ANDERSON REGIONAL
JOINT WATER SYSTEM

998 Hunters Trail Anderson, SC 29625 Phone: 864-332-6534 Fax: 864-224-6116

BOARD AGENDA

Board of Commissioners
November 2022

Attention: **There is no scheduled board meeting for November and the December board meeting has been canceled at the direction of the chair.**

I. Minutes October 26, 2022

II. Informational Reports

1. Executive Committee Meeting Summary
2. Finance and Administration Report
3. Operations and Maintenance Report
4. Sustainability Report

Future planned Board meeting dates are:

- ~~**December 14, 2022**~~
- February 22, 2023
- April 26, 2023
- June 28, 2023

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www.arjwater.com

MINUTES OF THE ANDERSON REGIONAL JOINT WATER SYSTEM October 26, 2022

LET THE MINUTES SHOW THAT THE MEDIA WERE NOTIFIED OF THIS MEETING IN ACCORDANCE WITH THE SOUTH CAROLINA FREEDOM OF INFORMATION ACT.

A QUORUM OF THE BOARD IS PRESENT.

COMMISSIONERS PRESENT: Benjie McGill, City of Clemson; Patrick Jackson, Starr-Iva; David Rogers, Town of Williamston; Chuck Cortez, Big Creek-Hammond; Douglas Locke, Broadway; Tracy Durham, Sandy Springs; John Lollis, West Anderson; Dennis Chastain, Homeland Park; Evan Link, Town of Pendleton; Mitch Ellenburg, Belton-Honea Path Water

OTHERS PRESENT: Scott Willett, ARJWS; Jeff Caldwell, ARJWS; Kendall Cleary, AJRWS; Christopher Weber, ARJWS; Jodi Logan, ARJWS; Tony Putnam, Clemson University; Lisa Evatt, ARJWS; Robin Gore, Powdersville Water; David Phillips, Greene Finney Cauley, LLC

Vice-chairman Patrick Jackson called the Board meeting of Anderson Regional Joint Water System to order at 12:00 p.m. on October 26, 2022.

Vice-chairman Patrick Jackson asked for any Commissioner comments. There was none.

There were no public comments.

Mr. Cortez made a motion to approve the August 24, 2022, minutes and Mr. Ellenburg seconded. Motion carried.

I. Consent Calendar (Old Business)

None

II. Items requiring immediate action

1. Receive and Accept Annual Comprehensive Financial Report for years ending June 30,2022 & 2021

Mr. Jackson introduced Mr. David Phillips, Independent Auditor of Greene Finney, LLP. Mr. Phillips was responsible for auditing the financial statements of ARJWS for the FYE June 30, 2022. Professional standards require that the independent auditors communicate with the Board any informative information and findings related to the audit. Mr. Phillips presented the Board of Commissioners with a Financial Audit Presentation and Management Letter. Mr. Phillips was able to inform the Board of Commissioners that there were no findings, no disagreements with management, and nothing to disclose. A copy of the financial reports, presentation, and management letter is attached. Mr. McGill made a motion to accept and file the FYE 2022 Annual Comprehensive Financial Report and audit results. Mr. Locke seconded that motion. Motion carried

III. Discussion (New Business).

1. Executive Director's Report (Oral)

Mr. Willett updated the Board on the Reallocation Study of Lake Hartwell, the South Carolina State Water Plan, Oconee Joint Regional Sewer Authority Sewer Basin Study for Fair Play/Townville area, and the S.C. Surface Water Withdrawal, Permitting, Use and Reporting Act. Mr. Willett asked the Board to look at their local Drought Response Plan.

IV. Informational Reports

1. Finance and Administration Report
2. Operations and Maintenance Report

Mr. Weber introduced Mr. James Clouse to the Board. Mr. Clouse joins ARJWS with a B level treatment license.

3. Sustainability Report
4. Engineering Report
5. Executive Committee Meeting Summary

These reports are for information and for each Member to review as written. A copy of each report is attached to the file copy of these minutes.

VI. Adjournment

With no further business, Mr. Locke made a motion to adjourn at 12:58 p.m. and Mr. Lollis seconded. Motion carried.

Respectfully submitted,

Phillip Mishoe
Secretary/Treasurer

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COMMITTEE SUMMARY

Executive Committee

November 7, 2022

11:30 am

I. Discussion Summary

1. **State Water Planning**
   Scott Willett provided current schedules for the remaining basin studies. The Saluda River Basin committee is currently being formed. The Savannah River Basin should kick off in 2023.

