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Small System Water Quality Pilot Programs



AQUASM



Small System Water Quality Pilot Programs

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What are the challenges?

- Aqua has acquired more than 250 small systems in 15 years
- In Aqua's southern states there are ~1,500 separate small systems that are not interconnected.
 - Each system has a community well or waste water plant

Aqua Strategy

1. Full environmental compliance

- Focus on primary standards
- Mostly completed

2. Uniform billing and monitoring system

- Completed
- < 1% estimate rate

3. Secondary standard issues

- 2010 Pilot Programs

What are secondary standards?

- Not health threatening
- Many are naturally occurring
- May cause water to appear cloudy, colored or taste different
- 3 different problems
 - Aesthetic
 - Cosmetic
 - Technical

2009-2010 Secondary Water Quality Plan

- Which systems to focus on →
 - Identify secondary water quality issues
 - Reviewed water quality service orders
 - Reviewed # of customers testifying at public input hearings

2009-2010 Secondary Water Quality Plan

- **Action Plan →**

- Roundtable discussions with operators & engineers
- Discussed cost & alternatives
- Unique plan of action for each system

2009-2010 Secondary Water Quality Plan

■ Education →

- Surveyed customers to establish customer baseline
- Mailed letters to customers outlining improvement plans
- Will mail final letter outlining progress and follow up survey



Satisfaction Survey

Pilot Program #1

Issue:

*naturally occurring iron &
manganese
main replacement needed*

Customer

complaints:

*taste, color & staining of
household fixtures from
public input hearings*

Pilot Program #1

Production Improvements	
Tank clean up	\$1,764
Replace drop pipe	\$1,297
Prepare valve bank for phosphate	\$1,114
Install phosphate at site	<u>\$427</u>
Total Production	\$4,602
Distribution Improvements	
Obtain easement for well lot access	\$10,000
Main replacement	\$110,000
Project management	<u>\$22,500</u>
Total Distribution	\$110,000
Total Cost	\$114,602
<i>Total Cost per Customer</i>	<i>\$5,730.10</i>



**Total Cost Per
Customer = \$5,730**

Pilot Program #2

Issue: *high hydrogen sulfide;
aerators only remove 20%;
pressure issues*

**Customer
complaints:** *rotten egg odor and
pressure, customer letters*

Pilot Program #2

Production Improvements	System A	System B
Engineering & permitting of filters	\$8,000	\$12,000
Cost of filters	\$136,000	\$116,000
Installation of filters	\$23,000	\$20,000
Backwash disposal		\$15,000
Ongoing operational cost	.08/1000 gal	.06/1000gal
Total Production Improvements	\$167,000	\$163,000
Distribution system improvements		
Hydraulic modeling	0	
Engineering and permitting	\$8,000.00	
Total Cost for Distribution Improvements	\$8,000.00	
Total Cost	\$338,000.00	
Total Cost per Customer	\$533.12	



Total Cost Per Customer = \$533.12

Lessons Learned

- Balancing customer concerns over water quality and costs
- Many are poorly designed, developer systems
- Not all solutions are expensive, but are unique, take time, patience & several trials
- Consolidated rate structures



Thank you!