Western Berks Water Authority

- WBWA is a bulk wholesaler of high quality drinking water to numerous municipalities in Berks County.

- WBWA is the primary source of drinking water for 5 PWS and the standby emergency connection for 2 large PWS in the area.

- WBWA conducts all routine monthly, quarterly, and annual testing for each of the 5 PWS that it serves. This allows WBWA to see all the water quality data for each of its consecutive systems, and make adjustments at the treatment plant and make informed recommendations about distribution system management.
Consecutive Systems

The three consecutive systems that I have selected to present today range in population from 4,101 to 12,900. These systems are required to collect 5 to 10 coliform samples per month.

Like many small and medium systems, the employees for the PWSs served wear many hats and do not have dedicated staff to focus on their individual water systems full time. These systems look to WBWA for guidance on water quality issues and concerns as they arise.

The consecutive water systems own and operate their distribution systems, WBWA has no control over how these systems are maintained or operated.

None of the consecutive systems served have existing facilities to boost chloramine or do any other form of treatment once WBWA water has entered into their system.
Looking at the last 35 month period, average entry point chlorine leaving the treatment plant is 3.46 mG/L.

The maximum daily entry point chlorine residual was 3.96 mG/L.

The minimum daily entry point chlorine residual was 2.73 mG/L.

WBWA cannot leave the plant with a higher residual.
WBWA Entry Point Chlorine Data

WBWA 3.46 mg/L
WBWA
Transmission System
Chlorine Residual Averages
July 2012 through April 2015

Reservoir 1.0 MG
Reservoir 3.0 MG
Reservoir 1.5 MG
Reservoir 2.0 MG

Sample Location 1
2.75 mG/L
Sample Location 2
2.96 mG/L
Sample Location 3
2.95 mG/L
Sample Location 4
2.22 mG/L
Sample Location 5
2.13 mG/L
Sample Location 6
2.83 mG/L
Sample Location 7
2.84 mG/L
Sample Location 8
2.88 mG/L
Sample Location 9
2.82 mG/L
Sample Location 10
2.77 mG/L
Sample Location 11
2.71 mG/L
Sample Location 12
2.50 mG/L
Sample Location 13
2.13 mG/L

Consecutive System A
Consecutive System B
Consecutive System C

WBWA Treatment Plant
3.46 mG/L
WBWA Sample Data

- Population 21,501 to 25,000 (25 required monthly samples)
- Last 34 SDWA-S reports:
  - 1.90 mG/L minimum
  - 3.12 mG/L maximum
  - 2.64 mG/L average
- Under current regulations: 4 samples under 0.2 (All HPC <500), 2 Total Coliform (All check samples clean), 0 e.coli.
- Under proposed regulations: 7 Tier II violations with public notification
WBWA
Transmission System
Chlorine Residual Averages
July 2012 through April 2015

Reservoir 1.0 MG
Reservoir 1.5 MG
Reservoir 2.0 MG
Reservoir 3.0 MG

Sample Location 1
2.75 mG/L
Sample Location 2
2.96 mG/L
Sample Location 3
2.95 mG/L
Sample Location 4
2.22 mG/L
Sample Location 5
2.13 mG/L
Sample Location 6
2.83 mG/L
Sample Location 7
2.84 mG/L
Sample Location 8
2.88 mG/L
Sample Location 9
2.82 mG/L
Sample Location 10
2.77 mG/L
Sample Location 11
2.71 mG/L
Sample Location 12
2.50 mG/L
Sample Location 13
2.13 mG/L

Consecutive System A
Consecutive System B
Consecutive System C

WBWA Treatment Plant
3.46 mG/L

Western Berks Water Authority
Consecutive System A

- Population 4,101 to 4,900 (5 required monthly samples)
- Last 34 SDWA-S reports:
  - 0.66 mG/L minimum
  - 2.14 mG/L maximum
  - 1.41 mG/L average
- Under current regulations: 0 samples under 0.02, 0 Total Coliform, 0 e.coli.
- Under proposed regulations: 11 Tier II violations with public notification
WBWA Transmission System
Chlorine Residual Averages
July 2012 through April 2015