2. **Capital Project Update**
   Jeff Caldwell provided an update to the planned capital improvement items for FY2023. Committee was also updated on the ARPA funding application package and discussed scenarios to provide matching funds. Overall plan is to fully offset borrowing costs with operational savings.

3. **Continuous Improvement**
   Discussion items included lime tank cleanout, water quality monitoring, semi-annual clarifier cleanouts, general clean-up, and employee appreciation/team building events.

Prepared by: Jeff Caldwell, Deputy Director

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BOARD MEMORANDUM

November 9, 2022

Subject

Finance and Administration Report

Discussion

Billing

Meters were read on October 31, 2022, with usage down 0.03% from last month (for the same number of days) and up 3.63% from last year (for the same number of days).

AGENCY	PREV.YR SAME MONTH	LAST MONTH	CURRENT
# of Billing Days	**28**	**33**	**28**
Anderson	137,864,746	142,856,463	143,163,421
Big Creek	25,200,000	40,900,000	13,700,000
Broadway	21,734,520	24,350,126	20,077,714
Clemson	58,386,839	79,723,573	66,741,454
Clemson University	36,856,153	41,880,587	33,202,353
Hammond	55,413,138	85,514,527	60,992,473
Homeland Park	17,511,572	19,105,916	16,151,873
Pendleton	9,791,203	12,467,031	10,125,885
Powdersville	5,591,700	9,699,034	7,497,524
Sandy Springs	54,308,194	74,374,181	53,931,988
Starr-Iva	31,529,347	38,653,029	33,855,486
West Anderson	37,146,087	34,718,240	50,442,481
Williamston	14,062,986	13,210,769	13,835,403
TOTAL	**505,396,485**	**617,453,476**	**523,718,055**

Finance/Budget Summary

For the month ending October 31, 2022, ARJWS is trending appropriately for revenues and expenses for the first four months of the fiscal year.

See the Profit & Loss report for additional information.

Safety Training

October
Subject: Anderson County Emergency Management Mock Exercise
Training Date: October 12, 2022
Onsite Attendance Exercise canceled by ACSO LEPC
ARJ Staff – 0
Member Agency –0

Prepared by: Jodi Logan, Billing/Purchasing Coordinator
Approved by: Jeff Caldwell, Deputy Director

Attachments: Profit & Loss Summary – Budget, Actual, and Forecast

ANDERSON REGIONAL
JOINT WATER SYSTEM

Profit & Loss
For the Month ending October 31, 2022

4+8

	Annual Budget	YTD Budget (4 months)	YTD Actual	Year End Projection	Ideal Percentage	% of Budget	YTD Variance	
Operating Revenue								
Operations and Maintenance	5,729,325	1,909,775	1,946,922	5,766,472	33%	34%	37,147	
Capital Charges	5,331,369	1,777,123	1,777,123	5,331,369	33%	33%	-	
Renewal and Replacement								
Water System	1,499,760	499,920	500,153	1,499,993	33%	33%	233	
Pump Station	67,738	22,579	22,609	67,768	33%	33%	30	
Miscellaneous	51,616	17,205	85,383	119,793	33%	165%	68,177	A
Total Operating Revenue	12,679,808	4,226,603	4,332,190	12,785,395				
Operating Expenses								
Salaries and Wages	1,727,500	575,833	566,447	1,718,114	33%	33%	(9,386)	
Payroll Taxes and Employee Benefits	726,400	242,133	224,507	708,774	33%	31%	(17,626)	
Operations and Maintenance								
Administrative Expenses	310,790	103,597	73,931	281,124	33%	24%	(29,666)	
Operations Expenses								
Lab Supplies/Uniforms/Safety Equipment	118,900	39,633	30,182	109,449	33%	25%	(9,451)	
Chemicals	801,600	267,200	291,440	825,840	35%	36%	24,240	
Sludge and Chemical Disposal	175,000	58,333	22,470	175,000	33%	13%	(35,864)	
Utilities and Security	1,113,300	371,100	413,525	1,155,725	41%	37%	42,425	
Maintenance Expenses	372,135	124,045	86,589	334,679	33%	23%	(37,456)	
Professional Fees	98,000	32,667	16,500	81,833	33%	17%	(16,167)	
Insurance	111,800	37,267	27,378	111,800	33%	24%	(9,888)	
Debt Expenses	5,331,370	1,741,707	1,539,053	5,331,370	33%	29%	(202,655)	
Source Water Protection	50,000	16,667	33,049	66,382	33%	66%	16,382	B
Miscellaneous Expenses	123,900	41,300	13,090	95,690	33%	11%	(28,210)	
Total operating expenses before depreciatic	11,060,695	3,651,482	3,338,160	10,995,780				
Net operating income	1,619,113	575,120	994,029	1,789,615				
Raw Water								
Raw Water Income	58,811	19,604	90,051	129,259				
Raw Water O&M Expenses	-	-	92,904	92,904				
Raw Water Operating Income	58,811	19,604	(2,853)	36,354	33%	-5%	(22,457)	
Non-Budget Impacting Items								
Junior Lien Bond Payments	240,957	80,319	76,000	240,957	33%	32%	(4,319)	
Water Quality Monitoring Project	52,000	17,333	8,905	52,000	33%	17%	(8,428)	
Alum Pump Replacement	-	-	22,600	22,600	100%	100%	22,600	
	240,957	80,319	76,000	240,957				

