

# Hidden Benefits of Lubricant Consolidation

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## Introduction

Imagine an industrial plant with numerous pieces of equipment operating to complete their production processes. In most cases a plant uses a large number of lubricants to reduce friction in the equipment to keep it running smoothly. Assume this same plant has yet to implement a Reliability Centered Maintenance program. One of the first critical steps in implementing an effective RCM program is to perform a reliability assessment, which often reveals opportunities for lubricant consolidation.

Lubricant consolidation can provide various RCM program benefits. It is highly recommended that any consolidation and conversion of lubricants within an operation be done systematically.

## Reliability Assessment

Before lubricant consolidation can occur, a thorough reliability assessment needs to take place. Questions that should be asked during the assessment are listed below. The answers to these questions will indicate whether your organization is likely to experience benefits from lubricant consolidation.

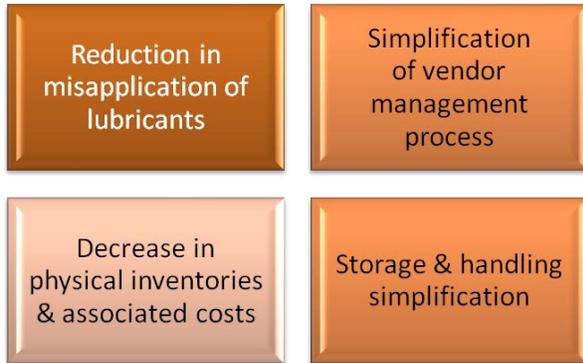
- How many different types of lubricant are being stored in inventory?
- Are the lubricants in your plant stored in an organized, contaminant-free manner?
- How many inventory locations are there where your lubricants are stored?
- Have you ever run out of lubricant when you really needed it?
- Have you ever had the wrong lubricant introduced into your machinery?
- Do you purchase your lubricants from multiple suppliers?
- Has the wrong lubricant ever been incorrectly ordered?
- Do you know the actual lubricant specifications for your equipment?
- Have the lubricant application parameters changed in the equipment?

Unfortunately, not everyone has the expertise to perform the assessment. Therefore, many plants outsource this activity to a lubrication consultant or company with the right capability and experience. After the reliability assessment has been performed, the process of lubricant consolidation will normally follow a simple process.



## Lubricant Consolidation Benefits

As the name might suggest, lubricant consolidation is a process through which a large number of individual lubricants are reduced down to a manageable few. Various benefits such as those shown below can be realized with lubrication consolidation.



### Reduction in Misapplication of Lubricants

The more lubrication products a plant stores, the more opportunities there will be for the wrong lubricant to be introduced into the equipment. Many plants rely on employees who may not be fully trained on basic lubrication principles and fundamental equipment viscosity standards. Equipment is not always readily identified as to which lubricant viscosity must be used. Regardless of the situation, introduction of the wrong lubricant type or viscosity can create unplanned downtime and be expensive to correct. The wrong lubricant introduced into equipment unnoticed can cause premature equipment failure. Lubricant consolidation helps reduce the opportunities for misapplication of lubricants by reducing a large number of available lubricants down to a manageable few.

### Simplification of Vendor Management Process

Before lubricants can be stocked and used in an industrial plant, they must be purchased. Sometimes lubricant procurement is performed directly by maintenance or reliability personnel. Larger plants often have a purchasing department that orders supplies on behalf of the department that requests them. Employees securing materials are not always versed in the science of lubricant standards or equipment viscosity needs. Sometimes communication errors occur and the wrong product type or viscosities are ordered. If this occurs at a critical time, it could result in downtime. Lubricant consolidation will help reduce the amount of time employees spend seeing suppliers, expediting purchase orders and negotiating lubricant pricing.

### Decrease in Physical Inventories & Associated Costs

Plants and other users of lubricants often have opportunities for supplier or lubricant consolidation, such as when they purchase the same type of lubricant from different suppliers to service different locations or different pieces of equipment. An example would be a plant with various air compressor manufacturers recommending their private brand lubricant when quite possibly one product would cover all of the manufacturers' requirements. In this case, the same type and viscosity lubricant could be used in multiple locations across the plant, providing a total product volume that enables better pricing from one supplier. Combining total volume into one manageable lot will also streamline the purchasing process. Another benefit is that with bigger volumes, the plant is less likely to run out of the lubricant because of a reorder point being missed.

