



## Monolec® R & O Compressor / Turbine Oil (6404)

### Wastewater Treatment Plant in Northwest Oregon Collection System

- Saved 7.7% in annual power consumption

#### Customer Profile

When used at a wastewater collection system and lift station, pumps are employed in large sophisticated systems where the topography will not allow for gravity flow.

#### Application

Screw pumps can be used for pumping raw wastewater, sludge or slurries, and have the advantage of requiring less site excavation and no need for suction piping. They provide constant operating efficiency and non-clogging operation. The collection system represents a large portion of the investment in a sewage system, so substantial importance is placed on proper protection for the pumps.

#### Challenge

The wastewater treatment plant was interested in reducing operating costs.

#### LE Solution

The local LE lubrication consultant originally approached this wastewater treatment plant account promoting the benefits of LE's ZAP Energy Saving Program. Interested in reducing costs, the plant superintendent agreed to purchase and evaluate Monolec® R & O Compressor / Turbine Oil (6404) in their #2 screw pump.

Monolec 6404 is an ideal product for this application. It is specifically designed to combat the effects of high temperatures, water, contaminants and heavy loads, which accelerate wear. It offers excellent oxidation resistance, exceptional lubricity and does not emulsify with water. Formulated with carefully selected and refined paraffinic base oils, it has a high natural viscosity index, ensuring minimal viscosity change as temperatures vary, resulting in better sealing between, and separation of metal surfaces.

#### Results

The following formula is used to find the cost of operation on a unit's electrical consumption. This is the same formula used by the local utility company.

$$\begin{aligned} & .\text{Volts} \times \text{Amperes} \times 1.73^* = \text{kW} \\ & \text{kW} \times \text{Hours of Operation Per Year} = \text{kWh} \\ & \text{kWh} \times \text{Electrical Charge} = \text{Electrical Savings Per Year} \\ & \text{*Conversion Factor for a 3-Phase Power Source} \end{aligned}$$

#### Cost Analysis Breakdown

##### Monolec 6404

$$\begin{aligned} & .460 \times 10.9 \times 1.73^* = 8.67 \text{ kW} \\ & 8.67 \times 8,760 = 75,949.20 \text{ kWh} \\ & 75,949.20 \times \$0.04631 = \$3,517.21 \end{aligned}$$

##### Commercial Grade ISO 100 Lubricant

$$\begin{aligned} & .460 \times 11.8 \times 1.73^* = 9.39 \text{ kW} \\ & 9.30 \times 8,760 = 82,256.40 \text{ kWh} \\ & 82,256.40 \times \$0.04631 = \$3,809.29 \end{aligned}$$

Monolec 6404 saves 7.7% in annual power consumption for a savings of \$292.08 in electrical costs.

#### Other Products Used

- Almaplex® Industrial Lubricant (1275) is used on the Belt de-watering press. The maintenance personnel say that Almaplex 1275 is lasting four times longer than the previous grease.

Thank you to Greg Kucera, and to the local LE lubrication consultant, for providing the information used in this report.



Monolec® and Almaplex® are registered trademarks of Lubrication Engineers, Inc.

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

SIC 4952  
LI70191 01-01

300 Bailey Avenue • Fort Worth, TX 76107 • Fax: 800-228-1142  
LE operates under an ISO 9001 Certified Quality System.



[www.LElubricants.com](http://www.LElubricants.com)  
800-537-7683