ANDERSON REGIONAL
JOINT WATER SYSTEM

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

BOARD AGENDA

Board of Commissioners
September 2022

I. Minutes August 24, 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:

- October 26, 2022
- December 14, 2022
- February 22, 2023

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MINUTES OF THE ANDERSON REGIONAL JOINT WATER SYSTEM August 24, 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: Andy Blondeau, City of Clemson; Patrick Jackson, Starr-Iva; Dyke Spencer, Powdersville; David Rogers, Town of Williamston; Chuck Cortez, Big Creek-Hammond; Douglas Locke, Broadway; Tracy Durham, Sandy Springs; Scott Banks, City of Anderson; John Lollis, West Anderson; Dennis Chastain, Homeland Park; Evan Link, Town of Pendleton; Phillip Mishoe, Town of Central

OTHERS PRESENT: Scott Willett, ARJWS; Jeff Caldwell, ARJWS; Kendall Cleary, AJRWS; Christopher Weber, ARJWS; Jodi Logan, ARJWS; Billy Bolger, Clemson University; David Gailey, ARJWS; Trey Burns, ARJWS; Lisa Evatt, ARJWS; Carl Edwards, Vickie Edwards

Chairman Dyke Spencer called the Board meeting of Anderson Regional Joint Water System to order at 11:58 a.m. on August 24, 2022.

Chairman Dyke Spencer asked for any Commissioner comments. Mr. Spencer welcomed Andy Blondeau with the City of Clemson to the Board.

Mr. Willett thanked the Town of Williamston and Mr. Cortez for hosting the Upstate Rural Water Meeting through SCRWA.

Mr. Cortez made a motion to approve the June 22, 2022 minutes and Mr. Jackson seconded. Motion carried.

I. Consent Calendar (Old Business)

None

II. Items requiring immediate action

1. Recognition and Appreciation of Service Award

Mr. Caldwell read the Recognition and Appreciation of Service for Mr. Dwight Edwards Board Memorandum aloud. Chairman Spencer presented the family of Mr. Edwards with a plaque. Board members spoke on Mr. Edwards professionalism, character, leadership, and friendship.

III. Discussion (New Business).

1. Strategic Plan Annual Report FYE 2022

Mr. Caldwell presented the ARJWS Strategic Plan Update for FYE 2022. He discussed the Critical Objectives which included Brand, Operations and Asset Sustainability, Financial Viability, Staff Retention, and Communication and Partnership.

2. Executive Director's Report (Oral)

Mr. Willett discussed Lake Hartwell Partnership for Clean Water. The formal organization is now a legal entity that has started applying for grants. Mr. Willett updated the Board on the Reallocation Study of Lake Hartwell. The allocation contract has been pushed back 6 to 8 months. New anticipated contract date is April 2024. Mr. Willett gave an update on S.C. Surface Water Withdrawal, Permitting, Use and Reporting Act.

IV. Informational Reports

1. Executive Committee Meeting Summary
2. Finance and Administration Report

Greene Finney, LLP has been on-site to conduct the Annual Audit for FYE 2022. A full report will be presented at the October Board meeting. Each Board member was given the board letter.

3. Operations and Maintenance Report
4. Sustainability Report

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 12:46 p.m. and Mr. Mishoe seconded. Motion carried.

Respectfully submitted,

Phillip Mishoe
Secretary/Treasurer

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COMMITTEE SUMMARY

Executive Committee

September 19, 2022

11:30 am

I. Discussion Summary

1. Source Water Protection

Source Water Protection Week is September 25th – October 1, 2022. Trey Burns presented an update on the ongoing ARJWS's local, state, and national efforts including Three and Twenty Watershed Plan, Lake Hartwell Partners, State Water Resources Committee, Kinder Morgan Grant Application, SC Adopt-a-Stream, and National Watershed Research Team.

2. PFAs Update

In response to the recent EPA's Drinking Water Health Advisories for PFAS, ARJWS has completed raw water and finished water sampling and researched treatment alternatives to remove PFAS. ARJWS sampled its raw and finished water for PFAS in August 2022. The results are as follows:

1. The concentrations in the raw and finished water were nearly identical.
2. The concentrations in the raw water were 2.1, 2.8, and 2.8 parts per trillion (ppt) for PFOS, PFOA, and PFBS, respectively.
3. The concentrations in the finished water were 2.0, 2.8, and 2.8 ppt for PFOS, PFOA, and PFBS, respectively.

