City of Grand Island

Tuesday, January 17, 2012
Study Session

Item -2

Discussion Concerning Wastewater Treatment Plant Options

Staff Contact: John Collins, Public Works Director

Council Agenda Memo

From: John Collins, Public Works Director

Meeting: January 17, 2012

Subject: Discussion Concerning Wastewater Treatment Plant Options

Item #'s: 2

Presenter(s): John Collins, Public Works Director

Background

At the July 11, 2011 City Council meeting the Public Works Administration staff gave a presentation on contracting operations of the Wastewater Treatment Plant. Based on that discussion a Request For Qualifications (RFQ) was developed, with qualifications being submitted by four (4) qualified companies; Veolia Water of Naperville, Illinois; Severn Trent Services of Fort Washington, Pennsylvania; USW Utility Group of Sioux City, Iowa; and CH2M Hill of Englewood, Colorado.

With the selection committee, which consisted of Terry Brown; John Collins; Scott Dugan; Randy Guard; John Henderson and Shannon Oster (replaced Mary Lou Brown), following the qualification criteria set forth in the RFQ Veolia Water was selected as the most qualified company for the contract management of the Wastewater Treatment Plant.

At the November 15, 2011 Study Session City staff, along with staff from Veolia Water, presented information on the negotiated contract between the two for the possibility of contracting management of the Wastewater Treatment Plant.

Discussion

After the presentation of the contract management proposal for the Wastewater Treatment Plant it was the consensus of the City Council to take more time to study this issue.

A presentation has been put together to provide more data regarding the contract management matter. Three choices have been put before the City Council on this topic and they are: Continue as we have historically (do nothing different); Contract Operations; or Initiate an alternate improvement plan.

Conclusion

This item is being presented to the City Council in a Study Session to allow for any questions to be answered and to create a greater understanding of the issue at hand.

It is the intent of City Administration to bring this issue to a future council meeting for a formal vote on this subject.

CITY OF Grand Island NEBRASKA

PUBLIC WORKS

Recommendation to Wastewater Treatment Plant Customers

Why we are having this community discussion

Goal

- Meet the treatment requirements and citizen's expectations in the most efficient cost effective manner

Choices

- A. Continue as we have historically (i.e. Do nothing different)
- B. Contract Operations
- C. Initiate an alternate improvement plan

Asset Condition

- Northeast Interceptor at an F rating since 2006
- Other Interceptor lines nearing an F rating, as are other sanitary lines…
- Many components beyond design life and in poor condition: Headwork, valves, screen, etc…

Rate Increases

- 4 scheduled 9% rate increases approved by Council; which equate to a more than 40% increase.
- $44 million rehabilitation initiative.
- Revised estimates are higher than those of the rate study. Example: Headwork

  Rate study estimate: $9.22 million

  Current estimate: $13.3 to $15 million

Effect on Rate Payers

- Typical Medium Residential Monthly Fee Rises from $20.00 to 27.21 (Table 20 of Rate Study)
- Median Income Per Capita: $17,071/y or around $6.50/h take home (Wikipedia)
- Average rate payer works 3 hours per month to pay for sanitary service and will work more than an hour more each month to pay for the scheduled increases.

Other Issues

- Consulting Contract Scope.
- Odor
- Declining Revenue

Decisions

- The condition of equipment and historical cost indicate that the decision process does not work consistently.
- We are not performing as well as we should.
- Waste is effectively treated, it just cost more.
- Improving decisions may reduce the rate of increase in fees.

Local Control and Ownership

- City retains ownership of plant and all assets
- City Council retains authority to set rates
- City Council approves all capital improvements
- Public Works continues to provide operational oversight and accountability

Potential Results of Contracting Operations*

- Optimize plant operations by utilizing expertise gained through years of operating dozens or even hundreds of these facilities
- Reduce our operating costs
- Reduce long term costs by guiding our choices during the $44 million repair program.
- Continued odor reduction by optimizing operation

* from July 7 Presentation

History

- July 2011 – Presentation seeking Council support for a Request for Qualifications (RFQ) for contracting Wastewater Treatment Plant operations.
- July 2011– RFQ advertised.
- The Wastewater Superintendent conducted plant tours as requested by interested firms.
- August 2011– Submission of Qualifications (SOQ) from 4 firms.

History

- August 2011 - Selection Committee evaluated each SOQ and selected Veolia. Committee included: Terry Brown, John Collins, Scott Dugan, Randy Gard, John Henderson, and Shannon Oster (replaced Mary Lou Brown).
- Veolia staff evaluated plant and staff over several weeks.

History

- November 2011 - Negotiations Committee completed negotiations with Veolia. Committee included: Mary Lou Brown, Terry Brown, John Collins, Scott Dugan, Randy Gard, and Jaye Monter.
- November 2011– Veolia proposal presented to Council in study session

Choices

- A. Continue as we have historically (i.e. Do nothing different)
- B. Contract Operations
- C. Initiate an alternate improvement plan

Option A. - Do Nothing

- Default action
- Increasing rates are planned as approved by Council
- No change in risk – cost will remain higher than necessary.
- Asset condition will continue to vary.
- Public Works will continue to address efficiency and customer concerns.

