Choctaw Utilities Inc.

Water Plant Replacement

Decision Brief

Purpose of this Presentation

- CU Board concurrence & motion of Plant style
- Motion to proceed with completing General Plan
- Next Steps

Overview

- Background
- Milestones
- Lessons Learned
- Plant Selection
- Funding
- Motion
- Next Steps

Background

- 52 year old plant, built 1964
- Multiple expert opinions on replacement, all recommendations were to replace the existing plant
- 8 months of studying options at multiple locations with various owners and operators
- Best way ahead is being identified

Milestones

1. Select plant style* - today
2. Proceed with General Plan* - today
3. Detail Design and Bid Package- TBD
4. Detail Design approval – TBD
5. Construction bidding - TBD
6. Construction and Start Up - TBD

Plant Selection

Research

- IBI recommended two viable options for replacement:
- Vertical Pressure Filters (VPF) aka “Option 2”
- Dualator III Integrated Gravity Filters (D3) aka “Option 3”

Additional Options

- JR Mason quote
  - Assessed as not best long term option
  - Does not address other considerations – electrical, climate control, structure, OSHA safety requirements, etc
  - Used Tonka Water vertical pressure filters

- County Water
  - State still owns plant
  - No concrete proposal (pricing) has been offered
  - No control over future rates
  - Does offer softened water

Lessons Learned

- **Tonka Equipment** was highly regarded by every plant operator
  - Responsive representatives
  - Excellent support network
  - Sustainable equipment
  - Long family owned history

- **Simulwash Backwash** feature of Air/Water backwash is a desirable
  - Uses 5gpm/sqft as opposed to 15gpm/sqft for backwash – efficient
  - Air breaks up “mudballs” which could have caused last year’s issue

- D3 and VPF are both available from Tonka Water

Dualator 3 Gravity vs Vertical Pressure Filters

- Gravity vs Pressure
  - Both will provide same quality of water
- Water feed rate
  - D3 likes water at constant, continuous rate, requires variable speed well pumps
  - VPF works with our existing well pumps using our contact detention tank for constant water flow.
- Future maintenance/replacement favors VPF
  - Dualator 3 gravity filters have been in service for about 20 years - reliability and longevity are not well documented.
- Cost: Neutral (within ~$50k of each other, with VPF being slightly less)

Lessons Learned - VPF

- Smaller plants such as CUI gravitate to VPF equipment
- VPF is modular - can be replaced one at a time
  - Easier to replace in future if required
- CU has 52 year history of successfully operating VPF equipment
  - Jim Moran’s preference – long time plant operator

VPF Facility - New

- Phasing in current facility was not assessed as a good option

- Existing facility would no longer be used for water equipment
  - Climate control insufficent
  - Chlorine storage issues
  - Orthophosphate storage issues
  - Access into filter tanks is not OSHA compliant

- New, not phased in facility: attractive to future operators
  - Automation vs “Feel”
  - Standard equipment

Plant Size Background

- Pursuing ability to make 550,000 gallons per day (GPD)
  - Allows for future buildout of community- ~30 vacant lots
- Current capability is 400,000 GPD
- Peak demand approaches 400k GPD several times during year
  - To exceed 400k GPD is an EPA violation
- Average usage is approximately 225k GPD

Plant Size Information

- For plant to make 550k gallons a day, it would be required to run continuously for 24 hours
- Plants are sized to operate for 8-12 hours on “average” day
- Therefore a 550k plant producing 225k on an average day would operate for ~10 hours/day
- The other 14 hours the plant is not operating – this is a good thing

Plant Size Benefits

- Not undersized for future
- EPA prefers for plant to operate at 80% of peak design capability
  - 440k is 80% of 550k
  - No one drives car around at redline
- When plant is not operating, unplanned maintenance can be performed
- Water can be produced in the middle of the night
  - Off peak electrical rates – ongoing operating savings
- Can accommodate future reverse osmosis water softening

Funding

WSRLA

- The EPA Water Supply Revolving Loan Account is funding source
  - 20 year term
  - 1.8% fixed rate earlier this year
  - Quoted as 1.5% fixed on 18 July, but rate environment changes daily

Cost Assumptions/New Rates

- Total “all in” cost of plant: $1.75 million
- Plan on $250,000 down payment

	Assumed Rate	Higher Rate
Total Project Cost	$ 1,750,000	$ 1,750,000
Down Payment	250,000	250,000
Total Amount Financed	1,500,000	1,500,000
Term of Loan (Months)	240	240
Annual Interest Rate	1.80%	2.00%
Monthly Payment	$ 7,435.84	$ 7,575.62
Total Amount of Annual Payments	$ 89,230.04	$ 90,907.49
Total Number of Paying Customers	850	850
Monthly Increase per Customer	**$ 8.75**	**$ 8.91**

- $9/month increase covers most all scenarios

Finance Picture

- Annual Payment to WSRLA would be ~$90,000
- Annual tax benefit of Not For Profit incorporation status is approximately $45,000
  - CLPOA can re-explore NFP in 2018 or 2019
  - CU cannot take action on NFP
- After realizing NFP benefit, offset payment amount is approximately $40,000

Master Plan

- WSRLA payments for new water treatment plant are not due until mid 2018/early 2019

- Use rate increase in 2018 to pay cash for flushing hydrants
  - $9/month * 850 homes *12 months = $91,800

- Single Rate increase will cover WSRLA loan & flushing hydrants

Next Steps

- Motion to proceed with Vertical Pressure Filters as basis of design
- Motion to proceed with General Plan completion and submission using MS Consultants as Engineer of Record
- Motion to use MS Consultants for Preliminary Detail Design and Bid Package
- Motion to make rates $39/month from $30/month. Increasing rates will allow CUI to increase down payment and reduce loan amount

Next Steps

- While General Plan is at EPA review:
- Prepare RFP to prepare for Detail Plan creation and submission
- Select engineering firms to bid on Detail Plan creation
- Continue to prepare for WSRLA Capabilities Assessment Review
  - First meeting with EPA: 14 August