

# Partnership for Safe Water

*Annual Data Summary Report*



*January 2008*

# Foreword

This annual data summary report has been approved for publication by the *Partnership for Safe Water* Steering Committee. This report is a technical summary of the data submitted by participants in the *Partnership for Safe Water* treatment plant optimization program.

The data represented primarily includes turbidity data covering the period from June 2006 through May 2007. The purpose of this report is to provide collective treatment plant performance results that can be used by individual plants to compare their performance with those of all of the *Partnership* participants.

Caution should be exercised when interpreting the data contained in this report. Although more than 400 surface water filtration plants serving 85 million people submitted the data, this is only a fraction of the total number of treatment plants nationwide. Many of these plants are among the largest and best run in the country. Also, it should be noted that the data are only from participants in the program. It may, therefore, be misleading to extrapolate the data to represent national trends.

Questions regarding the content of the report should be directed to **Bill Lauer**, *Partnership for Safe Water* Program Manager, AWWA, 6666 W. Quincy Ave., Denver, CO 80235 (Tel. 303-347-6220, e-mail: blauer@awwa.org).

## **Partnership for Safe Water Steering Committee**

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# Table of Contents

Foreword.....ii

Introduction..... 1

Membership Statistics.....2

Partnership Data Submittals.....4

Finished Water Turbidity Results.....7

Phase III Treatment Plant Finished Water Turbidity Results.....8

Summary.....11

Conclusion.....11

Appendix A- Partnership for Safe Water Financial Report.....12

Appendix B- Program Enhancement Activities .....14

Appendix C- Award Winning Treatment Plants .....16

***"Over 85 million people are receiving higher quality drinking water from surface water treatment plants that are participating in the voluntary Partnership for Safe Water program."***

## **Introduction**

The *Partnership for Safe Water* was started in 1995 when six organizations dedicated to safe drinking water came together to develop a program that reduced the risk of *Cryptosporidium* exposure from plants treating surface water. The *Partnership* organizations are the American Water Works Association (AWWA), the Association of State Drinking Water Administrators (ASDWA), the Association of Metropolitan Water Agencies (AMWA), the National Association of Water Companies (NAWC), the American Water Works Association Research Foundation (AWWARF), and the United States Environmental Protection Agency (USEPA). The tools that were developed by the *Partnership* are based on methods described in the handbook *Optimizing Water Treatment Plant Performance Using the Composite Correction Program - EPA/625/6-91/027*.

The *Partnership* program seeks improved water quality, not by meeting more stringent regulations, but by using flexible technical tools that allow each plant to customize performance improvements at their own pace with limited capital spending. Hundreds of treatment plants are now benefiting from membership and participation. The primary benefits are:

- Reduced risk from microbiological contaminants
- *Cryptosporidium* removal credit under the regulatory requirements of LT2ESWTR
- Customized performance enhancement plans using the program's technical tools
- Comparison data from national database (in this report)
- Enhanced employee support for high quality water
- Awards and recognition for achievements gain customer confidence
- Documented achievements are recognized by State regulators

The *Partnership* is constantly expanding and improving. Over the past year several enhancements have been implemented (described in Appendix B) that have increased the value to participating utilities and their employees. The cost of the program has not changed since its inception but the number of benefits continues to grow. Annual fees paid by participating utilities continue to make the program financially self-sustaining.

This report quantifies the national impact of this voluntary program. Individual plants can use this information to demonstrate to management and customers the cost effective use of their resources to gain measurable water quality improvements.

# Membership Statistics

The *Partnership for Safe Water* utility membership as of December 2007 consisted of 221 utilities with 397 water treatment plants. The utility size distribution by population served is shown in Figure 1. The size categories are those used by AWWA to determine utility membership and are based on the number of service connections (these size ranges have been converted to population served for this comparison). Although a substantial number of the *Partnership* utilities are the very largest in the country, more than 50% of the member utilities serve fewer than 100,000 customers. The number of utilities in the smaller size categories is increasing. Collectively, the utility partners serve a combined population of more than 85 million persons or more than 60% of the U.S. population served by surface water.

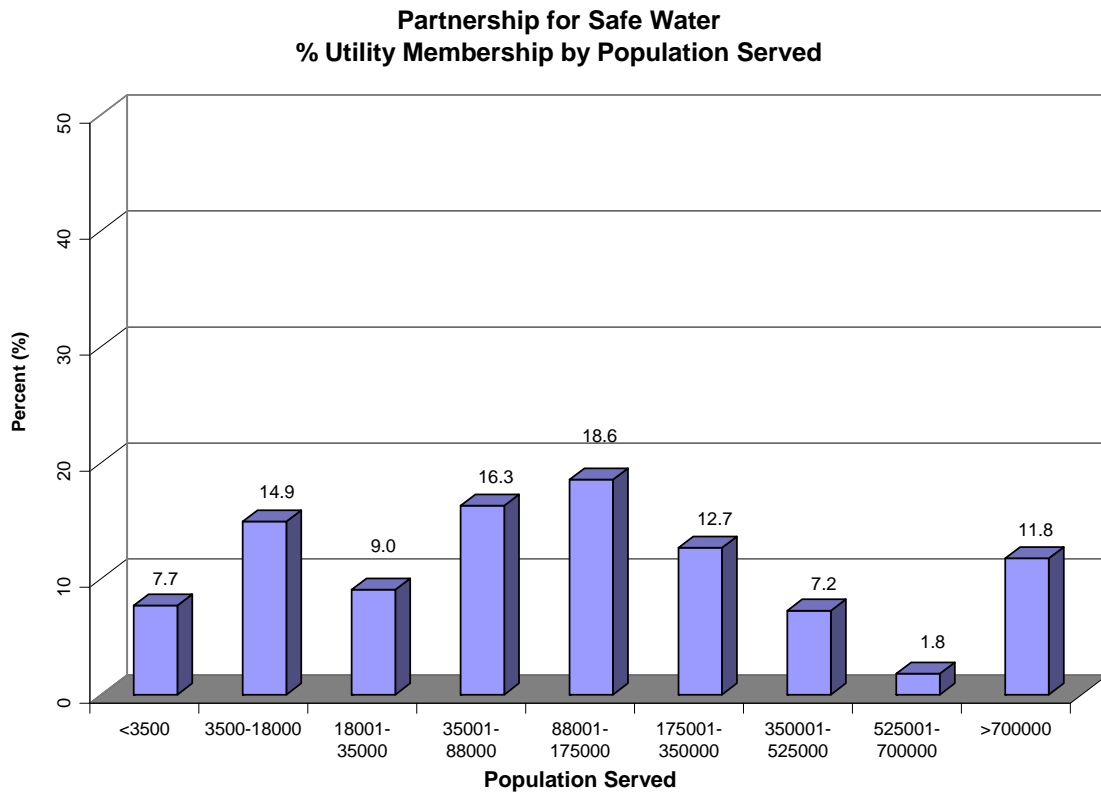


Figure 1

Another comparison is the utilities that are participating in the *Partnership for Safe Water* program as a percentage of the total number of drinking water utilities in the United States. The *Partnership* is directed at the optimization of water treatment plant performance for systems that derive water from surface water sources. Therefore, the correct comparison is the total number of utilities that have treatment plants and are receiving surface water or groundwater under the influence of surface water (Figure 2). These numbers are more difficult to obtain. Estimates of the number of surface water treatment plant utilities were obtained from the AWWA Water Industry Database (Water\Stats) and the USEPA Safe Drinking Water Information System (SDWIS).

There are two notable observations. The very largest surface water treatment utilities are highly represented (more than 90% of the eligible utilities serving more than 700,000 are members of the *Partnership*). More than 30% of all the utilities serving between 35,000 and 700,000 are now members of the *Partnership*. Potential membership growth in this range is relatively limited when compared to the thousands of utilities that serve less than 35,000 customers.

