MEMORANDUM

To: Joel S. Taylor, Director
Department of Finance and Management

From: Cheryl Roberto, Director
Department of Public Utilities

Date: January 17, 2006

REF: Award Recommendation for SA-001804, Polymer, Southerly Wastewater Treatment Plant, UTC

The Purchasing Office opened formal bids for the purchase of Polymer for the Southerly Wastewater Treatment Plant on November 3, 2005. Three (3) bids were received. Each supplier was permitted to submit one emulsion polymer and one Mannich polymer. A submittal of both products was not required. The intent of this bid was to compare the cost effectiveness of the two product types in dewatering Southerly's biosolids and recommend the lowest and best bid of all products submitted. Product submittal tabulation is provided in Table 1.

Polymers are used at Southerly to enhance the dewatering or drying of biosolids prior to incineration. The more efficient the polymer, the less will be required (polymer dosage) per dry ton of biosolids dewatered. Additionally, a better, more efficient polymer will produce a dryer biosolids cake which will require less natural gas for combustion in the incineration of the biosolids. As described in the specification, the emulsion polymers were subjected to full-scale field trial. The data from this testing was tabulated and combined with the bid prices. The lowest and best bid was determined as the lowest overall disposal cost, where the disposal cost is a sum of the polymer cost + natural gas cost per dry ton of biosolids disposed. Tables 2 through 4 summarize the data from the plant trials. The lowest and best bid was determined to be Tidewater's TWC-8624 as shown in Table 5.

Three Mannich polymers were submitted for bid as shown in Table 1. These three products were compared in side-by-side bench testing to determine the best product for Southerly's dewatering application. While bench testing is more qualitative than actual field trials, relative dosages for each product can easily be determined. The results of that testing are shown in Table 6. The optimum test run of each product is highlighted. Because Polydyne 7950NR was shown to have the best performance relative to the other to Mannich products and because the bid price submitted for this product was the lowest, Polydyne 7950NR was determined to be the lowest and best bid of the three Mannich products.

Next, a comparison was made of the best emulsion (Tidewater TWC-8624) and best Mannich (Polydyne 7950NR) products. The results of this comparison are shown in Table 7. The results show a savings of nearly $120,000 per year by using a Mannich polymer.

It is our recommendation that Polydyne 7950NR is the lowest and best bid polymer product for the following reasons:

1. Polydyne 7950NR showed the best overall performance of the three Mannich polymers in bench testing.
2. Polydyne 7950NR was the lowest bid Mannich polymer at $0.084/lb delivered.
3. Polydyne 7950NR is the product that is currently being used at Southerly and its satisfactory performance over the past three years has been well documented.
4. Polydyne 7950NR has documented plant performance to show current dosage rates at 227 lbs/ton. As illustrated in Table 7, Southerly's cost savings using the Mannich polymer Polydyne 7950NR over the best performing emulsion polymer would approach $120,000 per year.

Please award the Universal Term Contract in the amount of $1.00 to Polydyne. The Southerly Wastewater Treatment Plant spends approximately $900,000.00 annually from this Universal Term Contract.

Attached for your review are the tabulation and bench testing information. Thank you for your cooperation in this matter. Should you have any question, please contact Joe Lombardi at 6031.

Pc: Dean Posekany, Asst. Plant Manager, Southerly Wastewater Treatment Plant
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