Critical Spares and Their Importance in Maintenance

Critical spares are a topic all of us have talked about throughout our maintenance careers. We all think we need them but only a small percentage actually pull it off and create an organized and documented critical spare program. The most common "program" I see is critical parts stored in closets, under a blanket of dust or worse stored with the vendor who promised you he would always have the part waiting for you. We all know how that worked out the last time we had a catastrophic failure and the part was nowhere to be found.

Critical spares are a key component of asset and system reliability. We will never stop all unexpected failures so to keep the operation up and running you will need access to parts for your critical systems in a timely fashion.

**So what are critical spares?**

Critical spares are spare parts and equipment needed to keep your operation or facility running and functional within a predetermined amount of downtime or some level of reduced service.

The first step to getting a handle on this topic is to get management buy-in on what level of service is acceptable for your particular business unit. This will require some honest and sometimes difficult discussions. A big hint here is make sure management is in on the final decisions, if not you will be taking the heat when the AC fails and there are no critical spares anywhere to be found.

**So how much downtime can you stand?**

- If none is the answer then you need installed spares or redundant systems
- If you can stand two days with the lights off in the conference room then maybe no spares are needed on-site
- If you can only stand four hours of downtime or reduced levels of service then you need all critical spares you think you need to get the asset back running quickly

The second major task to tackle, once you have some direction from management around the expected service levels for the facility and its systems; is to identify which assets and systems require spares to be stocked and labeled as critical. This can be a simple system or a complex process-oriented program; whichever is required. Most organizations simply walk through the facility (literally) or walk through while looking at plans of the facility site diagrams in a conference room. While walking through ask yourself what happens if this fails? What will it do to the operation, employees, and possibly customers? Once you establish the critically of the system then determine what spares you should have to enable you to make quick and proper repairs.
A more systematic and process oriented method is a "FMEA" (Failure Mode and Effect Analysis). FMEA's are documented, scored, and weighted process analysis which will clearly prioritize your potential failures and outages.

Over the next couple of months I will dedicate the "Tip of the Months" to explaining the FMEA process and give some examples of how to set-up the process.

So let's get started with your critical spare program, develop management's expectations of service levels and up-time.

- Start with your life safety systems and high priority utility systems like your main power feeds
- Ask yourself what spares you need to get them back up and running rapidly
- Organize your parts, secure them, document location and use

Remember, it is not luck that you had the right part at the right time; it is when opportunity meets preparation.