Fewer lubricants mean reduced inventory carrying costs. On the flip side, the more lubricants a plant buys, the higher the dollar value of inventory consuming company cash assets that could be used for other needs. Lubricant consolidation can also limit loss and contamination issues, especially important with expensive lubricants. Another important point to remember is that lubricant purchases cannot always be planned and having the right amount on-hand is critical to continuous plant operations. The following table provides a breakdown of the percentage of inventory carrying costs that can be associated with each of these items.

<b>Typical Breakdown of Lubricant Carrying Costs</b>	
<b>Item</b>	<b>Typical Cost percentages</b>
Cost of space (heating, lighting, depreciation, etc.)	1 to 3%
Handling cost	1 to 3%
Stock obsolescence	1 to 3%
Spoilage, pilferage, inventory damage, etc.	3 to 10%
<b>Total</b>	<b>6 to 19%</b>

### **Storage & Handling Simplification**

Imagine a plant’s lubricant storage room containing upward of 30 lubricants that must be purchased, stocked, monitored and maintained. First of all, if the plant’s lube room is not orderly and contaminant-free, this creates a variety of problems. Keeping this room clean, organized and contaminant-free long-term is exacerbated when there are a large number of lubricants.

Worse yet, some plants do not even have a lube room. In this case, the lubricants are stored throughout the plant, making this inventory management process difficult. One of the worst things that can happen is to run out of a lubricant when it is needed the most. According to Murphy’s Law, this will always happen at the worst possible time – probably in the middle of the night on a holiday or during peak production demand.

A contaminant-free, well organized lubricant storage room is a vital part of any RCM program. Many companies are now recognizing this need and are investing in refurbishment of their lube rooms. Before budgeting for this, make sure lubricant consolidation has been considered as part of the process. Opportunities may be presented to reduce the necessary expenses that must be incurred while planning the footprint for the lube room.

### **Case Study: FPL Food, LLC**

Located in Augusta, Ga., FPL Food is the largest privately owned, fully integrated beef processing facility in the Southeastern United States. The company’s three-part goal was to build a world class lubrication storage room, reduce cross contamination and control inventory. Ed Noland, maintenance manager, wanted to consolidate, organize and clean up his lubricant storage room and prepare for a major audit from an outside agency. Passing this audit would help FPL secure a contract to sell beef products to Wal-Mart (1).

After a thorough reliability assessment was performed, LE lubrication consultant Mark Jones conducted a survey of all the lubricants. Twenty lubricants were being used in the operation. After implementation of a complete RCM program, the number of lubricants was consolidated to only 11 – nearly half of the previous number. FPL’s planner, Cory Ashley, stopped receiving late-night phone calls asking what lubricants go into what equipment. This is a great example of the benefit of lubricant consolidation.



## Conclusion

When an industrial plant makes the decision to implement a reliability program, one of the processes that should be implemented is the lubricant consolidation process. Not all lubricant vendors are capable of providing this service. Those that can will provide huge benefits to these industrial plants, including reduction in lubricant misapplication; simplification of vendor management; decrease in physical inventories and associated costs; and storage and handling simplification. After a lubrication consolidation process is successfully implemented, it often leads to additional benefits, such as extended drain intervals, reduced lubricant consumption, decreased maintenance, and decreased energy consumption. Ultimately, all of these will result in reduced operating and maintenance costs and help increase company profits.

If you would like more information about lubricant consolidation, contact your local Lubrication Engineers consultant. If you do not know your local representative call, e-mail or visit our online rep locator page:

- 800-537-7683
- [info@le-inc.com](mailto:info@le-inc.com)
- [www.l Lubricants.com/replocator.php](http://www.l Lubricants.com/replocator.php)

## References

1. Jones, Mark, "Customer Testimonial: Lubrication Storage Room," Lubrication Engineers, Inc., Fort Worth, February 2008.