You are just about to finish your shift after a long day when you find out that a critical electric motor just failed. The technician tells you that he's pretty sure there is a spare for that motor, but its somewhere in the back part of the warehouse. When he finally locates it, it's not ready to be put into service -- the shaft hasn't been rotated since it was put on the shelf and it won't start. You might have another spare, but you've already lost a couple of hours and the downtime is already adding up. Is there a better way to handle this kind of stuff? Yes, there is a better approach: electric motor management.

# What Is Motor Management?

When most people think of motor management, they think of storing motors in a warehouse However, that isn't the entire picture. Motor management should include every aspect of a motor's life, from the time it is purchased until it is retired and everything in between (maintenance, repairs, rebuilds).

# Motor Management Programs - More Than a Spreadsheet

An excellent approach to motor management would be the use of a motor management program or motor management software. Now, this is more than just a spreadsheet where you keep all your motor information. Each one of your motors should have a file with information on all repairs and maintenance it has experienced (not unlike your medical file when you go to the doctor).

# Critical Items in a Motor Management Program

Now that we've discussed what motor management means, let's talk about some of the most critical information that your motor management program needs to handle.

https://www.hecoinc.com/heco-system/motor-management

# Questions Motor Management Programs Should Be Able to Answer

Let's start with some examples of typical questions that an individual motor's file should be able to answer:

- When it was purchased?

- Where did it go after purchase (to a shelf or directly into service)?

- How long was it on the shelf?

- Was the shaft spun?

- What were the electrical test results?

- What piece of equipment was it connected to?

- How long was it in service?

- What was the failure mode of the motor?

- What did the repair shop do to repair it?

- Did the repair shop make a modification to the motor to extend its life?

## Information on Spares

Obviously, a good motor management program starts with knowing what motors you have and where the spares for those motors are located. This helps you make educated decisions about your electric motors and will reduce your stress when a motor fails or has to be pulled for maintenance.

Spares won't do you any good if you can't find them, so knowing the location of all spares is very important. In addition, the spares need to be maintained while they are sitting on the shelf or they will not be ready when a motor failure occurs. There should be a record of the maintenance performed on them, as well as any repairs or issues that the motors have experienced.

## Record of Repairs

Along with the location of your motors, the status and a record of repairs performed on the motor (including how it failed, why it failed, when it was repaired, and whether any other units had similar issues) should also be

available. You should be able to easily track down a history of performance problems and how they were addressed, as well as have enough information to recognize any patterns.

## Predictive Maintenance

Your motor management data needs to be connected to your Predictive Maintenance (PdM) programs. If you have a motor due for maintenance next week, you will know if you have a spare ready to take its place, where that spare is located, and whether it's ready to drop in.

# Benefits of Motor Management

One of the most obvious benefits of motor management is knowing where your motors are and what condition they are in. That can make things run smoothly and also reduce your downtime when motors do fail or need to be pulled for maintenance. However, those aren't the only benefits to motor management.

## Reduced M&O Costs

Motor management can reduce M&O costs because of the detailed information it stores that can help predict impending failure or serve as a red flag that maintenance is needed. That information allows the motor to be attended to before a catastrophic (and expensive) failure occurs.

## Quick Motor Replacement

We've also talked about how motor management helps you keep those spares organized, easy to locate, and ready to drop in at a moment's notice, again reducing downtime and the costs associated with it.

## Increased Reliability

Motor management, when done correctly, will also increase the reliability of your motors. A motor that is well-maintained is automatically going to be more reliable than one that is not. However, a record of information about the performance of a motor, along with issues encountered and repairs needed, can help you know when a motor needs to be rebuilt or replaced.

# TracRat

At HECO, we recommend a motor management system that we developed called TracRat. This proprietary software handles all the information we've discussed here and can instantly provide you with extremely useful reports including repair history, location history, failure analysis, and the average time between service needs of the entire motor population.

TracRat is an excellent tool for not only tracking your motors and their history but determining if you need spares (or if you have too many spares), what motors you may be hanging on to that are obsolete, and what assets have no backup at all. You can optimize your inventory (and inventory costs) as well as track all the information you need about repairs, issues, and maintenance. And TracRat doesn't just work for motors, but all your motor-related repairable assets (e.g., gearboxes, pumps, etc.).