**Partnership for Safe Water Utility Membership  
% of Total US Surface Water Utilities**

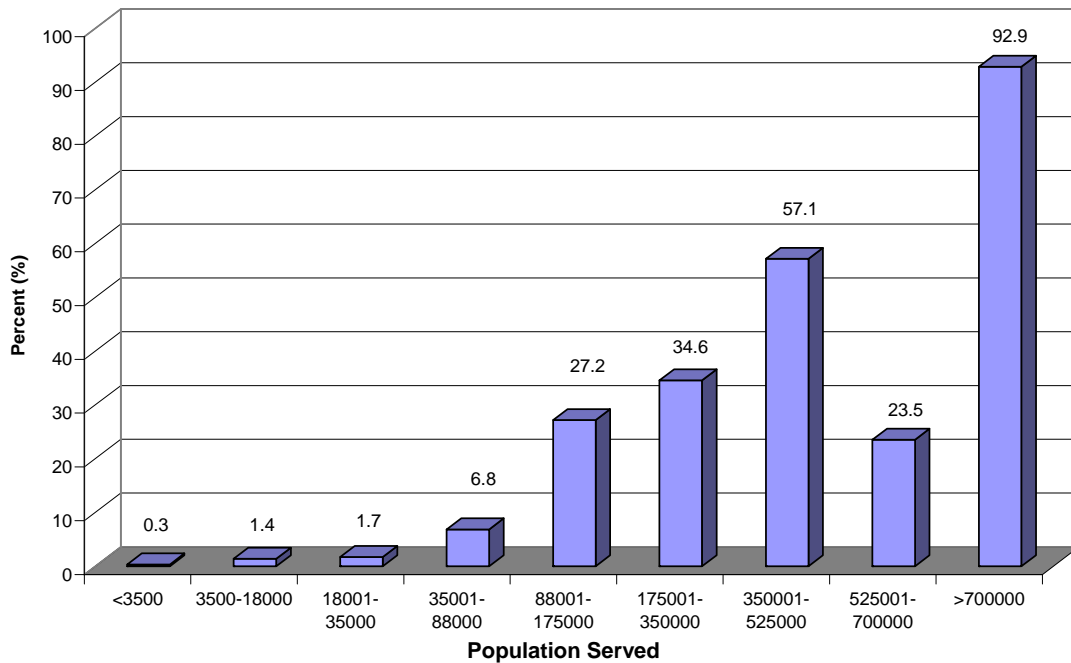


Figure 2

## ***Partnership Data Submittals***

The *Partnership for Safe Water* program consists of four phases. Each phase is intended to assist utilities in progressing toward optimized treatment plant operation as indicated by specific finished water quality goals. Utility partners pursue these performance goals by completing specific tasks associated with each phase of the program.

Phase I is an agreement to complete the program through Phase III (a treatment plant self-assessment). Detailed tools, such as the performance assessment data collection software and the self-assessment handbook are provided to utility partners to facilitate completion of Phases II and III.

Phase II involves the collection, review and analysis of historical turbidity performance for each treatment plant so that a performance baseline can be established. Annual reviews of current performance data against the established baseline assists utilities in assessing the impact of the *Partnership for Safe Water* on their system. The analysis of individual site baseline data, when compiled with all other systems participating in the program, allows the evaluation of the effect of the *Partnership for Safe Water* on a national scale.

Phase III requires significant effort, but the benefits are great. Utilities review their plant operation using the structured approach provided in the *Partnership* guidance manual to identify areas limiting optimized performance. A site-specific plan is then developed to address these areas and improve water quality. Submittal of a self-assessment completion report signifies the conclusion of Phase III. The report is reviewed by a team of trained utility peers who are members of the Program Effectiveness Assessment Committee (PEAC). The PEAC team determines if the report reflects a "good faith" effort by the utility toward treatment plant optimization. If so, the PEAC then recommends that the plant receive the "Directors Award" for completion of Phase III.

At the time of publication of the last Annual Report, two hundred and four treatment plants had completed Phase III. This number (Directors Awards) has increased to two hundred and eleven as of December 2007.

The Five-Year Directors Award (identified in Figures 3 and 4 as 5-yr Phase III) is conferred on plants that have maintained Phase III Directors Award status for five years, have demonstrated improved performance, and have made progress toward optimized plant operation. Thirty-three plants were recognized for this achievement in 2007.

The revised program for Phase IV was approved by the Steering Committee in June 2001 and the current requirements were refined in November 2002. Five plants have thus far achieved Phase IV and have received the "Excellence in Water Treatment" award. There is no additional fee for Phase IV participation.

Another level of recognition was added in 2004. The Five-Year Excellence in Water Treatment Award (identified in Figures 3 and 4 as 5-yr Phase IV) is presented to Phase IV award-winning plants that have maintained fully optimized plant performance for five consecutive years.

An illustration of the progress of plants through the *Partnership* program phases is shown in Figure 3. The first bar is the number of plants that have joined the program since its inception in 1995. Plants that have submitted data and that have received the Directors Award are shown in the next two bars. This figure is a historical review of all of the plants that have ever been enrolled in the *Partnership*. These differ from the totals in Figure 4 because it only shows the plants that are currently active in the program.

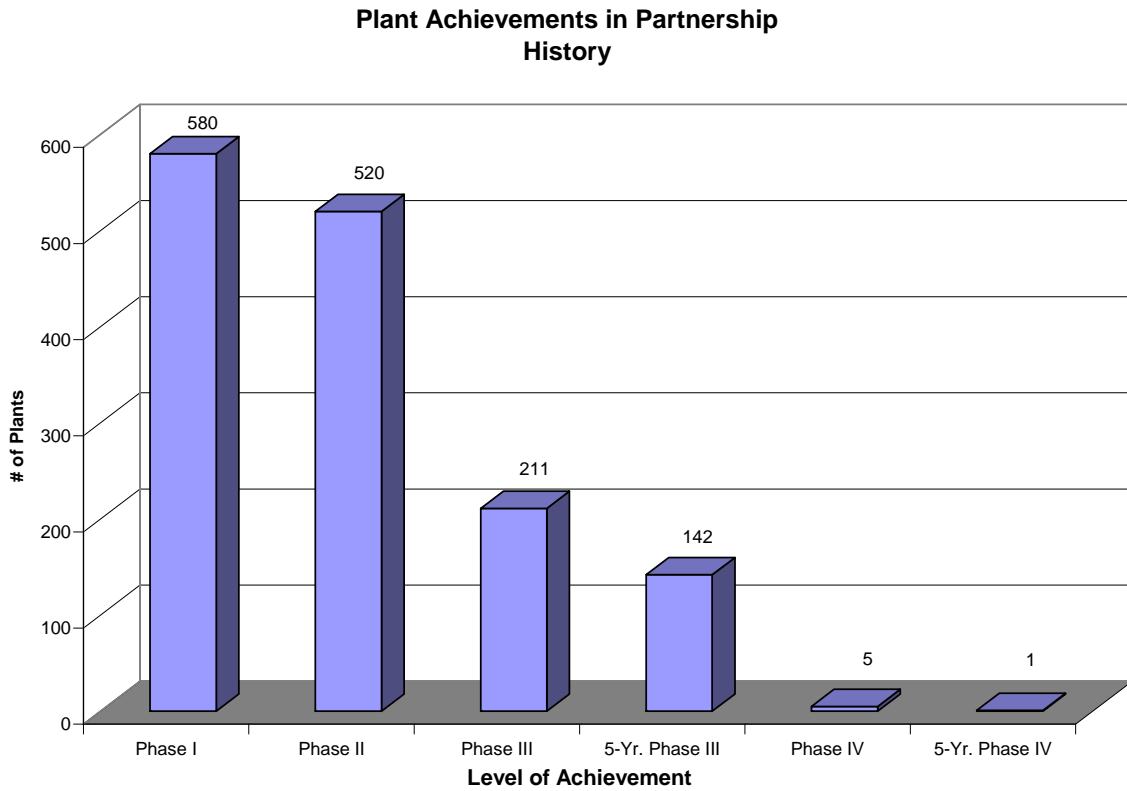


Figure 3

The current status of plants from participating utilities is shown in Figure 4. Most of the plants are in Phase II, but nearly half have already achieved Phase III. There are a few plants that have joined the *Partnership* and have not yet submitted data to move to Phase II of the program.