3. FYE 2022 Financial Report and Audit Update

The ACFR was provided by email. Scott Willett provided an overview of the audit findings including an unmodified opinion where Greene Finney notes that all financial statements where materially correct. Auditor's presentation will be available at the October board meeting.

4. SCIIP Grant Funding

ARJWS submitted a grant application on September 12th. Requested grant funds for our project package total $10M with an estimated local match of $2.3M. ARJWS also submitted an SRF questionnaire for a $2.2M loan.

5. Continuous Improvement

Discussion items included planned maintenance on Clarifier #1, Lagoon Sludge Removal, Member Meeting regarding Ductile Iron Pipe, and new Plant Operator.

Prepared by: Jeff Caldwell, Deputy Director

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BOARD MEMORANDUM

September 8, 2022

Subject

Finance and Administration Report

Discussion

Billing

Meters were read on Aug 31st, 2022, with usage up 1.27% from last month (for the same number of days) and up 4.55% from last year (for the same number of days).

AGENCY	PREV.YR SAME MONTH	LAST MONTH	CURRENT
# of Billing Days	**33**	**30**	**34**
Anderson	135,379,148	161,295,374	155,459,734
Big Creek	31,000,000	28,700,000	33,800,000
Broadway	26,176,587	21,642,025	23,404,161
Clemson	75,778,296	62,997,770	80,757,904
Clemson University	39,705,354	32,288,877	36,482,384
Hammond	89,118,272	75,642,315	90,446,143
Homeland Park	22,486,079	17,433,983	21,007,016
Pendleton	13,016,040	13,776,004	14,531,176
Powdersville	10,100,131	9,498,843	11,266,373
Sandy Springs	75,759,222	70,562,781	86,256,143
Starr-Iva	37,717,932	34,375,931	40,275,146
West Anderson	51,429,713	42,301,283	57,119,519
Williamston	16,606,991	15,388,298	21,671,668
TOTAL	**624,273,765**	**585,903,484**	**672,477,367**

Finance/Budget Summary

For the month ending August 31, 2022, ARJWS is trending appropriately for revenues and expenses for the first month of the fiscal year. See the Profit & Loss report for additional information.

Safety Training

August
Subject: **Bloodborne Pathogen Certification Class**
Training Date: **August 4, 2022**

Onsite Attendance
ARJ Staff – 12
Member Agency – 1
Online Attendance
ARJ Staff - 8

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 August 31, 2022

	Annual Budget	YTD Budget (1 month)	YTD Actual	2+10 Year End Projection	Ideal Percentage	% of Budget Used	YTD Variance	
Operating Revenue								
Operations and Maintenance	5,729,325	954,888	975,454	5,749,892	17%	17%	20,567	
Capital Charges	5,331,369	888,562	888,562	5,331,369	17%	17%	-	
Renewal and Replacement								
Water System	1,499,760	249,960	250,076	1,499,876	17%	17%	116	
Pump Station	67,738	11,290	11,305	67,753	17%	17%	15	
Miscellaneous	51,616	8,603	50,175	93,188	17%	97%	41,572	A
Total Operating Revenue	12,679,808	2,113,301	2,175,572	12,742,078				
Operating Expenses								
Salaries and Wages	1,727,500	287,917	247,530	1,687,114	17%	14%	(40,386)	
Payroll Taxes and Employee Benefits	726,400	121,067	108,463	713,797	17%	15%	(12,603)	
Operations and Maintenance								
Administrative Expenses	274,890	45,815	27,213	256,288	17%	10%	(18,602)	
Operations Expenses								
Lab Supplies/Uniforms/Safety Equipment	118,900	19,150	16,841	116,591	17%	14%	(2,309)	
Chemicals	801,600	133,600	139,813	807,813	25%	17%	6,213	
Sludge and Chemical Disposal	175,000	29,167	-	145,833	0%	0%	(29,167)	
Utilities and Security	1,113,300	185,550	213,330	1,141,080	20%	19%	27,780	
Maintenance Expenses	372,135	62,023	49,449	359,562	17%	13%	(12,573)	
Professional Fees	98,000	16,333	16,508	98,175	17%	17%	175	
Insurance	111,800	18,633	14,739	14,739	17%	13%	(3,894)	
Debt Expenses	5,331,370	870,854	732,036	732,036	17%	14%	(138,818)	
Source Water Protection	50,000	8,333	32,621	74,287	17%	65%	24,287	B
Miscellaneous Expenses	159,800	26,633	9,305	142,471	17%	6%	(17,329)	
Total operating expenses before depreciatic	11,060,695	1,825,075	1,607,848	6,289,785				
Net operating income	1,619,113	288,227	567,724	6,452,293				
Raw Water								
Raw Water Income	58,811	9,802	67,924	116,933				
Raw Water O&M Expenses	-	-	55,498	55,498				
Raw Water Operating Income	58,811	9,802	12,426	61,435	17%	21%	2,624	
Non-Budget Impacting Items								
Junior Lien Bond Payments	246,090	41,015	38,000	38,000	17%	15%	(3,015)	
	246,090	41,015	38,000	38,000				

