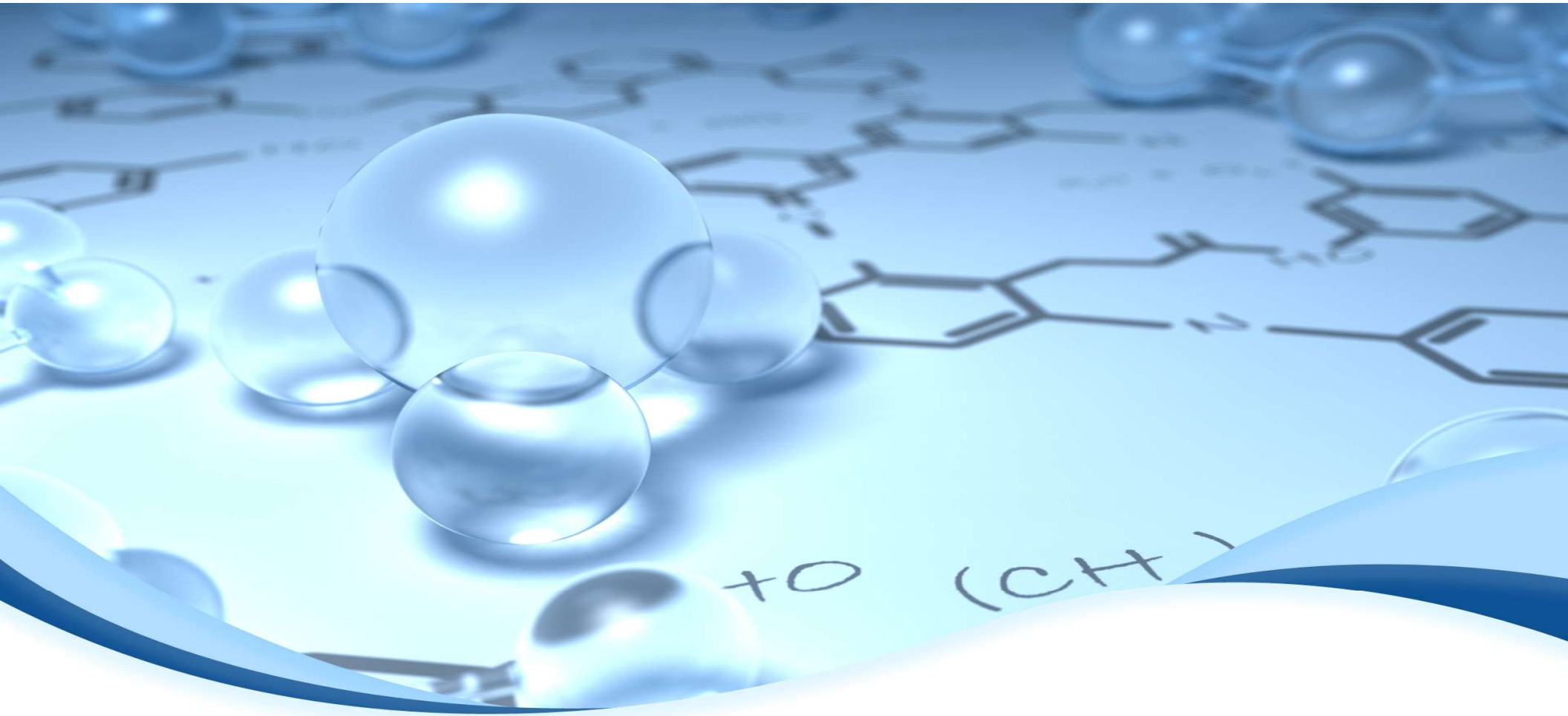


Surface Water Meeting AWOP Update

Aimee White

ADEM
Alabama Department of Environmental Management

SWM AWOP Update Outline

What is AWOP?
3 Main Status Components (Goals)
What does AWOP do?
How do I get Involved?
What would the water system need?
Maintaining The Program
Still Developing New Manganese Goals
Developing Corrosion Control Goals
Membrane Optimization Goals
AWOP Impacts

SWM AWOP Update Outline

What's happening in AWOP?