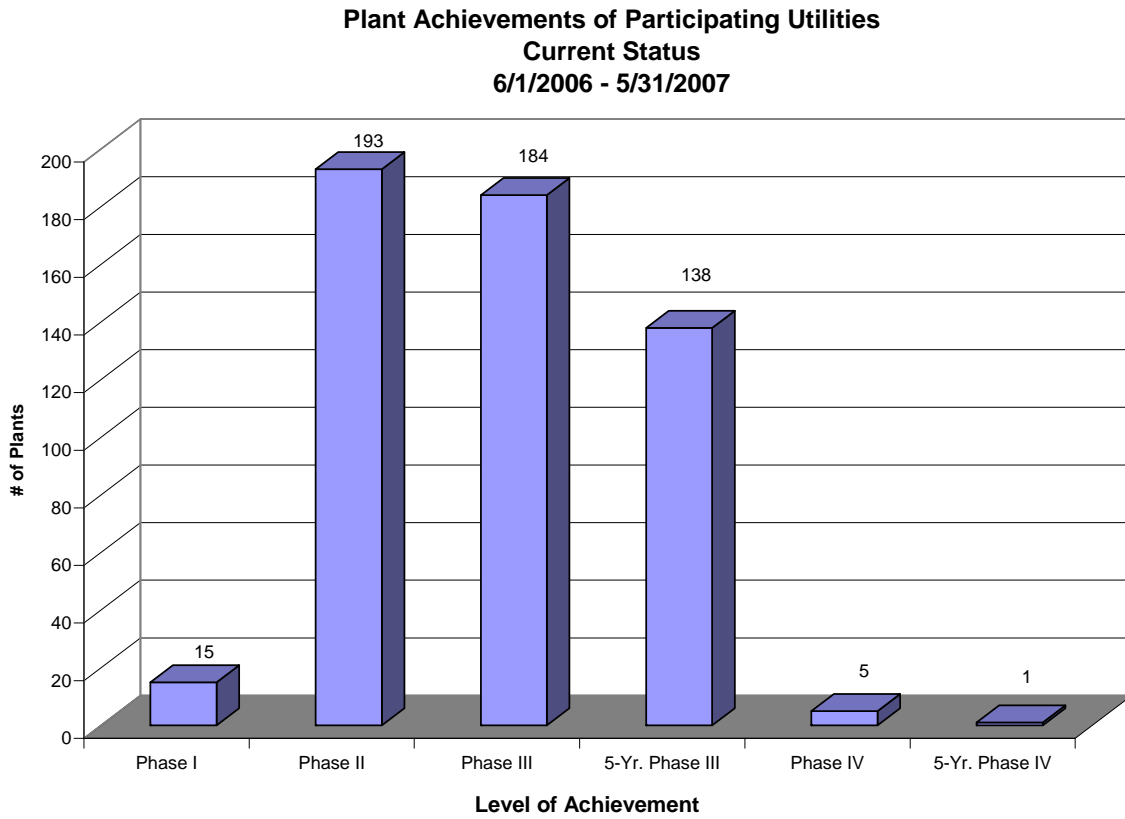


Figure 4

# Finished Water Turbidity Results

Water treatment plants that are participating in the *Partnership* submit turbidity results annually. Finished water results from the combined plant effluent are entered into the *Partnership* data collection software (test results at four-hour intervals or maximum daily values may be submitted). The software calculates statistics for plant performance evaluation and presents the information in tabular and graphical formats. The calculated monthly 95<sup>th</sup> percentile values and the monthly maximum values are charted and a frequency distribution plot is constructed using these values.

The annual report data received from all *Partnership* participants (more than 500,000 individual data points are used in this analysis) were analyzed by developing frequency distributions of the monthly 95<sup>th</sup> percentile turbidity data and the monthly maximum turbidity data. The frequency distribution may be interpreted to represent the percent of monthly turbidity values (either 95<sup>th</sup> percentile or maximum value) that are less than or equal to a given value. Figure 5 shows the frequency distribution of the annual report data from all participating treatment plants for the most recent reporting period (6/1/06-5/31/07).

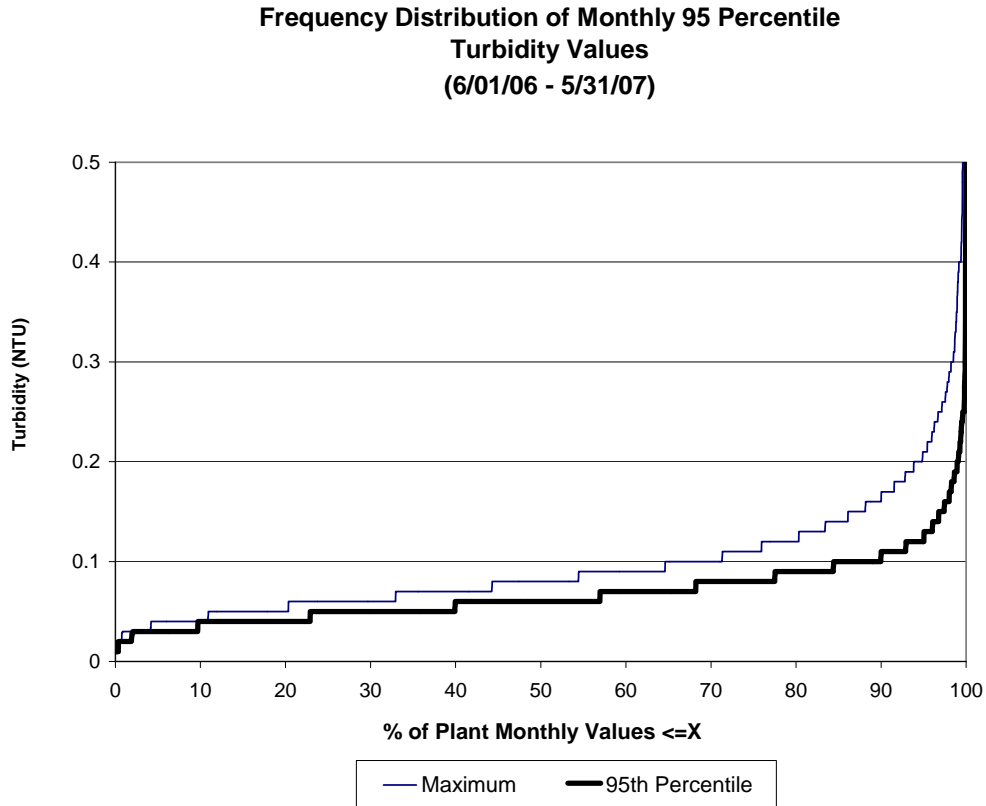


Figure 5

Many comparisons are possible. Utilities should examine the frequency distribution from their annual report submittal and compare it to the one above that represents all of the data from all of the *Partnership* treatment plants. The graph above yields some interesting information. For example, approximately 99% of the monthly 95<sup>th</sup> percentile turbidities reported by all the utility partners were less than 0.2 NTU. Likewise, 98% of the monthly maximum turbidity values were less than 0.3 NTU. The results for this reporting period show that the gains accomplished by *Partnership* plants over the past 10 years are both substantial and sustainable.

# Phase III Treatment Plant Finished Water Turbidity Results

Two hundred and eleven plants have completed the self-assessment and have received the Directors Award of recognition. Figure 6 illustrates a consistent number of submittals in recent years. The unusually high number of self-assessments received in 1999 and 2000 were due to one group of utilities.

