

ITEM #: 15
DATE: 02-13-24
DEPT: W&PC

COUNCIL ACTION FORM

SUBJECT: **PROCUREMENT OF UV LAMPS FOR WATER POLLUTION CONTROL FACILITY**

BACKGROUND:

In 2010, the Water Pollution Control Facility's (WPCF) National Pollutant Discharge Elimination System (NPDES) Permit required for the first time that the treated plant effluent be disinfected prior to release into the receiving stream. As result of this new requirement, the WPCF installed an 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 hours 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. Since the system operates only between March 15 and November 15, the replacement frequency is approximately every two years. Staff has the lamps on a staggered replacement schedule to help spread the cost between fiscal years.

In the past, staff has purchased non-OEM aftermarket lamps, but found that they worked poorly and led to operational difficulties. It is staff's understanding that ongoing patent infringement litigation has resulted in no suppliers other than the original manufacturer (Trojan Technologies) currently marketing bulbs that can be used in the system installed at WPCF. Council first approved sole sourcing of the lamps from Trojan in 2021. The quoted price last year was \$454.29 per lamp, and the quoted price this year is \$451.90 per lamp; a modest price decrease. The total cost will be \$54,288 for the lamps and \$600 for freight charges, for a total price of \$54,888. Staff has budgeted \$145,000 in the FY 2023/24 WPCF operations budget as a pool for equipment parts/supplies, and the purchase of these bulbs will come from that allotment.

ALTERNATIVES:

1. Approve a sole source procurement of OEM lamps from Trojan Technologies in the amount of \$54,888.
2. Do not authorize the procurement of replacement UV lamps from Trojan Technologies at this time.

However, it should be noted that replacement bulbs are not available from any other vendor. Failure to replace the lamps will ultimately result in increased bacterial contamination of the South Skunk River and a violation of the WPCF's NPDES permit.

CITY MANAGER'S RECOMMENDED ACTION:

As UV lamps age, the light intensity decreases along with the efficiency for disinfection of the effluent. Proper maintenance of the UV system, including timely replacement of the lamps, helps protect the water quality of the South Skunk River and ensures continued compliance with the NPDES permit. The Trojan Technologies lamps have a proven track record of disinfecting for the rated 12,000 hours. Currently, they are the only source of replacement bulbs that work in their system. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1.