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TO: Chairman Greg Dannecker and Members of the Utilities Committee

FROM: Environmental Programs Coordinator Brian Kreski

CC: Utilities Director Chris Shaw

DATE: May 21, 2015

RE: *Approve the purchase of an Automated Temperature Monitoring System from REOTEMP Instruments in the amount of \$20,950.00*

BACKGROUND

Since the inception of the Compost Program in 2010, the Appleton Wastewater Treatment Plant (AWWTP) has created a Class A Exceptional Quality biosolids compost. The compost meets Wisconsin Department of Natural Resources (WDNR) regulatory requirements in addition to nationally recognized standards and specifications identified by the US Composting Council's (USCC) Seal of Testing Assurance (STA) Program. The AWWTP processes compost "batches" throughout the year starting in early spring and continues into winter months.

The compost piles, termed windrows, are monitored on a regular frequency (i.e. Monday, Wednesday, Friday) using hand held temperature probes to determine the effectiveness of the composting process. Monitoring the compost windrows in this manner can be labor intensive (approximately 3 hours per day) and can often invoke unintended and undesired temperature reading variability when various staff employ slightly different field techniques. The efficiency and accuracy of temperature monitoring is crucial to assure that Appleton's biosolid compost continues meeting WDNR and STA specifications.

Later this year the WDNR has indicated that they will be requiring daily monitoring of compost windrows which will drastically increase program costs. This requirement also would necessitate special access privileges to the compost site as the site is located at the Outagamie County landfill which is closed on Sunday.

Considering the program changes, a remote compost temperature monitoring system appears to be an appropriate solution to these new issues. A temperature monitoring system would reduce program labor costs, satisfy WDNR requirements for continuous monitoring and avoid the logistic complications of Outagamie County landfill site access on Sundays.

SUMMARY OF VENDORS

Contact was made with three vendors to provide quotes for a ten probe temperature monitoring system. Vendors included: Engineered Compost Systems (ECS), Green Mountain Technologies (GMT), and REOTEMP Instruments (RI). RI and GMT came in with quotes under the projected budget amount of \$24,000.00 (see chart below), with GMT slightly lower. However, in comparing the two vendors, RI submitted a complete breakdown of their system, several case studies, and provided a free trial of their system. In addition, RI provides a 2 year warranty as opposed to GMT's 1 year warranty. GMT provides a stainless steel probe which is capable of corroding or pitting over time. RI provides a stainless probe with a CPVC (chlorinated polyvinyl chloride) sheath as corrosion protection (GMT does not have this protective barrier). Another differentiating factor is that the RI system transmits data 400 feet further than the GMT system (1,000 ft vs. 600 ft) without a repeater.

Vendor	Protective Coating	Communication (ft)	Warranty (years)	Experience (years)	Free Trial	Price Quote
GMT	NO	600	1	23	NO	\$19,219.00
RI	YES	1,000	2	50+	YES	\$20,950.00
ECS	NO	Not listed	Not listed	18	NO	\$50,000.00

RECOMMENDATION:

In addition to the reasons previously stated, REOTEMP Instruments is a proven manufacturer of compost temperature monitoring technology (since 1965). They were the only vendor to provide a no-cost trial which allowed us to not only evaluate their complete monitoring system but also to judge the level of technical support, which was excellent. For these reasons in total and the slight difference in cost from GMT, I am recommending the purchase of the REOTEMP Instruments temperature monitoring system for \$20,950.