	Cash Balances	Days Cash on Hand	
Operating Cash	2,216,494	73	C
Capital Project Fund	3,621,115		
System R&R Fund (Restricted)	610,804		
Pumped R&R Fund (Restricted)	518,587		
Raw Water O&M	193,955		
Raw Water R&R	236,698		
	7,397,652		

A: Over projected revenue due to the annual Pioneer payment of $40,000 and higher than average interest earned on the balances held with the LGIP

B: Over budget due to one-time payments to the Watershed-Based Plan for Twelvemile River & Contribution to Watershed Research Council

C: Increase in response to September transfer for the Series 2017B bond payment

SYSTEMS REPAIR & REPLACEMENT ACCOUNT

October 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
10/01/2022	Balance Forward LGIP Investment			$484,434.77
10/27/2022	System Transfer for September 2022 Billing	$124,979.97		$609,414.74
10/31/2022	Interest Earned October 2022	$1,389.23		$610,803.97
10/31/2022	Ending Balance LGIP			**$610,803.97**

PUMPED REPAIR & REPLACEMENT ACCOUNT

October 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
10/01/2022	Balance Forward LGIP Investment			$511,529.17
10/27/2022	System Transfer for September 2022 Billing	$5,648.06		$517,177.23
10/31/2022	Interest Earned October 2022	$1,409.29		$518,586.52
10/31/2022	Ending Balance LGIP			**$518,586.52**

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BOARD MEMORANDUM

November 2, 2022

Subject

Operations and Maintenance Report

Discussion

Operations

As of November 2, 2022, Lake Hartwell's surface elevation was 654.75 ft, 5.25 ft. below full pool. Raw water is being drawn from the top gate of the intake structure. Water temperature at the top gate is 69.8°F. The Joint Water System reached 100% of settled water turbidity goals for the month of October. Raw water pH levels are relatively constant. Settled and Finished water pH levels are normal. The maximum day for October water production was 49.6% of Finished water capacity.