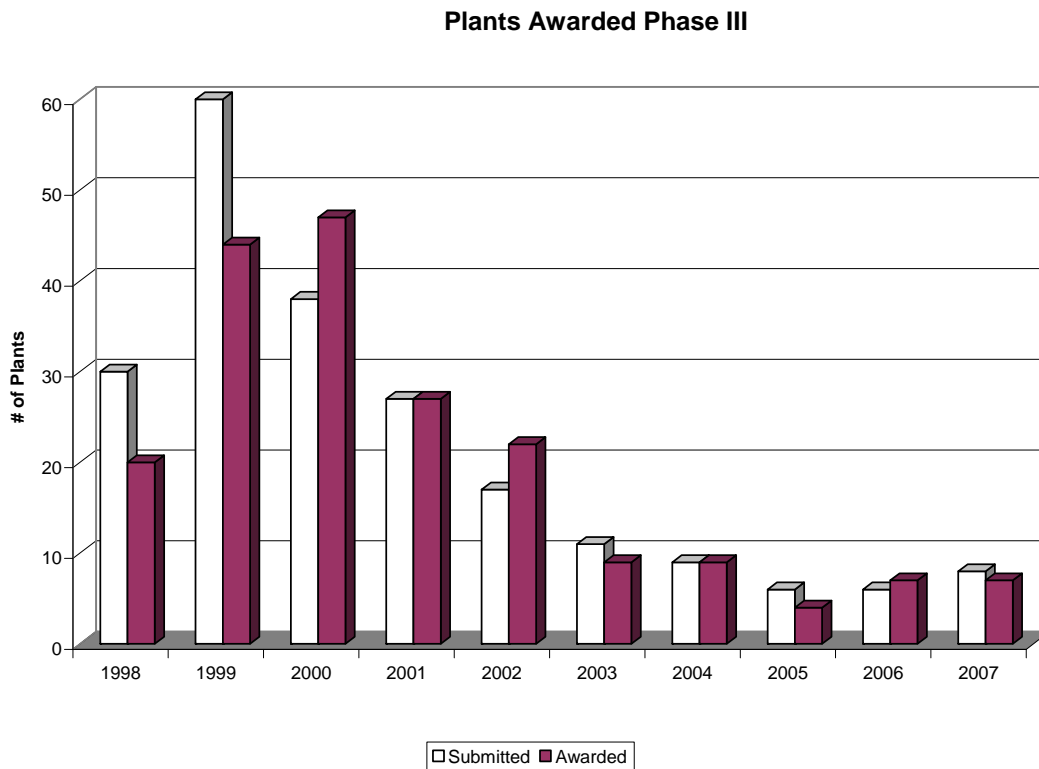


Figure 6

The performance results from Phase III plants reflect those that have gone through the self-assessment process. Figure 7 shows the frequency distribution for the monthly 95<sup>th</sup> percentile turbidity values for the plants that have completed Phase III. The “baseline” data (plant performance before conducting the self-assessment) for Directors Award plants is compared with the most recent data (6/06-5/07). This comparison shows that (based on 95<sup>th</sup> percentile turbidity values) plant performance improved more than 60% following the *Partnership* self-assessment. This is indisputable proof that the program is effective.

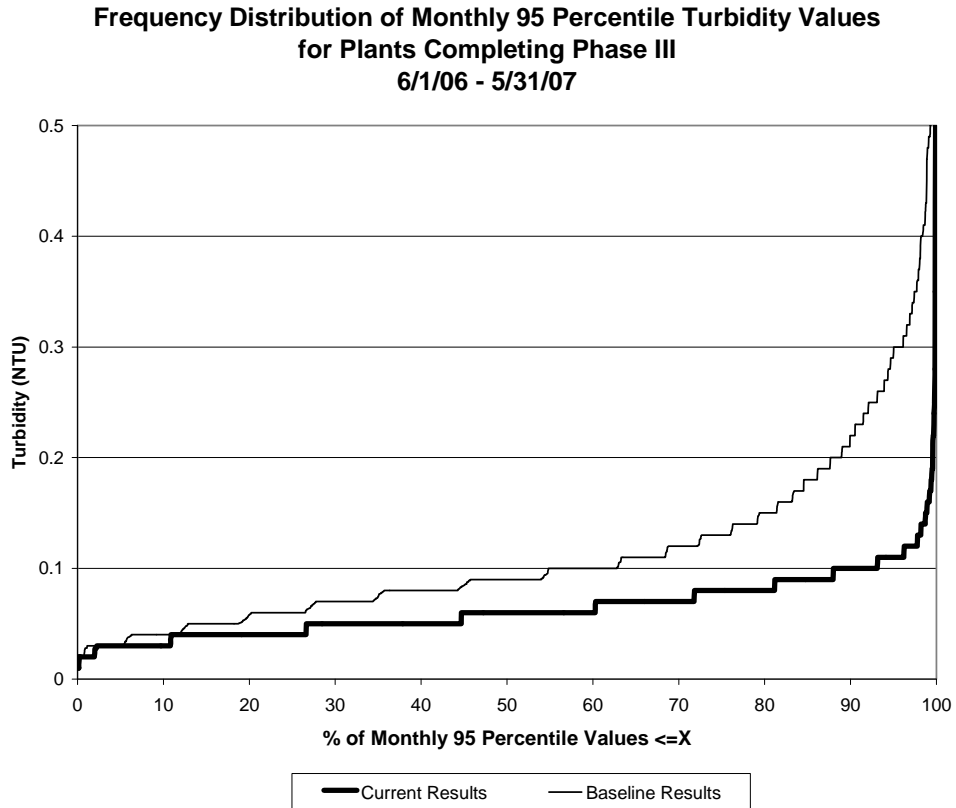


Figure 7

Another way of examining this data is to look at the current year individual monthly 95<sup>th</sup> percentile values for plants that have completed Phase III and those that have not. The percent of monthly 95<sup>th</sup> percentile values reported in three size ranges (<0.10NTU, 0.10-0.19NTU, and 0.20-0.30NTU) are shown in Figure 8. A higher percentage of monthly 95<sup>th</sup> percentile values from Phase III award plants are in the <0.10 NTU size range. Non-Phase III award plants are also performing well. These plants are striving to meet the Partnership goal even though they have not yet applied for the Directors Award. This comparison is further verification of performance improvement from the Phase III self-assessment.

**Distribution of Monthly 95 Percentile Turbidity Values (6/1/06-5/31/07)**

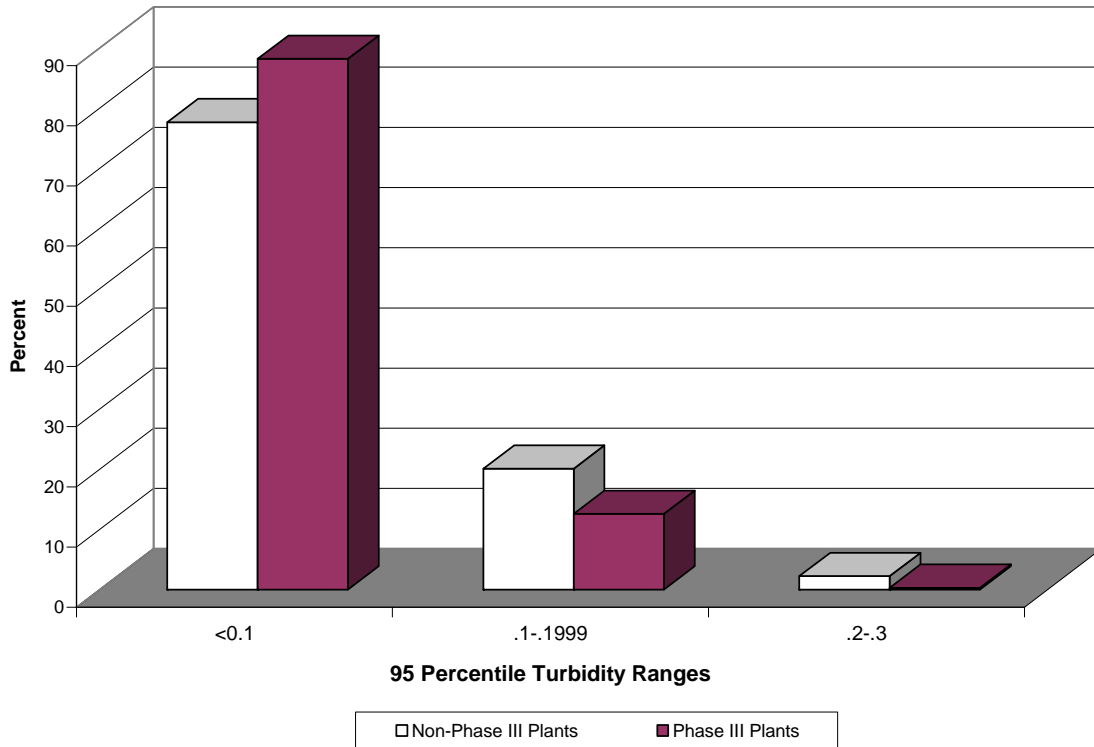


Figure 8

## Summary

Several interesting results were identified in the data that have been submitted from *Partnership* utilities:

- More than 99% of the monthly 95<sup>th</sup> percentile turbidities reported by all the utility partners were less than 0.2 NTU.
- Treatment plants that have completed Phase III self-assessments have lowered finished water turbidity by more than **60%** (when comparing baseline to post-Phase III values). This result is even more impressive given that these plants were performing very well prior to beginning the self-assessment process.
- Plants that have completed Phase III reported more monthly 95<sup>th</sup> percentile values less than 0.10 NTU when compared to non-Phase III plants.
- Nearly half of plants currently active in the *Partnership* have achieved Directors Award status (for completing the Phase III self-assessment).
- Fees assessed for participation are adequate to make the program self-sustaining. Fees have not increased since they were instituted in 1998.

## Conclusion

For more than thirteen years, the *Partnership for Safe Water* program has been effective in improving water quality for over 85 million people served by utilities participating in the program. This represents over 60% of the U.S. population served by surface water. Data submitted by participating utilities provides undeniable evidence that the program results in measurable treatment plant performance improvement. This improvement in water quality has a direct association with decreased risk from exposure to microbial disease.

The program has proven effective for all size utilities. Utilities serving more than 100,000 comprise slightly more than 50% of the membership. But there are a growing number of smaller utilities that serve less than 18,000. The results from all utilities are the same; as the participants progress through the program treatment plant performance improves.

Utilities participating in the program cite major benefits of the program as systematically improving water quality, enhancing operations staff responsibility, and providing a customer communication tool. The program is highly cost-effective. Customers served by *Partnership* utilities are paying less than ½¢ per year for a measurable improvement in their water quality. The *Partnership for Safe Water* continues to demonstrate the value of a voluntary program that produces measurable water quality improvement.

## Appendix A

# Partnership for Safe Water Financial Report

In February of 1998 the *Partnership for Safe Water* Steering Committee established a fee-for-service for utilities participating in the program. The first annual fee was assessed in November 1998 for payment by February 1999. The intent of the assessment was to make the program self-sustaining. The 2008 budget estimate and 2007 actual expenses for the program are shown in the table below. Also, the funds collected from utility fees are allocated equally for each month from March 2007 through February 2008. The current level of funding is adequate to support the program.

### Partnership for Safe Water Financial Report (12/31/07)

Income	2007 Actual (12/31/07)	2007 Budget Estimate	2008 Budget Estimate
Subscriptions	222,561	200,000	210,000
<b>Total</b>	<b>222,561</b>	<b>200,000</b>	<b>210,000</b>
<b>Direct Expenses</b>			
Direct Salaries	61,213	76,100	68,400
Direct Benefits	21,352	27,300	21,900
<b>Total Salaries*</b>	<b>82,565</b>	<b>103,400</b>	<b>90,300</b>
Contractual	0	10,000	1,000
Telephone	940	3,000	1,000
Supplies	35,520	19,000	27,000‡
Rent-Facil.	0	0	0
Rent-Equipment	0	1,000	0
Postage	1,726	3,500	2,000
Promotion	0	0	0
Travel-Staff	2,116	4,500	2,500
Travel-Volunteer	11,301	12,000	10,000
Printing	0	3,000	1,000
Photo Copy	1,487	2,300	2,300
Production	0	4,000	0
Food & Bev.	3,125	6,000	5,000
<b>Total Expenses</b>	<b>56,214</b>	<b>68,300</b>	<b>51,800</b>
<b>Total Direct Expenses</b>	<b>138,779</b>	<b>171,700</b>	<b>142,100</b>
<b>Indirect Expenses**</b>			
<b>Total Program</b>	<b>86,034**</b>	<b>101,500</b>	<b>89,800**</b>
<b>Net</b>	<b>(2,252)**</b>	<b>(73,200)</b>	<b>(21,900)**</b>
<b>AWWA Contribution**</b>	<b>2,252</b>	<b>73,200</b>	<b>21,900</b>

\*Salaries are for AWWA staff to administer the program. Indirect expenses are those associated with program administration such as: computers, office expenses, accounting, legal, marketing and human resources support.

\*\*AWWA has committed to allow the *Partnership* to apply 75% of the income to direct expenses. Therefore, the Partnership will be allocated the indirect expenses of no more than 25% of the income. AWWA is allocated the remainder and this amount is not charged to the program.

‡The expenses for promotion of the program are included in the supplies category rather than the promotion category. This category includes \$25,000 to support an AWWARF project to develop criteria that can be used for a distribution system optimization program.

There are several items in the financial report summary that need explanation. The actual expenditures for 2007 are shown but these are un-audited. Audited figures will not be available for several months. The 2007 and 2008 budget estimate values reflect a full 12-month calendar year. Revenue has remained steady for the last few years at about \$210,000, so that value is shown in the 2008 budget estimate. Contractual expenses are not expected for 2007 since software upgrades have been completed. The budget estimate for the supplies category was increased considerably for 2008. This category includes \$25,000 to fund the AWWA Research Foundation project to develop criteria for optimized distribution system operation. This commitment was approved by the Steering Committee in response to the results from a survey of participating utility members.

Considering the total annual operating cost of approximately \$200,000, this program has proven to be very cost-effective in providing measurable improvements in water quality affecting a large population.

The *Partnership for Safe Water* is primarily a program that is operated by volunteers. The six Partnership organizations all provide some degree of in-kind support to help keep the program affordable and increase the value to participants. For example, the U.S. EPA Office of Drinking Water Technical Support Center headquartered in Cincinnati, Ohio, provides major support to provide training to the volunteers.

Below is an estimate of the additional costs associated with all of the activities needed to support the *Partnership for Safe Water* above and beyond the operating expenses shown above. As a result of the in-kind support, utilities are receiving the benefits of a program for 73% less than the "true" costs.

<b>Category</b>	<b>2007 Cost (\$)</b>
U.S. EPA Training & Support	12,500
PEAC Volunteers	70,000
Committee Volunteers	38,500
<i>Partnership</i> Organizations In-kind	30,000
<b>Total</b>	<b>151,000</b>

The *Partnership* volunteers play a big part in the success of the program. The members of the Steering Committee, the Program Coordinating Committee, and the PEAC provide many hours of their time to make the *Partnership for Safe Water* a successful and affordable program. The six *Partnership* organizations wish to thank all of the volunteers and their employers for the many hours of dedicated service.

## Appendix B

# Program Enhancement Activities

The *Partnership* implemented a number of program features designed to enhance membership benefits.

- Press releases for award winning plants
- A communications kit for award winning utilities
- Press release to local media by AWWA
- Electronic *Partnership* logos (Official logo items available for purchase)
- Annual data summary report to compare plant performance with national trends
- AWWA Annual Conference award presentations
- Articles in AWWA publications to raise program visibility and provide recognition
- Ads placed in *U.S. Mayor* and *Nation's Cities Weekly* publications for award-winning utilities
- An online training course based on the *Partnership* that provides CEU credit for successful completion (reduced fee for operators from *Partnership* utilities)
- Recognition for award-winning utilities in AWWA Section publications
- Notices of awards to local and state elected officials

### 2007 Program Highlights

1. Awards were presented at the AWWA Annual Conference in Toronto, Canada. Seven plants received the Directors Award. Thirty-three plants were awarded the Five-Year Directors Award, and three plants received the Ten-year Directors Award. In addition to being recognized at the conference, the plants were listed in a *MainStream* article and the names were provided to the news media.
2. The Pennsylvania Section of AWWA managed a program with support from the *Partnership*, to obtain CEU credit for operators for completion of Phase III from the Pennsylvania Department of Environmental Protection. Twenty CEU's are awarded if they receive a satisfactory score on an assessment examination. The *Partnership* is now providing the materials used to obtain CEU credit in Pennsylvania to other AWWA Sections so that they can duplicate this program.
3. An online web-based training course based on the *Partnership* data analysis process is now available to operators who receive CEU credits. This course is available to all operators; however, *Partnership* member plant staff can take the course for a greatly reduced fee. In this way, the course provides incentive for retention and progression of existing members as well as addition of new members.