Region 4 Multi-State AWOP Team

South Carolina CPE

What special studies were conducted?

How did it go?

What did we learn?

What is AWOP?

- Area Wide Optimization Program
- Supplies realistic goals for water treatment plants.
- The goals are set below what the regulations require.
- Water systems go above and beyond to ensure the best quality of water supplied to each customer.

3 Main Status Components

Disinfection Byproducts

- Short Term Goal for distribution's each individual site:
  LRAA is ≤ 70 ppb for TTHM and ≤ 50 ppb for HAA5
- Long Term Goal, the average of max LRAA based on 11 quarters of data:
  < 60 ppb for TTHM and < 40 ppb for HAA5.
- Plant Effluent Goal:
  TTHM RAA 20 ppb or less
  HAA5 RAA 15 ppb or less
  TOC RAA 1.7 mg/L or less

Microbial (Pathogen Removal) for Traditional WTPs

- Meet sedimentation goals of 1.0 or 2.0 NTU
- < 0.10 NTU, 95% of the time for individual filtered water turbidity
- 0.30 NTU, do not exceed
- < 0.10 NTU, rewash filter and return to service

Chlorine Residual

- Maintain sufficient chlorine residual; report lowest

What does AWOP do?

- Our team sets up training sessions and workshops in which operators can receive CEH's.
- Homework is assigned.
- Provides Operators with tools and the knowledge to achieve optimization.
- Operators can apply their knowledge /skills to their own water systems.

How do I get involved?

The Operator or Management can call me or call your inspector and we can work out a schedule to set it up. My number is 334-271-7779. Or you can email me at abwhite@adem.alabama.gov.

What would the water system need?

- A large enough space to provide room for training sessions.
- Classroom style preferably but can make other conference room styles work.
- Support from Management.
- Operators with a willingness to put forth the effort to learn new skills and gain new knowledge.

Maintaining The Program

AWOP is a voluntary program for ADEM staff. AWOP is in addition to required duties.

All appropriate water systems are tracked in the status components.

Water system involvement in AWOP activities is voluntary.

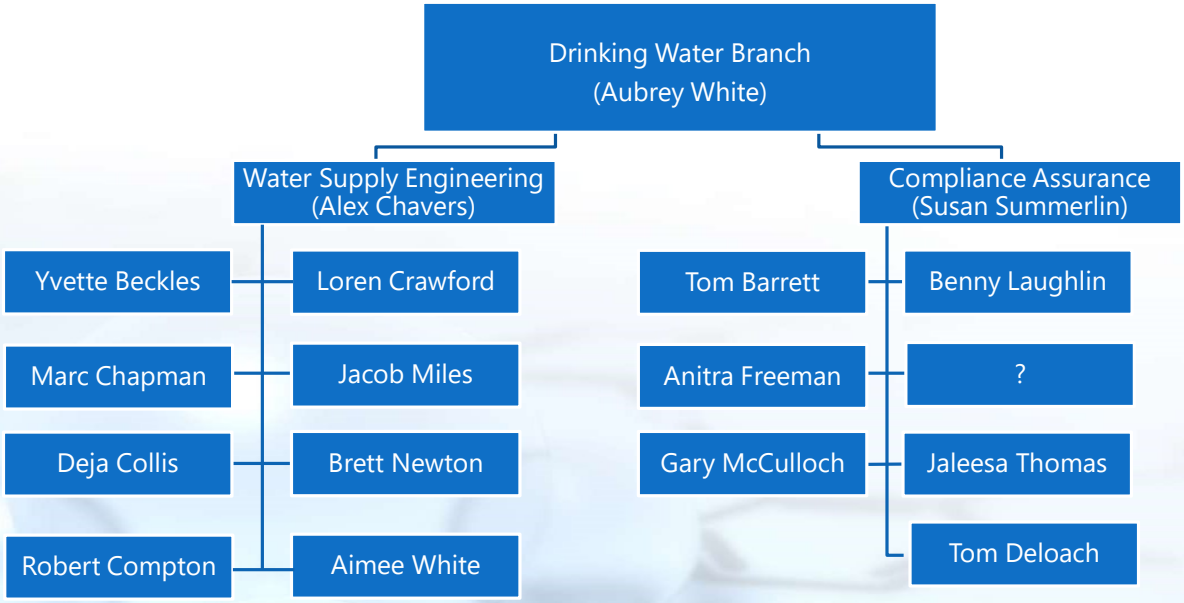
More technical staff are becoming involved.

