Constructing an Effective Lubrication Procedure





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Noria Corporation

What is an effective lubrication procedure? A procedure is a step-by-step guideline that directs the user through a task. Therefore, a lubrication procedure would guide the user through a specific lubrication task. There are many types of tasks, such as: manual bearing lubrication, gearbox filling, gearbox checking, gearbox top-off, gearbox cleaning, kidney loop filtration, sample collection, etc. Each of these tasks will have some degree of uniqueness, as well as a lot of overlap with other similar lubrication tasks.

When preparing a lubrication procedure, consider the following:

1. Strategy - how does the procedure support the broader maintenance strategy?

2. Purpose - what needs to be accomplished?

3. Procedure - how is the task accomplished, including the many details that determine safety, efficiency and effectiveness?

While there is no single approach to defining the purpose and the individual tasks for the procedure, certain specifics must be included to remove ambiguity and assure compliance. The purpose should include at a minimum:

1. The name of the item to be addressed (example: A/N 10043CD conveyor drive).

2. The objective of the work (semiannual coupling inspection and relubrication).

3. Identification of the individual to perform the task (Lubrication Technician, MLT Level I Certified).

4. Operational and safety conditions (example: equipment must be locked out before work can be accomplished).

5. The amount of time allocated to the task.

The details should identify what is to be done, where it is to be done, who will do the work, tools and materials needed, special issues surrounding the work (safety, operational) and how much time is allotted to the task. In the process of devising and writing procedures, expect to find major similarities between like components grouped

by maintenance strategy. A template can be created with a significant amount of generic information or structure to facilitate the process without diluting the results.

Procedure

While keeping the strategy in mind, the procedure needs to support five principles, or tenets, historically referred to as the five Rs of lubrication. The five Rs are:

1. The right product,
2. The right place,
3. The right amount,
4. The right time,
5. The right attitude.

Digging for details is a must for the first four Rs. Sometimes the details are within easy grasp. Sometimes guidelines are developed as progress is made and when the team has a better understanding of what is needed.

The Importance of Lubrication Procedures

1. Work Scope - Procedures clearly scope the work an individual is expected to perform. They ensure work is done the way management or engineering requires. If management wants 12 shots of grease pumped into the bearing, allowing 15 seconds to elapse between shots, this desire can be clearly documented in the procedures.

2. Consistency - In the absence of procedures, five technicians are apt to perform the same task five different ways. In the absence of a procedure, each individual has the freedom to "personalize" the task at hand. Inconsistency produces undesirable results. Documented procedures bring uniformity into the lubrication task while keeping everyone on the same page.

3. Best Practices - A procedure creates the framework for standardizing best practice. It serves as the container in which to pour the experience and expertise of employees, outside consultants, vendors and others into a single document. This convergence process also enables the team to align the procedure to the goals of the organization. Just enough "best practice" for one machine may be too much for another, depending upon the relative importance of the two machines to plant operations, even if the two machines are identical in design.

4. Training - Arguably, the most important role of lubrication procedures is that they form the basis for training lube techs. Basic training about lubrication, lubricants, oil

analysis, etc., is designed to provide the foundation that enables the individual to think like a lube tech. Certification is another important part of the training process because it confirms that the individual possesses the skills to perform the job functions. This is called technology training. While it is important, technology training fails to convey specific task-based instructions for completing a lubrication-related work order. A set of procedures serves as a natural curriculum for task-based training. It also serves as the basis for evaluating an individual's ability to carry out the assigned tasks. Combining basic technology training and third-party certification with task-level training and skill-verification creates a powerful combination and a valuable employee.

Elements of an Effective Lubrication Procedure

1. Emphasize Best Practice - As previously mentioned, procedures enable the incorporation of best practice. However, this is not automatic. A concerted effort must be made to build best practice into the procedure. Access the experience and knowledge of your own maintenance team, and bring in outside support as required to ensure that your procedures are up-to-date and aligned with your business goals.

2. Communicate Clearly - Use clear, easy-to-understand language when creating procedures. Also, use digital photographs to reduce the procedure's dependence upon words. For intricate tasks, a digital video is an excellent way to communicate tasks that are difficult to describe with words. Consider procedures that include a top-view of the plant, along with easy-to-spot landmarks, ones which reveal the location of the machine. Getting to the right machine is the first step.

Use sketches or photos to identify the physical location of the lube point too. Lube points are occasionally missed because their location is unknown to the tech. Identify required tools and materials for completing the job, to improve work planning and assembling a tool kit. Also, don't forget to identify general safety practices and any specific hazards associated with performing a particular lubrication task.

3. Electronic - Get your lubrication procedures in an electronic form, preferably on your company-wide intranet, or onto an Internet account for those of you moving toward Web-based application support. When the procedures are electronic, they can be updated globally, attached to work orders and linked to like machines in your CMMS system. Digital photographs and video images can easily be attached to a document. Documenting your procedures electronically makes sense. It is more efficient and effective than the old paper and three-ring binder method.

4. Continuous Improvement - There is a downside to procedures. Without management, they can anchor the organization to the past, inhibiting the inclusion of

new technology and best practices. Be sure your program includes a periodic review and improvement process to update and upgrade lubrication procedures. Keeping your procedures in an electronic form simplifies continuous improvement because updates don't require tedious activities to physically replace pages in your lubrication manual. Changes can be documented and communicated in one memorandum, while updating the procedures themselves requires only the touch of a button.

Conclusion

The perpetual nature of the lubrication process offers both challenges and rewards. The benefits and drawbacks are cumulative. By refining the strategy, working through the details and devising high value procedures, you can position yourself to add long-lasting value. Every dollar saved through a new lubrication improvement is saved over and over again. This is called an annuity. This makes each dollar saved worth much more than the face value of the initial dollar saved.

The process is both orderly and detail oriented. Consider operational circumstances and then correctly identify the right product, the right place, the right amount, the right time, and then apply these excellent practices with the right attitude.

To achieve and maintain a competitive position in a hyper-competitive world, a company must work as a team to build value in each segment of the process. The development of world-class lubrication standards and practices is long overdue in many organizations.

How Noria Corporation Can Help

Noria Corporation's Lubrication Process Design (LPD) program addresses the three critical areas of lubrication excellence: machinery lubrication, contamination control and oil analysis practices. Our team of specialists engineer world-class lubrication practices for you, and document those decisions in the form of highly specialized Standard Operating Procedures (SOPs) which are quickly and easily integrated into your plant's PM (preventive maintenance) program.

For more information about Noria's Lubrication Process Design program, contact Stacey McCauley at smccauley@noria.com or 662-890-9392.