Operations and Maintenance Highlights

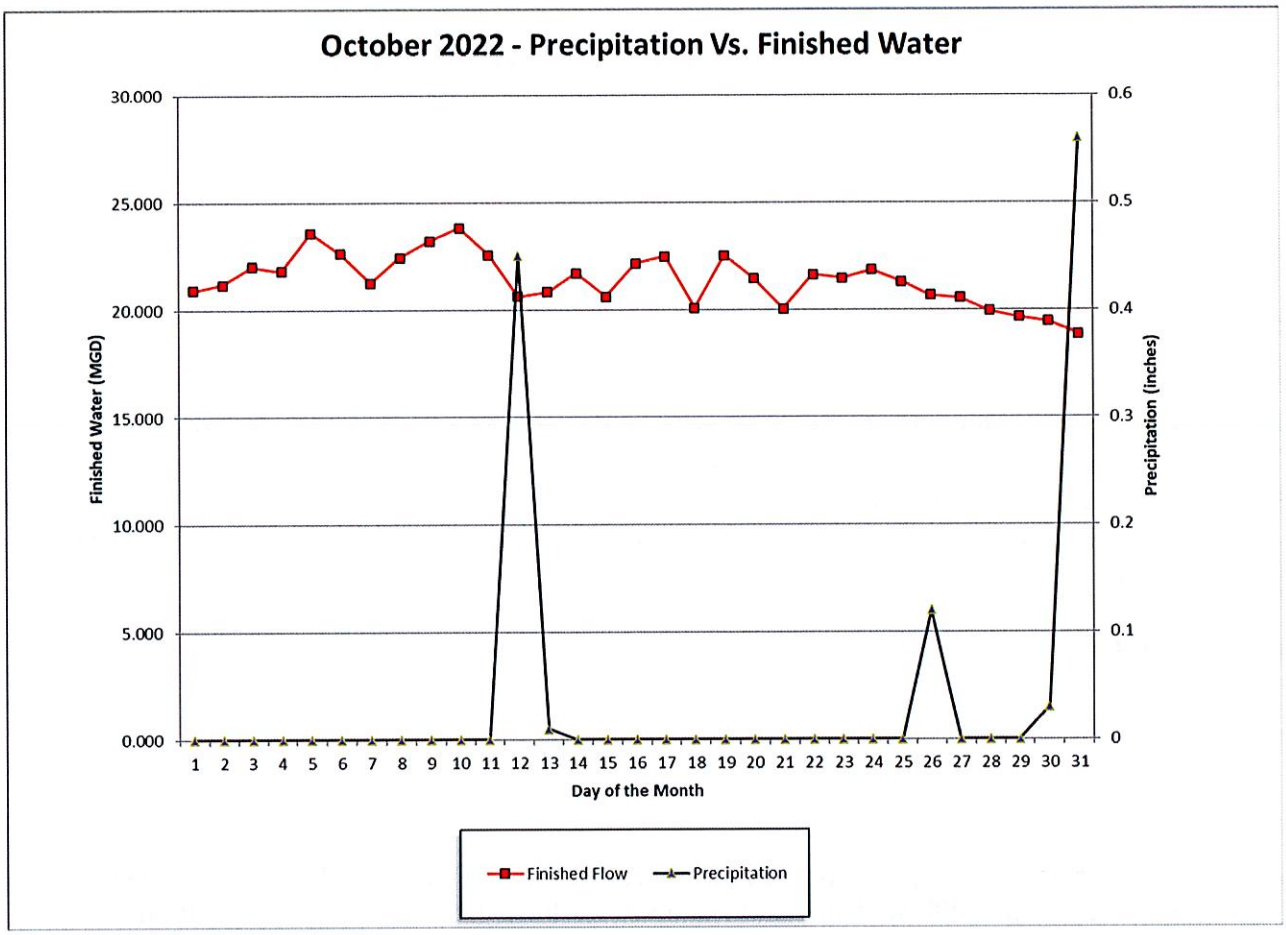
- Completed lime tank cleanout
- Completed lime process re-plumbing

In addition to water quality sampling for the Lake Hartwell Water Treatment Plant, Joint Water System staff processed 152 Total Coliform distribution samples for local entities during the month of October.

Water Quality Data

	Raw	Settled	Finished
pH	6.93	6.50	7.17
Turbidity (NTU) Range	1.40-3.10	0.22-0.73	0.03-0.03
Turbidity (NTU) Average	2.05	0.53	0.03
Turbidity (NTU) Exceedance	-	0%	0%
Total Organic Carbon	1.72	-	1.14
Fluoride Average (ppm)	-	-	0.72
Phosphate Average (ppm)	-	-	1.04 (wet)
Residual Disinfectant (ppm)	-	-	1.77
TTHM (DBP)	-	-	6.0 ppb
Methylisoborneol (MIB)	14.4 NG/L	-	2.0 NG/L
Geosmin	2.0 NG/L	-	<1.0 NG/L

