alpha-numeric numbering scheme.
 - > Each part had its own location with only one part to a location.
 - > Each storage location was clearly labeled.
- Staging areas were established with signage for receiving, kitting, and returns.
- An office was set up for the storeroom supervisor, complete with computers, filing cabinets, a printer, a phone, and a fax machine, and installed a paging system.
- Receiving duties, as well as UPS and FedEx deliveries were moved from other departments to the storeroom supervisor.
- The storeroom supervisor cataloged parts—including their designated storage locations—using the CMMS/EAM system.

At this point, all parts had been cataloged, receiving had been controlled and accounts payables were up to date. As much as possible, excess parts were sold back to OEMs and vendors, and damaged or unusable parts were scrapped.

The assessment revealed that the project results had surpassed everyone's expectations. Over a year, client management estimates the firm will net more than \$4 million in reduced parts retrieval costs, alone.

Additional Cost Savings Anticipated Over Time

- Eliminating parts loss.
- Reducing spend on unneeded parts and supplies.
- Re-establishing company credit lines, resulting in preferred vendor parts pricing.

Documenting the MRO “Best Practices” Model

Success for the new system required more than building out a storeroom. In keeping with PCA’s approach, all practices and procedures would be fully documented, and personnel would be thoroughly trained to follow and support them. Program elements to be enshrined by the practices and procedures included:

- All parts were to be issued via approved work orders only.
- Formal policies would cover parts kitting, return of aged kits, and return to stores rules.
- A “return to vendor” protocol would be enacted, with vendor-managed “free issue areas” established and “point-of-use” vending machines at key plant locations.

To develop the standard operating procedures (SOPs) that would guide the firm, moving forward, PCA experts tailored PCA’s MRO storeroom best practices guidance based upon the client’s location, staffing and logistical specifics. The SOPs also included educational components to eliminate confusion and foster adherence, including explanations and illustrations of best practices, procedural instructions and CMMS/EAM screen shots with “how-to” directions.

In addition to procedural documentation, the SOPs incorporated MRO “roles and responsibilities” for the accounting, corporate IT, and maintenance and purchasing departments as well as for the maintenance planner, reliability engineer and storeroom supervisor. The resulting SOPs, when followed by the team, would ensure complete accountability and traceability for all parts entering and leaving the storeroom. When presented by PCA, the SOPs were quickly approved by plant management.

Final Execution

With the best practices framework fully developed and ready for action, maintenance personnel were issued electronic badges for secured storeroom access. PCA held training sessions for all maintenance, maintenance planning and reliability personnel, as well as for accounting and purchasing staff. Illustrated “one-point lessons” (OPLs) were drafted and posted to reinforce the training.

The improvement began in June 2016 and was fully completed by the end of the year. The client’s corporate management group conducted a post-implementation assessment after project completion. The assessment revealed that the project results had surpassed everyone’s expectations. Over a year, client management estimates the firm will net more than \$4 million in reduced parts retrieval costs, alone.

Over time, other, as yet undocumented but already confirmed cost savings will result from:

- Eliminating parts loss.
- Reducing spend on unneeded parts and supplies.
- Re-establishing company credit lines, resulting in preferred vendor parts pricing.

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About Performance Consulting Associates, Inc.

Since 1976, Performance Consulting Associates, Inc. (PCA) has been providing maintenance and reliability “best practice” support to global manufacturing corporations across all industries. Based in Duluth, GA, PCA has been delivering engineering and consulting services for Asset Reliability, MRO Stores and Maintenance Management—and now, Talent Process Management, as well. For more information regarding all PCA services, please visit <https://www.pcaconsulting.com>.



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