The online web-based training course is titled "Using Turbidity Data to Optimize Plant Performance". This course uses the *Partnership* software and principles. Therefore, actively involved operators at *Partnership* plants should find the material very familiar. *Partnership* volunteers worked with the AWWA Training and Education Department in this effort. An experienced web-based development contractor formatted course content provided by the volunteers. The course is part of the AWWA Online Institute and thus is eligible for CEU credit in most States.

4. Articles recognizing the achievements of award-winning plants were placed in AWWA Section publications. Eighteen Sections placed notices in their newsletters congratulating award-winning treatment plants. This adds to the national recognition provided by the *Partnership*.
5. Twenty Sections of AWWA have links to the *Partnership* website. New England and South Carolina Sections conducted *Partnership* presentations at their annual conferences. Recruiting efforts focused on Wisconsin and Kansas Sections of AWWA.
6. The Pennsylvania DEP developed a template to aid utilities preparing their Phase III completion reports. The template was approved by the *Partnership* Steering Committee and is now available on the *Partnership* website ([www.partnershipforsafewater.org](http://www.partnershipforsafewater.org)) for members to download.
7. The *Partnership* acquired its own web domain. Members can access the *Partnership* for Safe Water web pages directly using the address [www.partnershipforsafewater.org](http://www.partnershipforsafewater.org).
8. Twelve PEAC volunteers participated in a two-day training event in Long Beach, CA. The training focused on the Phase III report review process.

The *Partnership* program is being continually improved to provide the most benefit to all participating utilities. If you have any suggestions regarding program improvements contact any Steering Committee member or Bill Lauer by phone at 303-347-6220 or by email at [blauer@awwa.org](mailto:blauer@awwa.org).

## Appendix C

### Active Award Winning Treatment Plants as of 12/31/07

Listed below are the active treatment plants that have earned awards from the *Partnership for Safe Water*. To remain active, plants must submit annual performance data and a narrative description of their activities to optimize the treatment plant. The *Partnership* Steering Committee congratulates these plants for their efforts and encourages each of the Directors Award plants to consider pursuing Phase IV of the program.

#### **Five-Year Excellence in Water Treatment Award (Phase IV) Plant**

The following plant has maintained the Excellence in Water Treatment Award for five consecutive years.

##### ***Vermont***

###### **Champlain Water District**

Peter L. Jacob Water Treatment Facility

#### **Excellence in Water Treatment Award (Phase IV) Plants**

The following plants have earned the highest level of recognition from the Partnership.

##### ***California***

###### **East Bay Municipal Utility District**

Orinda Water Treatment Plant

##### ***Illinois***

###### **Central Lake County Joint Action Water Agency**

Paul M. Neal Water Treatment Plant

##### ***South Carolina***

###### **Greenwood Commissioners of Public Works**

W. R. Wise Water Treatment Plant

##### ***Utah***

###### **Central Utah Water Conservancy District**

Utah Valley Water Treatment Plant

##### ***Vermont***

###### **Champlain Water District**

Peter L. Jacob Water Treatment Facility

## **Ten-Year Directors Award (Phase III) Plants**

*The following plants have maintained the Director's Award status for ten years.*

### ***Nevada***

#### **Southern Nevada Water Authority/Las Vegas Valley Water District**

Alfred Merritt Smith Water Treatment Facility

### ***Ohio***

#### **Cleveland Division of Water**

Nottingham Filtration Plant

### ***Vermont***

#### **Champlain Water District**

Peter L. Jacob Water Treatment Facility

## Five-Year Directors Award (Phase III) Plants

The following plants have maintained the Director's Award status for five years.

### *California*

#### **Alameda County Water District**

Mission San Jose Water Treatment Plant

#### **Contra Costa Water District**

Bollman Water Treatment Plant

Randall-Bold Water Treatment Plant

#### **East Bay Municipal Utility District**

Lafayette Water Treatment Plant

Orinda Water Treatment Plant

Sobrante Water Treatment Plant

Upper San Leandro Water Treatment Plant

Walnut Creek Water Treatment Plant

#### **Metropolitan Water District of Southern California**

F. E. Weymouth Filtration Plant

Henry J. Mills Filtration Plant

Joseph Jensen Filtration Plant

Robert A. Skinner Water Treatment Plant #1

Robert B. Diemer Filtration Plant

#### **Modesto Irrigation District**

Modesto Regional Water Treatment Plant

#### **San Francisco Public Utilities**

##### **Commission**

Sunol Valley Water Treatment Plant

#### **Zone 7 Water Agency**

Del Valle Water Treatment Plant

### *Colorado*

#### **City of Fort Collins Utilities**

Fort Collins Water Treatment Plant

#### **City of Golden**

City of Golden Water Treatment Plant

### *Connecticut*

#### **Aquarion Water Company**

Easton Lake Water Treatment Plant

Mianus Filter Plant

Putnam Filter Plant

#### **Connecticut Water Company**

W. N. Mackenzie Water Treatment Plant

W. C. Stewart Water Treatment Plant

### *Florida*

#### **City of Tampa Water Department**

David L. Tippin Water Treatment Facility

### *Georgia*

#### **Columbus Water Works**

North Columbus Water Resource Facility

#### **Douglasville – Douglas County Water & Sewer Authority**

Bear Creek Water Treatment Plant

### *Iowa*

#### **Iowa American Water**

East River Station Water Treatment Plant

### *Illinois*

#### **Illinois American Water**

Granite City Water Treatment Plant

Illinois River Treatment Plant (Peoria)