Weather Data



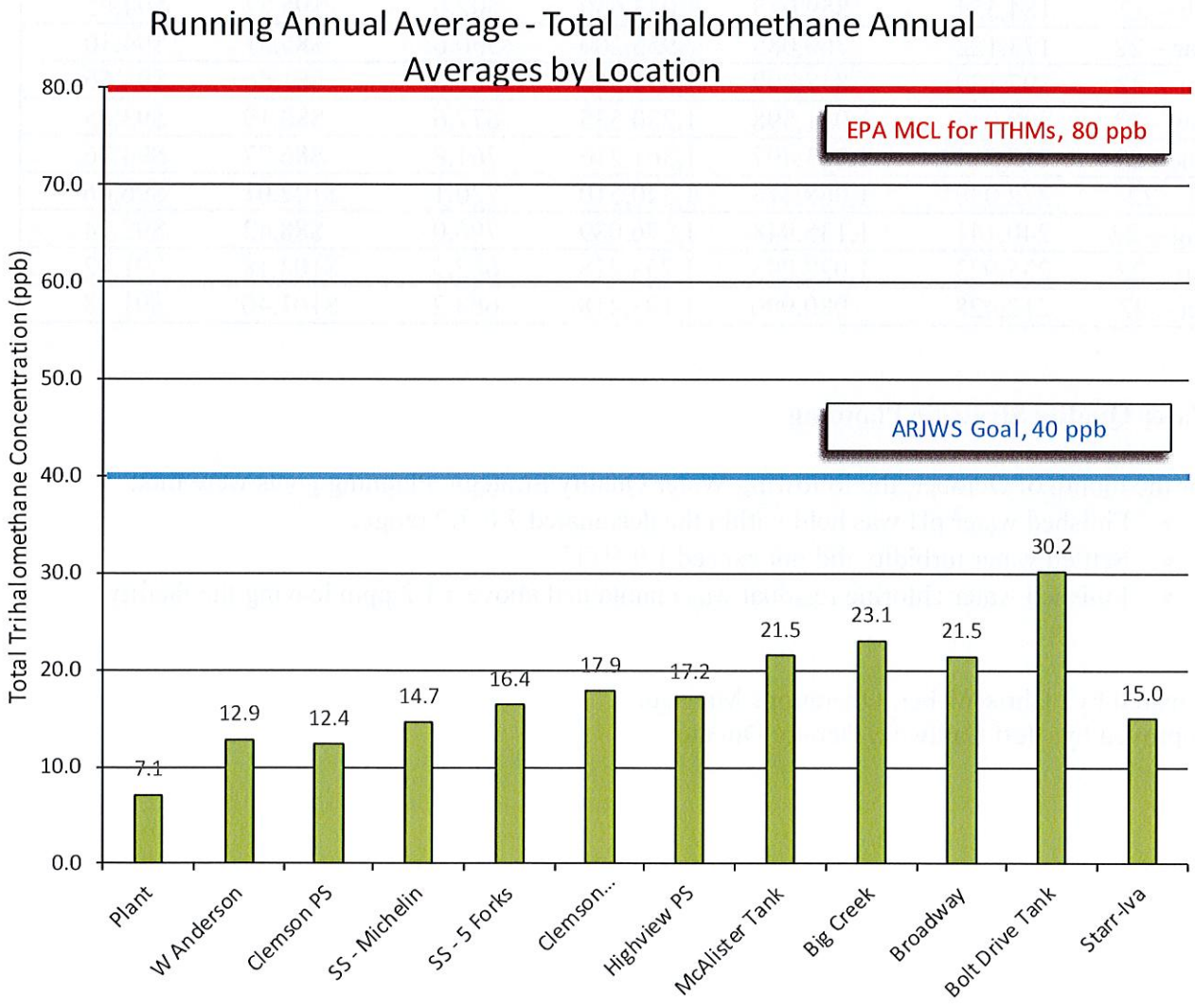
	Minimum	Maximum	Total
Rainfall	0.00 in.	0.56 in.	1.17 in.
Temperature	42.6° F	82.0° F	N/A
Humidity	17.7%	89.1%	N/A

Water Production Data

	Average	Minimum	Maximum	Total
Raw Water	20,986,000	16,757,000	23,621,000	650,562,000
Finished Water	21,393,000	18,856,000	23,830,000	663,178,000
Finished Max Capacity	44.5%	39.3%	49.6%	44.5%

Total Trihalomethane Discussion

Trihalomethanes (THMs) are one type of disinfection byproduct that can form during the treatment process and within the distribution system. THM concentrations vary primarily as a function of total organic carbon (TOC), temperature, disinfectant type, and residence time. THMs can have adverse health effects at high concentrations, and the EPA has established compliance criteria for these compounds in aggregate, termed Total Trihalomethanes (TTHMs). These criteria are established in Stage 2 of the Disinfection Byproduct Rule, which has a numerical MCL of 80 micrograms per liter (or parts per billion, ppb) based on a Locational Running Annual Average. ARJWS Operations Staff collects monthly, one-time samples, as a spot check for TTHM formation in the transmission system. The running annual averages of those results are shown in the figure below.



Monthly Power Consumption Update

For the month of October, ARJWS treated 663,178,000 gallons of water at a power cost of $101.46 per million gallons produced. The 12 month Running Annual Average is currently at $91.58.