Sample Location 1: 2.75 mG/L
Sample Location 2: 2.96 mG/L
Sample Location 3: 2.95 mG/L
Sample Location 4: 2.22 mG/L
Sample Location 5: 2.13 mG/L
Sample Location 6: 2.83 mG/L
Sample Location 7: 2.84 mG/L
Sample Location 8: 2.88 mG/L
Sample Location 9: 2.82 mG/L
Sample Location 10: 2.77 mG/L
Sample Location 11: 2.71 mG/L
Sample Location 12: 2.50 mG/L
Sample Location 13: 2.13 mG/L

Reservoir 1.5 MG
Reservoir 2.0 MG
Reservoir 3.0 MG
Reservoir 1.0 MG

Bern Rd. Valve Chamber

Consecutive System A
Consecutive System B
Consecutive System C

36”
16”
12”
12”
24”
Consecutive System B

- Population 7,601 to 8,500 (9 required monthly samples)
- Last 34 SDWA-S reports:
  - 1.49 mG/L minimum
  - 2.55 mG/L maximum
  - 2.03mG/L average
- Under current regulations: 0 samples under 0.02, 0 Total Coliform, 0 e.coli.
- Under proposed regulations: 8 Tier II violations with public notification
WBWA
Transmission System
Chlorine Residual Averages
July 2012 through April 2015

Sample Location 1
2.75 mG/L

Sample Location 2
2.96 mG/L

Sample Location 3
2.95 mG/L

Sample Location 4
2.22 mG/L

Sample Location 5
2.13 mG/L

Sample Location 6
2.83 mG/L

Sample Location 7
2.84 mG/L

Sample Location 8
2.88 mG/L

Sample Location 9
2.82 mG/L

Sample Location 10
2.77 mG/L

Sample Location 11
2.71 mG/L

Sample Location 12
2.50 mG/L

Sample Location 13
2.13 mG/L

Reservoir 1.0 MG

Reservoir 1.5 MG

Reservoir 2.0 MG

Reservoir 3.0 MG

Bern Rd. Valve Chamber

Consecutive System A

Consecutive System B

Consecutive System C

36”

16”

12”

12”

24”

WBWA Treatment Plant
3.46 mG/L
Consecutive System C

- Population 8,501 to 12,900 (10 required monthly samples)
- Last 34 SDWA-S reports:
  - 0.54 mG/L minimum
  - 2.43 mG/L maximum
  - 1.11 mG/L average
- Under current regulations: 0 samples under 0.02, 1 Total Coliform (All check samples clean), 0 e.coli.
- Under proposed regulations: 50 Tier II violations with public notification
Conclusions

- Based on the information presented, WBWA or one of its consecutive systems would have been in violation 19 out of the last 34 months (56%).
  - This data set contained 3 Total Coliform positives and 0 e.coli
- Excessive public notifications create a distrust of the public water system.
- WBWA believes that the RTCR should be implemented as proposed by the EPA
- Any proposed change to distribution chlorine residual should be examined closely and involve some type of scientific process with stakeholder input.
WBWA
Transmission System
Chlorine Residual Averages
July 2012 through April 2015

WBWA Treatment Plant
3.46 mG/L

Sample Location 1
2.75 mG/L

Sample Location 2
2.96 mG/L

Sample Location 3
2.95 mG/L

Sample Location 4
2.22 mG/L

Sample Location 5
2.13 mG/L

Sample Location 6
2.83 mG/L

Sample Location 7
2.84 mG/L

Sample Location 8
2.88 mG/L

Sample Location 9
2.82 mG/L

Sample Location 10
2.77 mG/L

Sample Location 11
2.71 mG/L

Sample Location 12
2.50 mG/L

Sample Location 13
2.13 mG/L

Reservoir 1.0 MG

Reservoir 2.0 MG

Reservoir 3.0 MG

Reservoir 1.5 MG

Bern Rd. Valve Chamber

Consecutive System A

Consecutive System B

Consecutive System C

36"

16"

12"

12"

24"
Questions