

White Paper: Driving Thermal Processing Efficiency with OEM Parts Replacement Strategies

By Jason Ladd, Pulse™ Group Leader

Months or even years of planning have gone into buying your company's new thermal processing equipment. The executives have cut ribbons and pictures have been taken. Now the countdown begins; degradation starts as soon as the installation is complete and the equipment is turned on. The equipment is heading toward its first failure.

Replacement Part Options

Any technical piece of equipment will eventually fail and need repair. The same executives who were so joyful are now asking why the equipment is not running and when will it will be operational again. Pressure is on, and typically the repair will include the replacement of worn or dysfunctional parts. Your responsibility is to make sure the thermal equipment is operating properly, since research and/or production are counting on it. Decisions need to be made quickly and efficiently. Assuming your technical staff has the training to diagnose the problem and identify the parts needed to be replaced, the next question is where to obtain those parts.

In a corporate world of three bids for every purchase, actual value is often lost. Original equipment manufacturer (OEM) parts or other sources become a choice. Quite often, the choice of aftermarket parts or even direct source parts is made by actual purchase price alone. Aftermarket parts are copies that appear to have the same function as those originally installed. Direct source involves taking a part from an assembly and going to the original manufacturer of that particular part. OEM parts are those purchased from the original equipment manufacturer and bring a much wider value that should be heavily considered. Planning your purchase strategy before the need arises improves cost efficiency and long-term reliability. Your manufacturer can provide technical support, updated parts, history and a partnership of investment to decrease overall costs.

The Bigger Picture

Diagnosing the problem and procuring the replacement part are only the beginning of the repair process. When replacement parts are received, they need to be installed, integrated, adjusted and maintained. Quite often, a part is integral to the entire system, often requiring technical assistance for proper installation and commissioning. The OEM not only understands the function of replacement parts, they also have knowledge of the proper performance within the system as a whole. Access to engineers, designers and original builders is often possible through the OEM's technical support department. Quality technical support eases installation and provides confidence that the replaced parts will function properly when put into use.

Consider this example: A company had selected to purchase a less expensive sensor from a source other than the OEM. For a while, the sensor worked as required and all seemed well; however, deterioration had started

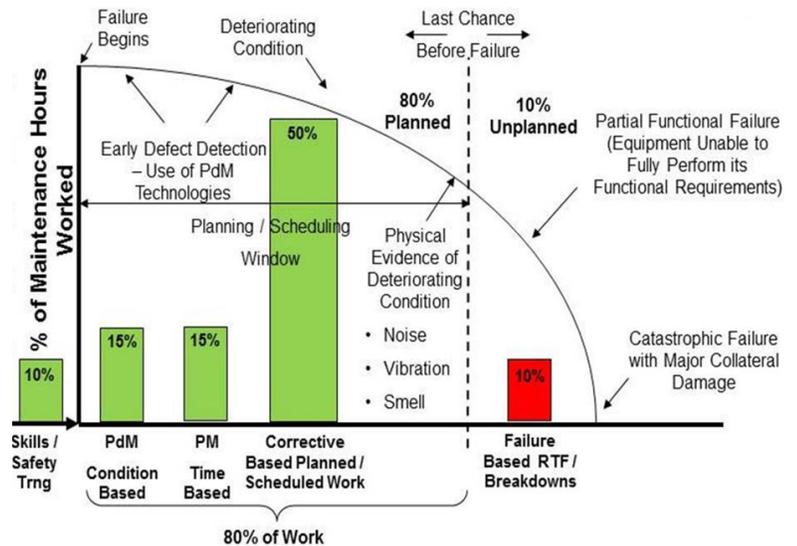


Figure 1. Equipment Failure Timeline

immediately and proceeded slowly. As time passed and a failure occurred, the sensor was replaced, but another immediate failure occurred. The production of this unit was shut down for a number of days until it was determined by those involved that a non-OEM part had been installed. In the time since the installation, the part's origin had been forgotten and the staff was not aware of some of the proper installation techniques. Finally, a call was made to the original manufacturer and it was determined that the part was not an OEM-supplied part. A correct replacement was provided, along with technical assistance, and the equipment was able to restart and work properly. The customer was then offered a plan to upgrade the sensor system to newer technology based on designs that the OEM was instituting on current equipment.



Image 1. The risk of partial or catastrophic failure can be greatly reduced by replacing and repairing at scheduled intervals based on time used or other measurable conditions.

A usage history is developed and kept when using a single-source OEM supplier. The history becomes helpful to find trends and predict future preventative maintenance strategies. In addition, the OEM uses this historical data to make improvements in future components and equipment. Complete data can provide cost analysis and wear predictions, and aid in future troubleshooting. Consistent feedback with your OEM will be combined with their knowledge from other users of similar equipment, allowing more accuracy. A critical spare parts strategy will have parts in stock when needed, reducing downtime and expediting charges.

Aftermarket part suppliers offer lower cost based on copying parts that have already been engineered by an OEM. OEMs will continue to improve on design, do research and integrate the better products into new model designs. Quite often, an OEM will recommend those changes to the customer with existing equipment during discussions about replacement parts. The continuity of parts as they are replaced is maintained if purchased through the single OEM supplier. Occasionally during the lifetime of the equipment, some parts may become obsolete. If this happens, the manufacturer is best-equipped to recommend a replacement that will be compatible and not harm other system components.

Developing a Partnership

A partnership between the customer and OEM is crucial. The OEM has added advantages for working with suppliers on cost and warranty, as they are usually purchasing such parts on a larger scale than the individual user. Use this leverage to your advantage and have the OEM assist with warranty claims. Factory-trained technicians often have very specific skillsets to support repairs, and many times the technician has performed the functions as part of the manufacturing process. This is another point at which a complete systematic understanding is of great advantage. Unfortunately, all manufacturers do not stay in business. If this occurs, contact a similar manufacturer; they may be able to assist you.

Every business is constantly looking to increase the bottom line, and one of the most effective ways of doing so is to reduce spending. Limited budgets for maintenance staff and replacement parts cause stress for those responsible for keeping equipment running efficiently. All parts begin to wear as soon as they are put into use, and efficiency begins to be affected. A controlled deterioration with planned replacements is best predicted when working with the manufacturer. The risk of partial or catastrophic failure can be greatly reduced by replacing and repairing at scheduled intervals based on time used or another measurable condition. You have researched and spent considerable time selecting the manufacturer that you will invest in to produce your capital equipment; continue to