Pontiac Division Water Treatment Plant

Streator Division Water Treatment Plant

### *Indiana*

#### **Fort Wayne City Utilities**

Three Rivers Filtration Plant #1

#### **Indiana American Water**

Borman Park Water Treatment Facility

Kokomo Water Treatment Plant

Middle Fork Water Treatment Plant

Muncie – White River Treatment Plant

Ogden Dunes Water Treatment Plant

Richmond Main Station Plant

### *Kentucky*

#### **Kentucky American Water**

Kentucky River Station

Richmond Road Station

#### **Louisville Water Company**

B.E. Payne Water Treatment Plant

Crescent Hill Treatment Plant

#### **Paducah Water Works**

Paducah Water Works

### *Louisiana*

#### **City of Bossier City**

Bossier Water Treatment Plant

### *Maine*

#### **Biddeford and Saco Water Co.**

Biddeford and Saco Pumping Station

## *Michigan*

### **City of Grand Rapids Water System**

Lake Michigan Filtration Plant

### **Detroit Water & Sewerage Dept.**

Lake Huron Plant

Northeast Plant

Southwest Plant

## *Minnesota*

### **Saint Paul Regional Water Services**

McCarrons Filtration Plant

## *Missouri*

### **City of St. Louis Public Utilities**

Chain of Rocks Water Treatment Plant

Howard Bend Water Treatment Facility

### **City Utilities of Springfield**

Blackman Water Treatment Facilities

Fulbright Water Treatment Plant

### **Missouri American Water**

Central County Water Treatment Plant

Joplin Blendville Water Treatment Plant

Meramec Water Treatment Plant

North County Water Treatment Plant

South County Water Treatment Plant

## *Montana*

### **City of Billings Public Works Dept.**

Gerald D. Underwood Water Treatment Plant

## *Nevada*

### **Southern Nevada Water Authority/Las**

### **Vegas Valley Water District**

Alfred Merritt Smith Water Treatment Facility

## *New Jersey*

### **Middlesex Water Company**

C. J. Olsen Water Treatment Plant

### **New Jersey American Water**

Canal Road Water Treatment Plant

Delaware River Regional Water Treatment Plant

Jumping Brook Water Treatment Plant

Raritan Millstone Water Treatment Plant

## *New York*

### **City of Rochester Water & Lighting**

### **Bureau**

Hemlock Lake Filtration Plant

### **Onondaga County Water Authority**

Marcellus Water Treatment Plant

## *North Carolina*

### **Fayetteville Public Works Commission**

Glenville Lake Water Treatment Facility

P.O. Hoffer Water Treatment Facility

## *Ohio*

### **Cleveland Division of Water**

Nottingham Filtration Plant

### **Ohio American Water**

Ashtabula District Water Treatment Plant

Marion District Water Treatment Plant

## *Oregon*

### **City of The Dalles**

Wicks Water Treatment Plant

## *Pennsylvania*

### **City of Lancaster**

Conestoga Water Treatment Plant

### **Downingtown Municipal Water Authority**

Vincent J. DiEuliis Water Treatment Plant

### **East Greenville Borough Water Dept.**

East Greenville Water Treatment Plant

### **North Penn & North Wales Water**

### **Authorities**

Forest Park Water Treatment Plant

### **Oakmont Water Authority**

Hulton Treatment Plant

### **Pennsylvania American Water**

Aldrich Water Treatment Plant

Bangor Water Treatment Plant

Brownell Water Treatment Plant

Brownsville Water Treatment Plant

Ceasetown Water Treatment Plant

Crystal Lake Water Treatment Plant

Ellwood Water Treatment Plant

Fallbrook Water Treatment Plant

Forest City Water Treatment Plant

Gerald C. Smith Treatment Plant

Hays Mine Water Treatment Plant

Indiana Water Treatment Plant

Kane Water Treatment Plant

Kittanning Water Treatment Plant

Lake Scranton Water Treatment Plant

Milton Filter Plant

Montrose Treatment Plant

Nesbitt Treatment Plant

New Castle Treatment Plant

Norristown Water Treatment Plant

Oneida Valley Water Treatment Plant

Philipsburg Treatment Plant

Punxsutawney Filter Plant

Silver Spring Plant

Susquehanna Water Treatment Plant  
Watres Water Treatment Plant  
White Deer Creek Water Treatment Plant  
**Philadelphia Water Company**  
Baxter Water Treatment Plant  
Belmont Water Treatment Plant  
Queen Lane Water Treatment Plant

### *South Carolina*

**City of Newberry**  
George H. Connelly Water Treatment Plant  
**Georgetown County Water & Sewer District**  
Waccamaw Neck Regional Water Treatment Plant  
**Greenwood Commissioners of Public Works**  
W. R. Wise Water Treatment Plant  
**Spartanburg Water System**  
R. B. Simms Water Treatment Plant

### *Tennessee*

**Knoxville Utilities Board**  
Mark B. Whitaker Water Treatment Plant  
**Tennessee American Water**  
Citico Treatment Plant

### *Texas*

**City of Houston**  
East Water Purification Plant #1  
East Water Purification Plant #3  
**Dallas Water Utilities**  
Bachman Water Treatment Plant  
East Side Water Treatment Plant  
Elm Fork Water Treatment Plant

### *Utah*

**Central Utah Water Conservancy District**  
Ashley Valley Water Treatment Plant  
Duchesne Valley Water Treatment Plant  
Utah Valley Water Treatment Plant  
**Metropolitan Water District of Salt Lake & Sandy**  
Little Cottonwood Water Treatment Plant  
**Salt Lake City Public Utilities**  
Big Cottonwood Treatment Plant  
City Creek Treatment Plant  
Parleys Water Treatment Facility

### *Vermont*

**Burlington Public Works Water Division**  
Francis J. O'Brien Water Treatment Facility  
**Champlain Water District**  
Peter L. Jacob Water Treatment Facility

### *Virginia*

**Appomattox River Water Authority**  
Appomattox River Water Authority Treatment Plant  
**Chesterfield County Utilities Dept.**  
Addison-Evans Water Production and Laboratory Facility

### *Washington*

**City of Bellingham Dept. of Public Works**  
Whatcom Falls Water Treatment Plant

### *West Virginia*

**West Virginia American Water**  
Ada Water Treatment Plant  
Bluestone Water Treatment Plant  
Gassaway Water Treatment Plant  
Huntington Water Treatment Plant  
West Fork Regional Water Treatment Plant

### *Wisconsin*

**Oak Creek Water and Sewer Utility**  
Oak Creek Water Treatment Plant

## Directors Award (Phase III) Plants

The following utilities are current Partnership members and active in the program as of 12/31/07.

### *Alabama*

#### **Birmingham Water Works & Sewer Board**

H. Y. Carson Filter Plant  
Putnam Filter Plant  
Western Filter Plant

### *California*

#### **Alameda County Water District**

Mission San Jose Water Treatment Plant

#### **Contra Costa Water District**

Bollman Water Treatment Plant  
Randall-Bold Water Treatment Plant

#### **East Bay Municipal Utility District**

Lafayette Water Treatment Plant  
Orinda Water Treatment Plant  
Sobrante Water Treatment Plant  
Upper San Leandro Water Treatment Plant  
Walnut Creek Water Treatment Plant

#### **Metropolitan Water District of Southern California**

Robert B. Diemer Filtration Plant  
Joseph Jensen Filtration Plant  
Henry J. Mills Filtration Plant  
Robert A. Skinner Filtration Plant  
F. E. Weymouth Filtration Plant

#### **Modesto Irrigation District**

Modesto Regional Water Treatment Plant

#### **San Francisco Public Utilities**

##### **Commission**

Harry Tracy Water Treatment Plant  
Sunol Valley Water Treatment Plant

##### **Zone 7 Water Agency**

Del Valle Water Treatment Plant

### *Colorado*

#### **Aurora Water**

Griswald Water Treatment Plant  
Wemlinger Water Treatment Plant

#### **City of Fort Collins Utilities**

Fort Collins Water Treatment Plant

#### **City of Golden**

City of Golden Water Treatment Plant

#### **Clifton Water District**

Charles A. Strain Water Treatment Plant

#### **Montezuma Water Company**

Montezuma Water Treatment Plant

#### **Ute Water Conservancy District**

UWCD Water Treatment Plant

### *Connecticut*

#### **Aquarion Water Company of Connecticut**

Easton Lake Water Treatment Plant  
Mianus Filter Plant  
Putnam Filter Plant

#### **Connecticut Water Company**

William Neal Mackenzie Water Treatment Plant  
William C. Stewart Water Treatment Plant

### *Florida*

#### **City of Tampa Water Dept.**

David L. Tippin Water Treatment Facility

### *Georgia*

#### **Columbus Water Works**

North Columbus Water Resource Facility

#### **Douglasville – Douglas County Water & Sewer Authority**

Bear Creek Water Treatment Plant

### *Illinois*

#### **Central Lake County Joint Action Water Agency**

Paul M. Neal Water Treatment Facility

#### **Illinois American Water**

Alton District Water Treatment Plant  
Cairo District Water Treatment Plant  
East St. Louis Water Treatment Plant  
Granite City Water Treatment Plant  
Peoria District – Illinois River Treatment Plant  
Pontiac Division Water Treatment Plant  
Streator Division Water Treatment Plant

#### **Village of Wilmette**

Village of Wilmette

### *Indiana*

#### **Evansville Water and Sewer Utility/American Water**

Evansville Water Treatment Plant

#### **Fort Wayne City Utilities**

Three Rivers Filtration Plant #1

#### **Indiana American Water**

Borman Park Water Treatment Facility  
Kokomo Water Treatment Plant  
Middle Fork Water Treatment Plant  
Muncie-White River Water Treatment Plant