Maintaining The Program
2023 Team Structure

Core Team

- Aimee White
- Anitra Freeman
- Brett Newton
- Chris Soileau
- Deja Collis
- Jacob Miles
- Robert Compton

Drinking Water Organization



New Manganese Optimization Goals

- We are working with the EPA in developing new Manganese goals.
- The goal could be 0.02 ppm or 0.03 ppm in finished water.
- Currently there are 3 different tests approved to measure manganese with each having differing minimum levels of detection/accuracy.
- Minimizes manganese loading in the distribution system.

New Corrosion Control Optimization Goals

- We are working with the EPA to develop corrosion control goals.
- Maintain minimum levels of corrosion inhibitor in the distribution system.
- 1.0 ppm, suggestion for the current minimum level of corrosion inhibitor in the distribution system at maximum physical locations.

Membrane Optimization Goals

- Meet sedimentation goals of 1.0 or 2.0 NTU
- 0.050 NTU 95% of time from individual membranes (IFE)
- Not to exceed 0.15 NTU.
- 95% of PDTs below limit.
- Hybrid WTPs will have to meet goals appropriate to treatment units.
- Goals Were implemented in 2020

Status Components

Distribution (DBPs)

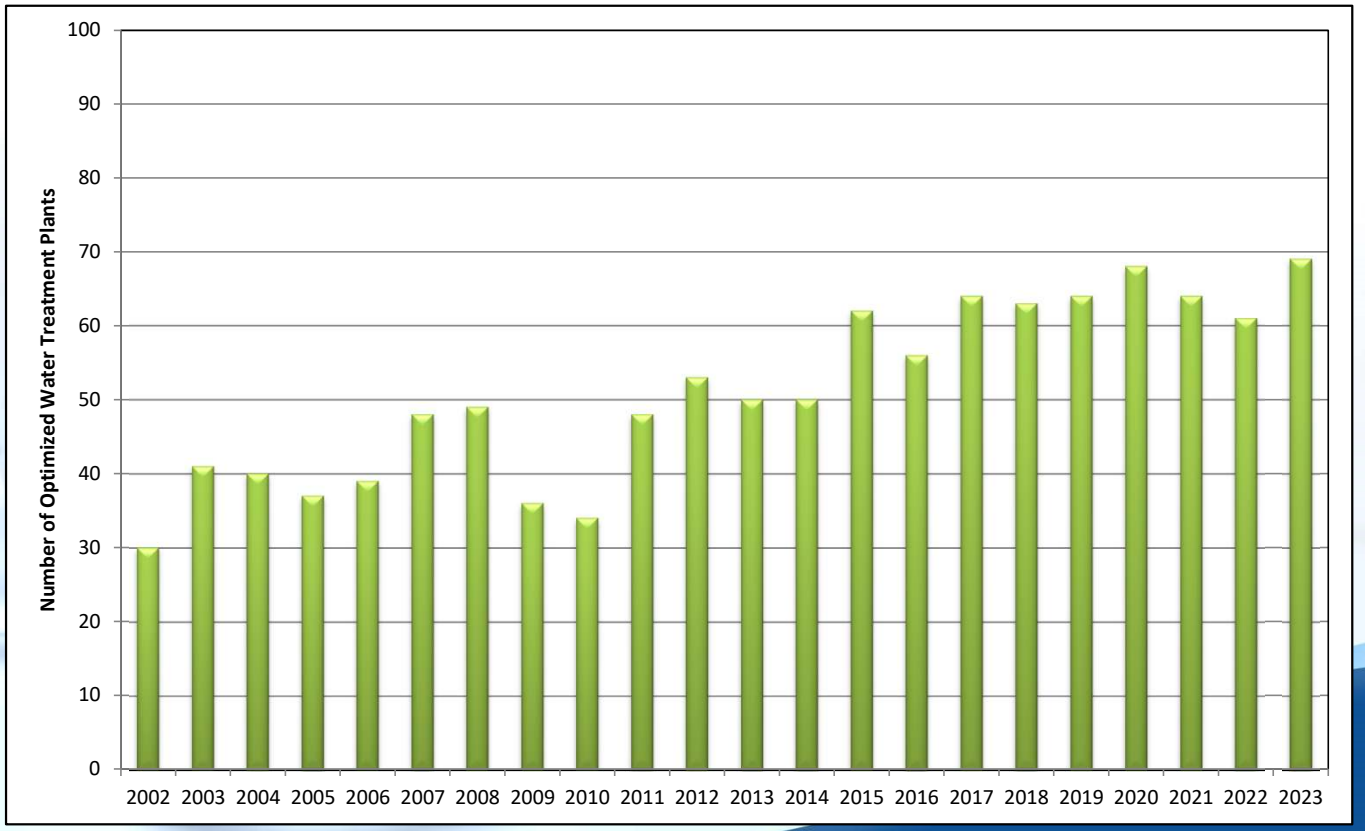
