

Cost Savings Study: Implementing a Lubrication Reliability Program

In 2011 a small box manufacturing plant in the United States looked to cut their unscheduled downtime and lubricant usage in the plant. They were chosen to be a beta site by their company to begin the journey to First Class Lubrication Reliability. They enlisted a consultant to help them get started on the journey. Here is their story:

They chose several champions within the plant – from the VP of Operations to the Lube Technician responsible for lubricating the plant assets. They started with education – five of them got their MLT I or MLA I (Machinery Lubrication Technician or Analyst) from ICML (International Council for Machinery Lubrication). This formed the basis of their understanding of what the program needed to look like. They established three basic KPIs: Gallons of lubricant used, number of man-hours needed to lubricate their assets, and unscheduled downtime related to lubrication issues. They then formulated a plan with the following steps:

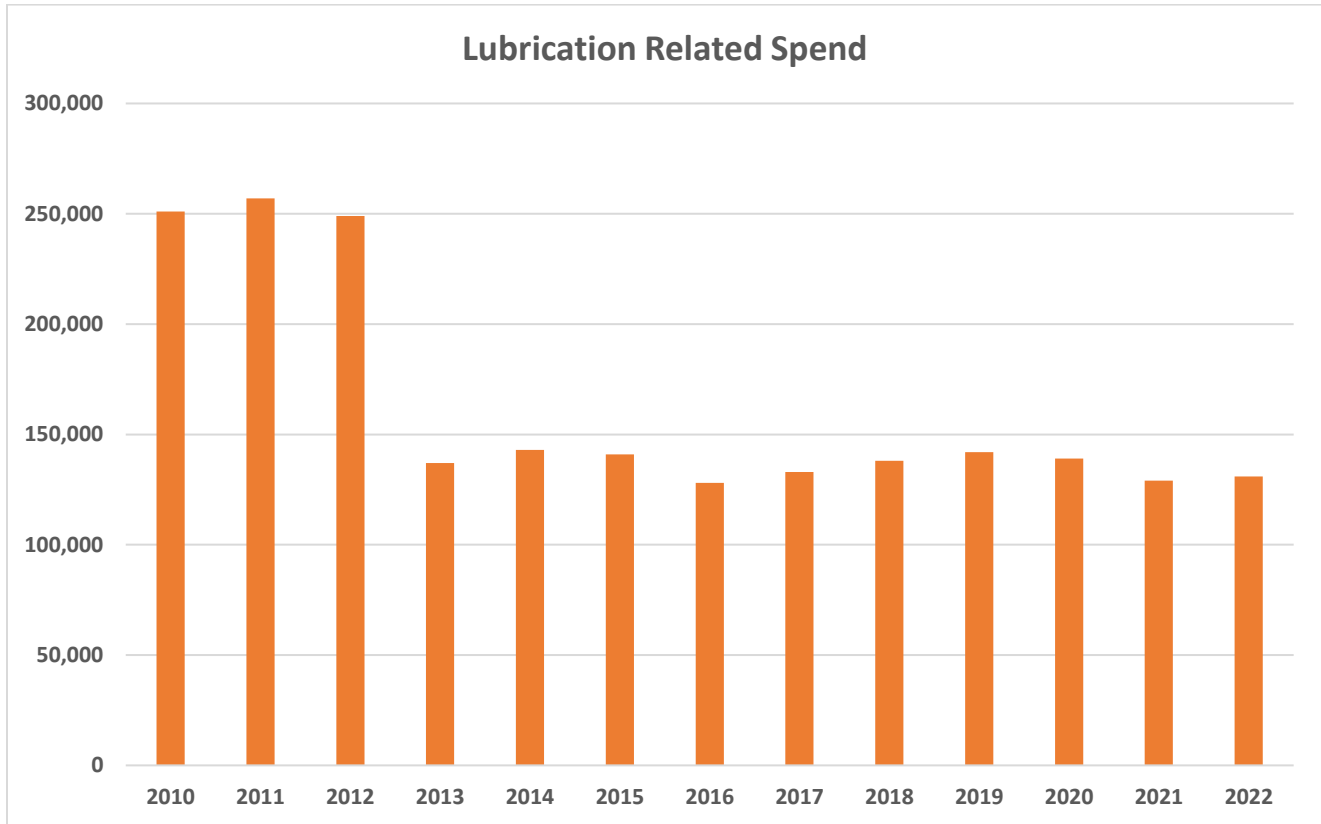
- 1) A lubrication survey – it covered all 381 assets - Gear Boxes, Electric Motors, Compressors, Hydraulic units, and other pumps.
- 2) Lubrication Storage and Handling – purchased new OilSafe storage and transfer equipment and moved the lubricants into a clean, temperature-controlled room. They also purchased color-coded containers and tags for all assets.
- 3) Determined all “critical equipment” and started using oil analysis to tell them the condition of the oil and the asset. This allowed them to change the oil based on condition rather than time.
- 4) Purchased filter carts for all 3 types of oil in the plant (hydraulic, gear, and compressor) so they could use the oil analysis recommendations to clean and “polish” the oil when needed rather than just changing it.
- 5) Installed Air Sentry desiccant breathers on critical gearboxes and hydraulic units to prevent moisture and particulate damage. This improved the cleanliness of the oil, helping them meet their ISO cleanliness goals for the equipment.
- 6) Sight glasses were installed on all gearboxes, pumps, and hydraulic units to allow for easy visual inspections.
- 7) Installed Automatic Lubricators/Lubrication systems where needed. (remote areas, assets with daily/weekly lubrication needs)

This program took more than 18 months to implement. They started with the most critical equipment and accomplished most of the major changes during scheduled downtime. Staying on track was difficult, but they kept the program moving forward through various obstacles and setbacks.

As a result, they realized the following reductions to their KPIs:

- 1) Lubricant usage lowered from an average of 900 gallons per year to an average of less than 300 gallons per year.

- 2) Man hours reduced from an average of 2080 per year to an average of less than 800 per year.
- 3) Unscheduled downtime reduced from an average of 800 hours per year to an average of less than 200 hours per year.
- 4) Average lubrication related spend was reduced from an average of \$252K per year to an average of less than \$137K per year (see attached chart). This totaled more than \$1.1 million dollars over 10 years.



Note: 2010-2012 represents the 3 years before fully implementing the Lubrication Reliability Program

Conclusion: What savings could you experience if your plant went to a complete Lubrication Reliability Program?

Other resources:

Developing an Effective Lubrication Management Program

<https://www.efficientplantmag.com/2013/08/developing-an-effective-lubrication-management-program/>

3 Steps to Effective Lubrication Management

<https://www.machinerylubrication.com/Read/252/lubrication-program-design>

<https://www.oilsafe.com/resources/videos/#>