

ITEM #:	<u>6</u>
DATE:	<u>12-23-25</u>
DEPT:	<u>W&PC</u>

COUNCIL ACTION FORM

SUBJECT: PROCUREMENT OF UV DISINFECTION PARTS AND SUPPLIES AT WATER POLLUTION CONTROL FACILITY

BACKGROUND:

In 2010, the Water Pollution Control Facility's (WPCF) National Pollutant Discharge Elimination System (NPDES) Permit required installation of a disinfection system for effluent prior to release into the receiving stream. The WPCF utilizes ultraviolet (UV) light technology to disinfect the effluent. UV is critical to the treatment process, serving as the primary method for deactivation of pathogenic organisms' ability to reproduce and cause illness.

The effectiveness of a UV disinfection system depends significantly on the intensity of UV radiation. The primary factor affecting the intensity is the age of the lamps which have a limited life for effective treatment. As lamps age, the light intensity falls off and reduces their efficiency. The manufacturer recommends replacement of the lamps after 12,000 hours of run time; approximately every two years. Additional wear and maintenance parts requiring annual replenishment include quartz sleeves that protect the bulbs, ballasts, and a specialized cleaning solution for the automatic sleeve cleaning system. Staff recommends the purchase of the approximately half of the required lamps, quartz sleeves, ballasts, and cleaning solution each year to help balance the costs between fiscal years.

In the past, staff has purchased aftermarket manufactured lamps but found that they worked poorly and led to operational difficulties. Water and Pollution Control staff has worked with the Purchasing Division to ensure that a single source purchase complies with the adopted Purchasing Policies. **The price quoted for replacement parts and supplies this year is \$57,145.10. Funding for this purchase is available from the \$150,000 included in FY 2025/26 operating budget for equipment parts/supplies.**

ALTERNATIVES:

1. Approve the single source procurement of OEM lamps and supplies from Trojan Technologies Corp in the amount of \$57,145.10.
2. Do not authorize the procurement of replacement UV lamps from Trojan UV at this time. Failure to replenish the wear parts and supplies will eventually result in a violation of the facility's discharge permit and increase pathogen levels in the South Skunk River.

CITY MANAGER'S RECOMMENDED ACTION:

As UV lamps age, the light intensity decreases and reduces their effectiveness in disinfection of the effluent. Proper maintenance of the UV system helps protect the water quality in the South Skunk River and ensures continued compliance with the Water Pollution Control Facility's discharge permit. The Trojan Technologies Corp lamps have a proven track record of disinfecting for the rated 12,000 hours when used in conjunction with their OEM quartz

sleeves, ballasts, and cleaning solution. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as described above.