Ogden Dunes Water Treatment Plant  
Richmond Main Station Water Treatment Plant

### ***Iowa***

**Iowa American Water**  
East River Station Water Treatment Plant

### ***Kentucky***

**Kentucky American Water**  
Kentucky River Station  
Richmond Road Station  
**Louisville Water Company**  
B. E. Payne Water Treatment Plant  
Crescent Hill Water Treatment Plant  
**Paducah Water Works**  
Paducah Water Works Treatment Plant

### ***Louisiana***

**City of Bossier City**  
Bossier Water Treatment Plant

### ***Maine***

**Biddeford and Saco Water Company**  
Biddeford and Saco Pumping Station

### ***Michigan***

**City of Grand Rapids Water System**  
Lake Michigan Filtration Plant  
**Detroit Water & Sewerage Dept.**  
Lake Huron Water Treatment Plant  
Northeast Water Treatment Plant  
Southwest Water Treatment Plant

### ***Minnesota***

**Saint Paul Regional Water Services**  
McCarrons Filtration Plant

### ***Missouri***

**City of St. Louis Public Utilities**  
Chain of Rocks Water Treatment Plant  
Howard Bend Water Treatment Plant  
**City Utilities of Springfield**  
Blackman Water Treatment Facilities  
Fulbright Water Treatment Plant  
**Missouri American Water**  
Central County Water Treatment Plant  
Jefferson City Water Treatment Plant  
Joplin Blendville Water Treatment Plant  
Meramec Water Treatment Plant  
North County Water Treatment Plant  
South County Water Treatment Plant

### ***Montana***

**City of Billings Public Works Dept.**  
Gerald D. Underwood Water Treatment Plant

### ***Nevada***

**Southern Nevada Water Authority/Las Vegas Valley Water District**  
Alfred Merritt Smith Water Treatment Facility

### ***New Hampshire***

**Manchester Water Works**  
Manchester Water Treatment Plant

### ***New Jersey***

**Middlesex Water Company**  
C. J. Olsen Water Treatment Plant  
**New Jersey American Water**  
Canal Road Water Treatment Plant  
Delaware River Regional Water Treatment Plant  
Jumping Brook Water Treatment Plant  
Raritan Millstone Water Treatment Plant  
Swimming River Water Treatment Plant

### ***New York***

**City of Rochester Water & Lighting Bureau**  
Hemlock Water Filtration Plant  
**City of Troy Dept. of Public Utilities**  
John P. Buckley Water Treatment Plant  
**Onondaga County Water Authority**  
Marcellus Water Treatment Plant

### ***North Carolina***

**Fayetteville Public Works Commission**  
Glenville Lake Water Treatment Facility  
P. O. Hoffer Water Treatment Facility  
**Harnett County Dept. of Public Utilities**  
Harnett County Regional Water Treatment Plant  
**Orange Water and Sewer Authority**  
Jones Ferry Road Water Treatment Plant  
**Town of Cary**  
Cary Apex Water Treatment Plant

### ***Ohio***

**Cleveland Division of Water**  
Baldwin Water Works  
Crown Filtration Plant  
Garret A. Morgan Filtration Plant  
Nottingham Filtration Plant  
**Ohio American Water**  
Ashtabula District Water Treatment Plant

Marion District Water Treatment Plant  
Tiffin District Water Treatment Plant

## ***Oregon***

### **City of The Dalles**

Wicks Water Treatment Plant

## ***Pennsylvania***

### **Blossburg Water Authority**

Bellman Water Treatment Plant

### **Brodhead Creek Regional Authority**

Brodhead Creek Regional Water Treatment Plant

### **Carlisle Borough Municipal Authority**

Carlisle Water Treatment Plant

### **Chester Water Authority**

Octoraro Water Treatment Plant

### **City of Allentown Water Resources**

Allentown Water Treatment Plant

### **City of Lancaster**

Conestoga Water Treatment Plant

### **Downingtown Municipal Water Authority**

Vincent J. DiEuliis Water Treatment Plant

### **East Greenville Borough Water Dept.**

East Greenville Water Treatment Plant

### **Harrisburg Water System**

Dr. Robert E. Young Water Service Center

### **Jersey Shore Area Joint Water Authority**

Larry's Creek Filter Plant

### **North Penn and North Wales Water Authorities**

Forest Park Water Treatment Plant

### **Oakmont Water Authority**

Hulton Treatment Plant

### **Pennsylvania American Water**

Aldrich Water Treatment Plant

Bangor Water Treatment Plant

Brownell Water Treatment Plant

Brownsville Water Treatment Plant

Ceasetown Water Treatment Plant

Crystal Lake Water Treatment Plant

Ellwood Water Treatment Plant

Fallbrook Water Treatment Plant

Forest City Water Treatment Plant

Gerald C. Smith Water Treatment Plant

Hays Mine Water Treatment Plant

Indiana Water Treatment Plant

Kane Water Treatment Plant

Kittanning Water Treatment Plant

Lake Scranton Water Treatment Plant

Milton Filter Plant

Montrose Water Treatment Plant

Nesbitt Water Treatment Plant

New Castle Water Treatment Plant

Norristown Water Treatment Plant

Oneida Valley Water Treatment Plant (Butler)

Philipsburg Water Treatment Plant

Punxsutawney Water Treatment Plant

Silver Spring Water Treatment Plant

Susquehanna Water Purification Plant

Watres Water Treatment Plant

White Deer Creek Water Treatment Plant

### **Philadelphia Water Department**

Baxter Water Treatment Plant

Belmont Water Treatment Plant

Queen Lane Water Treatment Plant

### **Robinson Township Municipal Authority**

Groveton Water Treatment Plant

### **Schuylkill County Municipal Authority**

Mount Laurel Filtration Plant

### **Shenandoah Municipal Water Authority**

Shenandoah Water Treatment Plant

## ***South Carolina***

### **Beaufort-Jasper Water and Sewer Authority**

Chelsea Water Treatment Plant

Purrysburg Water Treatment Plant

### **Charleston Water System**

Hanahan Water Treatment Plant

### **City of Newberry**

George Hugh Connelly Water Treatment Plant

### **Georgetown County Water & Sewer District**

Waccamaw Neck Regional Water Treatment Plant

### **Greenwood Commissioners of Public Works**

W. R. Wise Water Treatment Plant

### **Spartanburg Water System**

Landrum Water Treatment Plant

R. B. Simms Water Treatment Plant

## ***Tennessee***

### **Knoxville Utilities Board**

Mark B. Whitaker Water Treatment Plant

### **Sevierville Water System**

Sevierville Water Treatment Plant

### **Tennessee American Water**

Citico Treatment Plant

## ***Texas***

### **City of Houston**

East Water Purification Plant #1

East Water Purification Plant #3

Southeast Water Purification Plant

### **Dallas Water Utilities**

Bachman Water Treatment Plant

East Side Water Treatment Plant  
Elm Fork Water Treatment Plant  
**El Paso Water Utilities Public Services Board**  
Jonathan W. Rogers Water Treatment Plant  
Robertson/Umberhauer Water Treatment Plants

### *Utah*

**Central Utah Water Conservancy District**  
Ashley Valley Water Treatment Plant  
Duchesne Valley Water Treatment Plant  
Utah Valley Water Treatment Plant  
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Little Cottonwood Water Treatment Plant  
**Salt Lake City Public Utilities**  
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City Creek Water Treatment Plant  
Parley's Water Treatment Plant

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Francis J. O'Brien Water Treatment Facility  
**Champlain Water District**  
Peter L. Jacob Water Treatment Facility

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Appomattox River Water Authority Water Treatment Plant  
**Chesterfield County Utilities Dept.**  
Addison – Evans Water Production and Laboratory Facility

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Whatcom Falls Water Treatment Plant

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Bluestone Water Treatment Plant  
Gassaway Water Treatment Plant  
Huntington Water Treatment Plant  
Montgomery Water Treatment Plant  
New River Regional Water Treatment Plant  
West Fork Regional Water Treatment Plant

### *Wisconsin*

**Oak Creek Water and Sewer Utility**  
Oak Creek Water Treatment Plant