Optimization Goals Achieved	4th QTR 2019	1st QTR 2020	2nd QTR 2020	3rd QTR 2020	4th QTR 2020	1st QTR 2021	2nd QTR 2021	3rd QTR 2021	4th QTR 2021	1st QTR 2022	2nd QTR 2022	3rd QTR 2022	4th QTR 2022	1st QTR 2023	2nd QTR 2023	3rd QTR 2023	4th QTR 2023
Systems Optimized	177	189	187	183	179	179	170	175	168	169	170	161	159	157	170	165	170
Met TTHM LRAA Goal	225	221	221	222	221	221	213	222	224	225	222	218	224	221	217	220	215
Met TTHM Long Term Goal	203	210	209	206	204	204	200	209	204	207	206	204	205	198	206	203	205
Met TTHM Short- and Long-Term Goals	201	206	207	206	203	204	199	209	204	207	199	198	203	196	198	200	196
Met HAA5 LRAA Goal	226	226	226	219	214	221	209	217	213	213	218	218	220	219	218	218	215
Met HAA5 Long Term Goal	211	212	210	202	197	197	191	195	191	189	194	187	189	189	190	190	189
Met HAA5 Short- and Long-Term Goals	206	209	206	200	196	195	186	193	187	186	186	185	185	185	186	186	181
Met Both Short-Term Goals	217	214	217	212	209	217	203	210	208	208	206	206	214	210	208	210	207
Met Both Long-Term Goals	192	196	194	187	185	181	176	181	174	175	171	171	170	163	174	172	171
Not Meeting Any Goals	2	1	3	1	3	2	3	4	2	1	0	0	2	1	2	3	2

Status Components
Microbial (Conventional)

Goal	Number of WTPs	Percent
Optimized	**69**	**71.1%**
Settled Water	77	79.3%
Filtered Water	84	86.6%
Neither Goal	6	6.2%

