

Air Sentry® Saves Manufacturer \$340K

PROBLEM

Construction material manufacturer needed to reduce costs and improve system reliability.

GOALS

- Conduct plant survey to determine equipment needs and requirements
- Extend fluid and equipment life
- Reduce maintenance costs
- Improve system reliability

RESULTS

- Reduced gearbox failures by 50%
- Extended gearbox oil life by 50%
- Reduced gearbox maintenance expenses by 50%
- Saved 500 man-hours related to downtime expenses



In an effort to cut costs and improve system reliability, a manufacturer of high quality construction materials examined maintenance costs of their fifteen facilities. One of the findings showed spending in excess of \$650,000 annually to maintain and repair 500 gearboxes across all plants.

Gear oils were replaced every six months in an effort to reduce equipment failure and downtime due to oil degradation and contamination. In doing this, the facilities' combined consumed petroleum and synthetic based lubricants resulted in the use of over 10,000 gallons per year, with an average of 10 gallons used per gearbox. At an average cost of \$14.00 per gallon, the costs were astronomical.

Man hours related to the repair and maintenance of these 500 gearboxes was estimated to be a minimum of 1,000 hours annually, with a rough estimate of \$40.00 per man hour. Production line downtime exceeded 1,000 hours due to maintenance or repair of the gearboxes. When the production lines went down, the lost time was estimated at being worth \$500 per hour in produced goods.

Armed with these numbers, the Corporate Maintenance Manager attended training on contamination control. He heard how desiccant breathers were considered the "First Line of Defense" in contamination control and how they could help to eliminate contamination in gearboxes by blocking water and dirt before it ingresses into the lubricants inside the gearbox.

Air Sentry® conducted a "Contamination Control Plant Survey" (CCPS) at each of their 15 plants and provided documentation about each piece of equipment. Once the CCPS was performed, Air Sentry® reviewed the equipment needs and requirements and provided recommendations. These recommendations suggested how to begin best practices and eliminate contamination.



After the plant survey, Air Sentry® X-100 breathers were installed on all gearboxes. A series of third party water and particle tests confirmed the reduction of contamination below ISO cleanliness standards. Scheduled replacement of lubricants was cut back from twice a year to only once a year. This resulted in a savings of lubricant costs by more than 50% in the first year.

The actual measured savings on gearboxes varies depending on your cost of lubricants, man-hours and downtime. In this study, the lubricant cost the customer, on average, \$14.00 per gallon. The average gearbox held approximately 10 gallons. The number of gearboxes was a combined 500. They were changing the oil out every 6 months to stay ahead of the downtime curve. The average cost per man-hour was \$40.00. The production line down time cost averaged \$500 per hour. The estimated down time averaged 1 hour per oil change at 500 dollars per hour minimum downtime for 500 gearboxes twice annually.