Option B. - Contract Operations

- Better recommendations to Council for decisions.
- Contract to deliver plant performance.
- Use of technical expertise from other facilities.
- Reduced supplier costs with quantity discounts.
- Known operational costs with fewer and smaller year over year spikes.

Plant Staff

- Retain their current pay
- Receive more and better training
- Have more and better opportunities

What Does Not Change

- Infrastructure rehabilitation
- Rehabilitation estimates are higher than rate study's estimates
- Scheduled rate increases
- Ownership
- Rate setting
- Capital expenditures implemented

Citizens' Contract Compliance Committee

- Meet to ensure contract compliance
- Provides for accountability to the community
- Committee members would include representatives from the community, council, and City staff

Option C. Internal Improvement Effort

- Cannot copy Veolia, but can develop an automation/efficiency plan
- Range of options, costs and time
- Administered by Public Works

Methodology

- Internal Outline
- Lincoln Example

- The time and cost will vary depending on selection.

Study Items

- Asset Management
- Monitoring and Automation
- Process Review (Treatment)
- Procurement Review
- Technical Skills
- Staff Utilization and Process Review (Activities)

Asset Management

- Components and Sub Components
- Triggers: Expected Life, Level of Service, Reliability
- Preventative Maintenance, Replacement, or Use Until Failure
- Tracks all activity
- Automatically produces and aggregates work orders
- Estimated Setup: $150,000 to $500,000; excluding annual licensing and support; more than a year setup

Asset Management

- Planned maintenance/replacement is much less expensive than when accomplished in a reactive mode

SAMS

- Strategic Asset Management System
- Microsoft Access Database
- $150,000 to $180,000 installation
- Existing Antero work order application

Synergen

- Strategic Asset Management System
- Oracle
- $500,000 minimum installation
- Audits(5): $65,000
- WAM: $150,000 - $200,000

Monitoring and Automation

- Stand alone processes
- SCADA
- Cameras monitoring locations of interest
- Sensors (flow, levels, power, etc…)
- Testing

Process Review

- Review the treatment process and determine the best treatment methods, regardless of existing components.
- Cost analysis to determine where change is possible.
- Develop plan for changes

Note that this is part of the current rehabilitation project.

Procurement Review

- Survey items regularly purchased to determine where savings may be gained through contract or partnering.
- Review acquisition process to determine where savings can be gained through changes (purchasing limits, changes in steps, etc.)
- Develop warehouse procedure.

Note that this is currently underway.

Technical Skills

Catalog the skill sets needed as changes are implemented and compare to those available. Provide training and adjust staff to meet changing needs.

Staff Utilization

- General Procedural Review
- Process Review where warranted
- Set staffing levels and work hours according to the skill sets needed through each period.

*Note that some employees are needed for operational purposes and some to meet regulatory requirements.

Implementation

- Project would be broken into small achievable components to minimize cost and disruption
- Many infrastructure related items would be scheduled with normal life cycle repair/replacement
- Initial focus on automation and asset management

Probable Cost & Time

- Setup: $500,000 – $10 million; 1 to 7 years
- Net annual cost: $200,000 (minimum)

- A detailed project scope would be necessary to develop accurate cost and time.

Lincoln

- 2 Treatment Plants
- $105 million over 10 years
- 80% increase in residential rates (2002 – 2012);

Comparison

	Lincoln	Grand Island
Capacity:	105mgd	40mgd
Average:	24mgd	8mgd

Grand Island's Plant has approximately 38% of the capacity of Lincoln's, and usually processes 33% as much wastewater

Lincoln

- Heavy use of SCADA for monitoring and remote control. Both plants are integrated and the level is increasing.
- Video monitoring.
- Asset Management; still in rudimentary stage.
- Contracting services; ‘contractors can handle some jobs cheaper and better.’
- Staff reductions & staff changes.
- Fully automated processes that run without an operator.
- Power management
- Water management and reuse

Lincoln Examples

- Staff Improvements: Operators maintain equipment, all staff can use SCADA…
- Lights: SCADA monitored, motion and Lux controlled, bulb selection…
- Thermostat: heating and cooling SCADA monitored with setting plan, rigid enforcement…

Lincoln Results

- Realizing about 25% of potential savings
- Significant odor reduction
- Smoothing of year over year costs
- Fewer unexpected failures
- 10% Staff Reduction

Note that improvements will continue as they develop their Asset Management database

Summary of Choices

(Estimated Incremental Rate Payer Cost or Savings)

- A. Do nothing: $0
- B. Contract Operations: $500,000 annual savings
- C. Internal plan: Based on the Lincoln case study, cost $40 million over 10 years