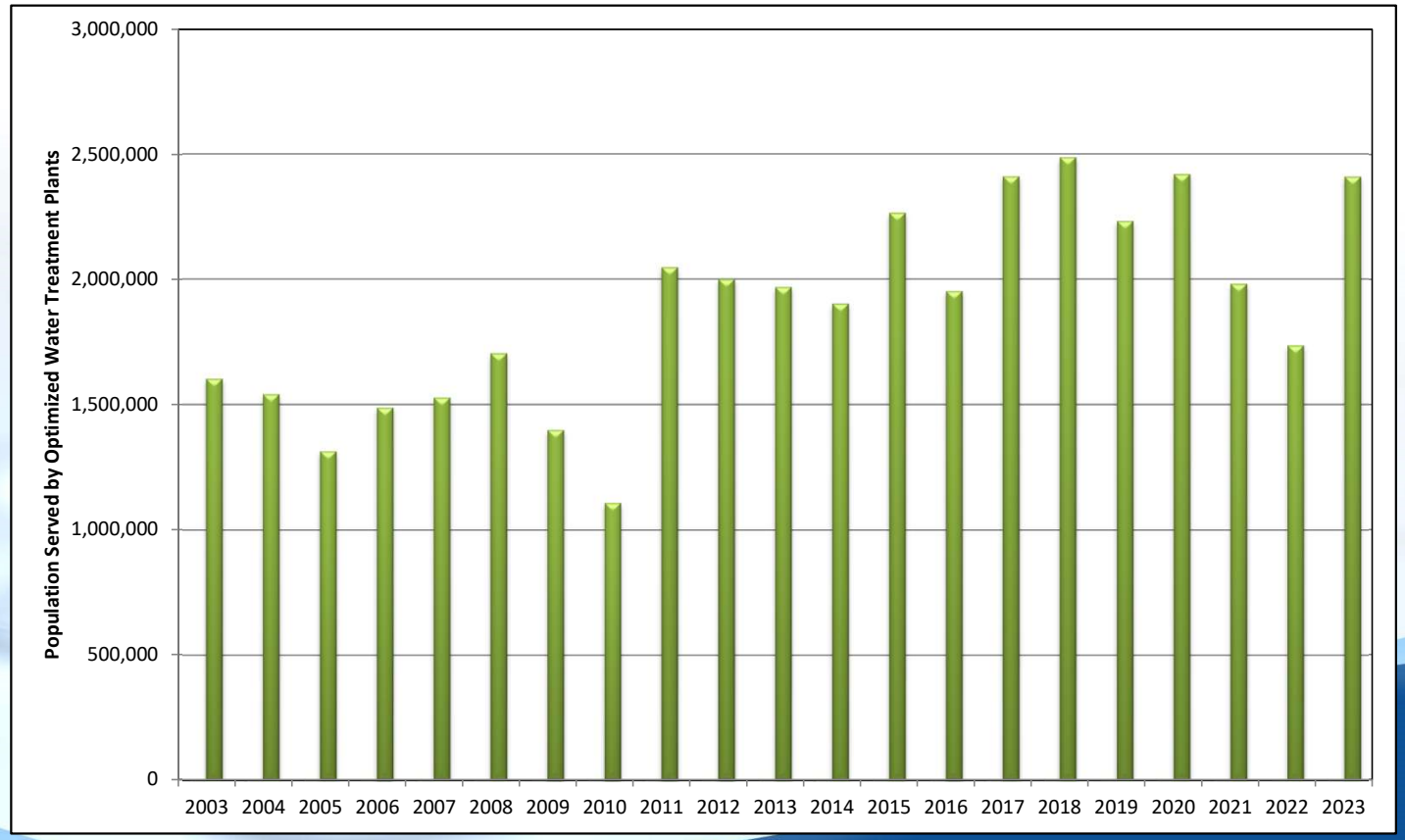
AWOP Impacts

Optimized Water Treatment Plants



AWOP Impacts

Population Receiving Optimized Water



What's been happening in AWOP?

- This year Kentucky hosted the Region 4and More Multi-State AWOP Team Meeting and Training Workshop in April with a focus on Manganese.
- In August, there we had a Microbial CPE in South Carolina.
- Next, the Region 4 and More Multi-State AWOP Team is meeting in North Carolina in November 2024.

Region 4 and More– Multi State CPE in South Carolina at Breezy Hill WTP

- Included Region 4 EPA and several states.
- We did a CPE, because of the hosting state preference. We pick topics based on relevance to the hosting state.
- Breezy Hill was picked because their conventional filtration plant is not optimized.

Why Breezy Hill, SC?

- Their location was ideal for travel from other states.
- The closest airport is a reasonable distance away.
- SC contacted Management including the Chief Operator to ensure their cooperation.
- Also, they ensured they had the resources available to host it.