	Cash Balances	Days Cash on Hand
Operating Cash	2,043,303	67
Capital Project Fund	3,639,064	
System R&R Fund (Restricted)	358,650	
Pumped R&R Fund (Restricted)	504,791	
Raw Water O&M	176,491	
Raw Water R&R	229,854	
	6,952,153	

A: Over projected revenue due to the annual Pioneer payment of $40,000

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

SYSTEMS REPAIR & REPLACEMENT ACCOUNT

August 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
08/01/2022	Balance Forward LGIP Investment			$1,782,978.62
08/03/2022	Year End Transfer to TD Operating Account		$ 250,000.00	$1,532,978.62
08/03/2022	Year End Transfer to TD Bank CIP Account		$ 100,000.00	$1,432,978.62
08/03/2022	Year End Transfer to LGIP CIP Account		$ 1,200,000.00	$232,978.62
08/26/2022	System Transfer for July 2022 Billing	$124,979.97		$357,958.59
08/31/2022	Interest Earned August 2022	$691.20		$358,649.79
08/31/2022	Ending Balance LGIP			**$358,649.79**

PUMPED REPAIR & REPLACEMENT ACCOUNT

August 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
08/01/2022	Balance Forward LGIP Investment			$498,161.24
08/26/2022	System Transfer for July 2022 Billing	$5,648.06		$503,809.30
08/31/2022	Interest Earned August 2022	$981.98		$504,791.28
08/31/2022	Ending Balance LGIP			**$504,791.28**

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BOARD MEMORANDUM

September 6, 2022

Subject
Operations and Maintenance Report

Discussion

Operations

As of September 6, 2022, Lake Hartwell's surface elevation was 656.99 ft, 3.01 ft. below full pool. Raw water is being drawn from the top gate of the intake structure. Water temperature at the top gate is 84.7°F. The Joint Water System reached 100% of settled water turbidity goals for the month of August. Raw water pH levels are relatively constant. Settled and Finished water pH levels are normal. The maximum day for August water production was 52.9% of Finished water capacity.

