



Multilec® Industrial Oil (6805)

City of Rapid City WWTP – South Dakota

Spencer Rotary PD Blowers

- Reduced amperage

Customer Profile

The City of Rapid City operates a state of the art wastewater treatment plant in Rapid City, South Dakota. The plant has recently been modernized, adding new equipment to improve water treatment requirements.

Application

The rotating biological contactor system employs three Spencer model RTV129H rotary PD blowers, rated at 50 HP each.

Challenge

Keith Blasshell, plant maintenance supervisor, was interested in saving operating expenses for the City by using higher quality lubricants to achieve longer oil drain intervals and possibly energy savings.

LE Solution

After researching for the proper manufacturers lubricant requirements, Multilec® Industrial Lubricant (6805), ISO 150 was recommended for this application by Mike Carter, LE lubrication consultant. Multilec 6805 is a very high quality industrial oil, designed for reduced machine wear, long drain intervals and energy reduction. A commercial grade product was in use prior to the conversion to LE.

Results

Prior to flushing and changing oil, amperage readings were recorded on each blower. Average amperage was documented at 50 amps. After changing to Multilec 6805, average amperage was recorded to be 38 amps.

The following formula is used to calculate the estimated yearly energy savings:

$$\begin{aligned} & \text{Volts} \times \text{Amps Saved} \times 1.73 \text{ (3-phase conversion factor)} = \text{kW Saved} \\ & \text{kW} \times \text{Hours of Operation} = \text{kWh Saved} \\ & \text{kWh} \times \text{Electrical Energy Cost} = \text{Dollars saved} \end{aligned}$$

$$\begin{aligned} & .480\text{v} \times 12\text{a} \times 1.73 = 9.965 \text{ kW} \\ & 9.965 \text{ kW} \times 8760 \text{ hr} = 87292 \text{ kWh} \\ & 87292 \text{ kWh} \times \$0.34/\text{kWh} = \$2,967.92 \end{aligned}$$

Yearly electrical savings are estimated to be \$2,967.92 per blower, for a total electrical savings of \$8,903.76.

Other Products Used

- Almasol® Worm Gear Lubricant (680)
- Almaplex® Industrial Lubricant (1275)
- Almagard® Vari-Purpose Lubricant (3752)
- Multilec® Industrial Oil (6804)
- Monolec® GFS Engine Oil (8440)
- Monolec Ultra® Engine Oil (8800)

Thank you to Keith Blasshell, maintenance supervisor, and to Mike Carter, LE lubrication consultant (pictured), for providing the information used in this report.





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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.

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