What resources were assessed?

- Will enough operators be made available for a large group to be split up into smaller groups?
- Will they be able to provide technical support or know who to contact to obtain any requested data?
- Is there a meeting space available for 20 to 30 people within a reasonable distance from the plant or onsite?

What did this CPE cover?

- We had enough people to split into 4 teams.
- One group did a special manganese study and one group focused on admin.
- One group assessed data integrity between recorded and reported data and did filter studies.
- One group checked the design of the plant and did special other filter studies.

How did it go?

- There were several issues uncovered.
- Part of the agreement when we do these types of assessments, is that there isn't any resulting enforcement action.
- The system is informed of the issues, and they can make corrections to fix them.
- They were also given a priority list of items to address to become optimized.

What did we learn?

- We learn more when problems or discrepancies exist between recorded and reported data, special studies, admin issues.
- If everything was perfect, how would we learn to identify problems?
- The goal was to learn more about CPEs for other plants and help them be able to become optimized.

NOW PRESENTING THE AWOP AWARDS FOR THE 2023 MICROBIAL (TURBIDITY) AWARD WINNERS

1 YEAR AWARDS

Central Elmore Water & Sewer
Guin Water Department
Huntsville Utilities – Southwest Plant
Madison Utilities
Mobile Area Water Works and Sewer Board – Myers WTP
Phenix City
Piedmont
Tallassee Water
Tuscaloosa – Jerry Plott WTP

2 YEAR AWARDS

Birmingham Water Works Board – Western WTP

Coosa Valley WSD

Fort Payne (The WWB of the City of)

Franklin County Water Service Authority

Jackson WWSB (Clarke County)

Mobile Area Water Works and Sewer Board – Stickney WTP

3 YEAR AWARDS

Bessemer (G.U.S.C.)

Birmingham Water Works Board – Carson WTP

Roanoke Water

Warrior River Water

4 YEAR AWARDS

Alexander City Water

Athens Utilities

Cherokee Water and Gas Board

Clay County Water Authority

Constellium – Wise Alloys – WTP

Oxford Water Works and Sewer Board – Quarry WTP

5 YEAR AWARDS

Alabaster Water

Bridgeport Utilities

Sheffield Utilities

Shelby County Water

Winfield Water Works

6 YEAR AWARDS

Albertville Utilities Board – 12 MGD WTP

Albertville Utilities Board – 9 MGD WTP

Anniston – Knowlton WTP

Arab Water Works

Huntsville Utilities – Southeast WTP

North Marshall Utilities

Smiths Water and Sewer Board

7 YEAR AWARDS

Arley Water Works

Berry Water Department

Jasper Water Works

Northeast Alabama WSD – Monsanto WTP

9 YEAR AWARDS

Harvest-Monrovia WSFP – Zion WTP

Thomasville Water Works WTP

10 YEAR AWARDS

Colbert County Rural Water System

Cullman Utilities Board

11 YEAR AWARDS

Guntersville Water Works – Sunset WTP

Northeast Alabama – Highpoint WTP

12 YEAR AWARDS

Decatur Utilities

Scottsboro Water Works – Skinny Jones WTP

Talladega (City of) Water Department

13 YEAR AWARDS

Birmingham Water Works Board – Putnam WTP

Birmingham Water Works B – Shades Mtn WTP

Hawk Pride Mountain WS WTP

US Army Aviation & Missile Command WTP

15 YEAR AWARDS

Russellville WWSB

17 YEAR AWARDS

Blount County Water

Calera Water

Tuscumbia Water

18 YEAR AWARDS

Florence Water Department – Wilson Lake WTP

Harvest-Monrovia WSFP – Burwell WTP

Red Bay WTP

19 YEAR AWARDS

Scottsboro Water Works – North Sauty WTP

20 YEAR AWARDS

Centre Water

Florence Water Department – Cypress Creek WTP

21 YEAR AWARDS

Anniston WWSB – Krebs WTP

Fayette Water

Montgomery Water Works

Northeast Alabama WSD – Waterloo WTP

Section Dutton Water