



SOURCE WATER EVALUATION: *IDENTIFYING THE BEST WATER SUPPLY SOLUTION TO MEET EXISTING AND PENDING PFAS REGULATIONS*

Presented by:

Michael Brown, P.E. & Lori Kappen, P.E.

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Need to Identify Solution to Comply with Recent and Pending Regulations

- Supply provided by 5 wells within the Borough
- Recent testing revealed:
 - Wells #1 and #2 have elevated levels of PFAS per current standards
 - Wells #4, #6, and #7 meet current PADEP standards but will not meet the proposed EPA standards
- The Borough entered a consent order with the PADEP to remedy PFAS contamination

Evaluate Alternatives To Provide Safe and Reliable Potable Water Supply

- Treatment of All Wells
- Bulk Water Purchase Through Interconnection
- Hybrid – Treatment and Bulk Water Purchase
- Development of New Groundwater Sources

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What are PFAS?

- Man-made chemicals found in everyday consumer products
 - Most common are PFOA & PFOS
- Pose risks to drinking water utilities
 - PFAS are not removed with conventional drinking water treatment technologies
- PADEP's current limit - 14 ppt and 18 ppt for PFOA and PFOS respectively
- EPA's proposed limit - both PFOA and PFOS to 4 ppt

Technologies Can Effectively Treat Wells to Proposed Limits

- Typical PFAS treatment technologies were evaluated:
 - Granular Activated Carbon
 - Ion Resin Exchange
- All five wells would require treatment
 - Wells #1 and #2 are of immediate concern
 - Wells #4, #6, and #7 will need treatment to comply with future EPA regulations
- Approximately 2-2.5 years from design to operation

Interconnection with Adjacent System Can Be Used to Meet Supply Needs

- Several interconnection points with Lehigh County Authority (LCA) were evaluated
- Sufficient supply from LCA's Allentown System to meet Borough's needs
- Upgrades to the Borough's system would be necessary
- Approximately 1.5 -2 years from design to operation

Can Treat Wells #4, #6, and #7 and Supplement with Bulk Purchase to Meet Supply Needs

- Partial treatment and partial bulk purchase
 - Treatment of Wells #4, #6 and #7
 - Supplement remaining demand with bulk purchase
- Low PFAS levels in Wells #4, #6 and #7:
 - Longer treatment lifespan
 - Decreased operations and maintenance costs
- Will allow the Borough to maintain some control over their system

Must Consider Capital and Annual Costs/Maintenance When Comparing Alternatives

- Capital and 20-year present worth (PW) costs were evaluated
- Bulk Purchase Lowest Capital Cost
 - Annual/Present Worth Costs Dependent upon Bulk Purchase Rate estimated at \$3.00-\$4.32/1000 gallons
- Treatment Lowest Present Worth Cost

Alternative	Capital Costs (millions)	Annual Operating Costs (millions)	20-Year Present Worth (millions)	Capital Reinvestment (millions)
1. Treatment at All Wells	\$14.8 - \$18.7	\$0.6 - \$1.0	\$24.0 - \$30.0	\$6.9 - \$8.5
2. Bulk Purchase	\$9.7	\$1.7 - \$2.4	\$34.6 - \$45.1	\$1.2
3. Hybrid – Treatment at Wells #4, #6, and #7	\$18.4 - \$23.1	\$0.87 - \$1.2	\$31.8 - \$40.0	\$5.0 - \$6.2

Moving Forward With Best Option to Meet Borough's Supply Needs

1. Costs:

- *Bulk Purchase Lowest Capital Cost*
- *Treatment Lowest Present Worth/Annual Cost*
- *Bulk Purchase Annual/Present Worth Cost Highly Dependent on bulk purchase cost*
- *Treatment Requires Higher Level of Future Capital Costs*

2. Funding Opportunities:

- *Dedicating Funding Opportunities for PFAS Projects (all alternatives)*
- *Cover Capital Costs Only*

3. Control of Supply: *Treatment of All Wells Maintains Full Control*

4. Staffing and Maintenance Needs: *Bulk Purchase Option Simplifies System O&M*

5. Supply Reliability/Redundancy: *Hybrid Option Provides Greatest Flexibility/Reliability and Maintains Some Control of Supply*



QUESTIONS?