Monthly Power Consumption Data

Month	On Peak kW	Off Peak kW	Total kW	Finished Water MG	$/ MG	12 month Average
Oct – 21	228,046	894,233	1,122,279	593.7	$96.90	$92.95
Nov – 21	199,551	874,347	1,073,898	544.6	$91.66	$93.16
Dec – 21	186,656	794,378	981,035	534.3	$87.42	$93.38
Jan – 22	198,616	786,624	985,240	558.2	$88.94	$93.97
Feb – 22	184,554	859,075	1,043,630	502.6	$95.57	$94.65
Mar – 22	173,122	760,085	955,200	550.6	$85.31	$94.10
Apr – 22	197,139	837,209	1,034,348	587.8	$81.66	$94.56
May - 22	208,937	1,021,598	1,230,535	677.6	$80.19	$93.85
June - 22	217,719	1,143,497	1,361,216	761.8	$86.77	$94.76
Jul – 22	272,036	1,068,474	1,340,510	720.1	$102.01	$96.66
Aug – 22	240,141	1,135,948	1,376,089	706.0	$88.42	$92.74
Sep – 22	235,923	1,022,295	1,258,218	682.5	$104.18	$91.82
Oct – 22	212,428	980,990	1,193,418	663.2	$101.46	$91.58

Water Quality Strategic Planning

For the month of October, the following Water Quality Strategic Planning goals were met:

- Finished water pH was held within the designated 7.0-7.2 range.
- Settled water turbidity did not exceed 1.0 NTU
- Finished water chlorine residual was maintained above a 1.2 ppm leaving the facility.

Prepared by: Chris Weber, Operations Manager
Approved by: Jeff Caldwell, Deputy Director

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BOARD MEMORANDUM

November, 2022

Subject
Sustainability Report

Asset Management

ARJWS is tracking maintenance tasks of all assets. Preventative Maintenance tasks (PMs) are performed on every asset on a weekly, monthly, quarterly, bi-annually, or annual basis. Work Orders consist of installations or repairs required on an asset that are separate from the PM schedule. The current target is 400 completed tasks for the month.

PMs Completed	121
PMs Deferred	244
Work Orders Open	34
Work Orders Completed	7

*Working through issues with software not allowing staff to close out assigned PM tasks. Meeting with Next Service weekly to document issues and expand options available to the maintenance staff.

The effectiveness of the asset management program on ARJWS's ability to deliver the highest quality drinking water can be measured by treatment reliability. A decrease of reliability is defined by a capacity reduction for 72 hours or more. The table below shows overall reliability for the month of October.

Plant Rated Capacity	42.00 MGD		
Reliable Capacity	30.24 MGD	**% of rated capacity**	72%
3-year Max Day (same month) + 10%	21.65 MGD	**Reliability**	140%
3-year Max Day (Next 90 days) + 10%	23.39 MGD	**Reliability**	129%

Limiting treatment component is the transfer pump station, Pump #2 is currently down due to a failed retainer bearing and Pump #3 is down to replace a check valve.

Brand

ARJWS uses many different platforms in order to engage with the public to bring awareness to the system as well as educate and inform about relevant topics of interest to water supply, water treatment, regulatory issues, etc.

Platform	Twitter	Facebook	Instagram	Websites	Events	Tours	Total
Reach	633	1,960	1,057	767	5,000	68	9,485
Engagement	21.25%	12.09%	39.04%				

Reach is the total amount of people impacted on each platform.
Engagement is the percentage of people reached who interacted with the content published (likes, shares, comments, website visits, etc.)

Communication and Partnership

ARJWS's goal is to strengthen regional presence, cooperation, and communication among ARJWS and communities.

1. Anderson, Oconee, Pickens Business Showcase
   a. 5,000 8th graders from all three counties were bussed to the Civic Center for a two-day event.
   b. Every student had 5 questions to ask about jobs/careers in the industries and businesses represented.

Source Water Protection

The ARJWS has adopted the four creeks upstream of our intake and sample each once per month. These creeks account for approximately 80% of our source water supply.

	E. Coli (cfu/100 mL)	Dissolved Oxygen (ppm)
Hembree Creek	133	9.5
Hurricane Creek	133	8.3
Town Creek	233	5.0
Six and Twenty Creek	100	n/a

Prepared by: Trey Burns, Sustainability Manager
Approved by: Jeff Caldwell, Deputy Director