Operations and Maintenance Highlights

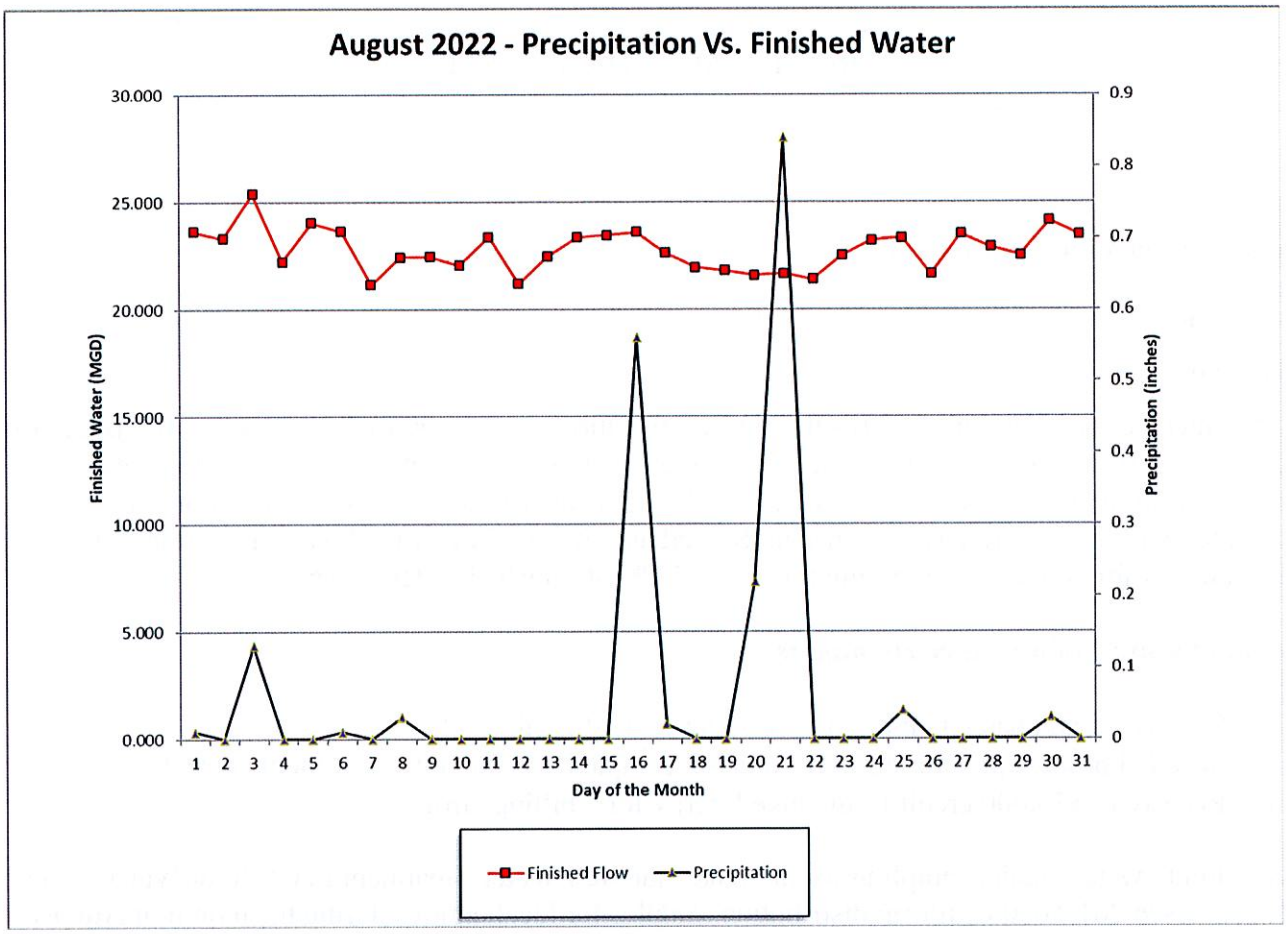
- Completed and passed laboratory Proficiency Testing for 2022
- Installed process pH probes on flash mixer sample lines for better treatment control
- Received ~$36,000 credit from Duke Energy for a billing error

In addition to water quality sampling for the Lake Hartwell Water Treatment Plant, Joint Water System staff processed 201 Total Coliform distribution samples for local entities during the month of August.

Water Quality Data

	Raw	Settled	Finished
pH	6.95	6.48	7.09
Turbidity (NTU) Range	1.30-2.20	0.28-0.94	0.03-0.05
Turbidity (NTU) Average	1.75	0.37	0.03
Turbidity (NTU) Exceedance	-	0%	0%
Total Organic Carbon	1.95	-	0.91
Fluoride Average (ppm)	-	-	0.67
Phosphate Average (ppm)	-	-	1.39 (wet)
Residual Disinfectant (ppm)	-	-	1.72
TTHM (DBP)	-	-	7.0 ppb
Methylisoborneol (MIB)	7 NG/L	-	<1.0 NG/L
Geosmin	8.5 NG/L	-	<1.0 NG/L

Weather Data



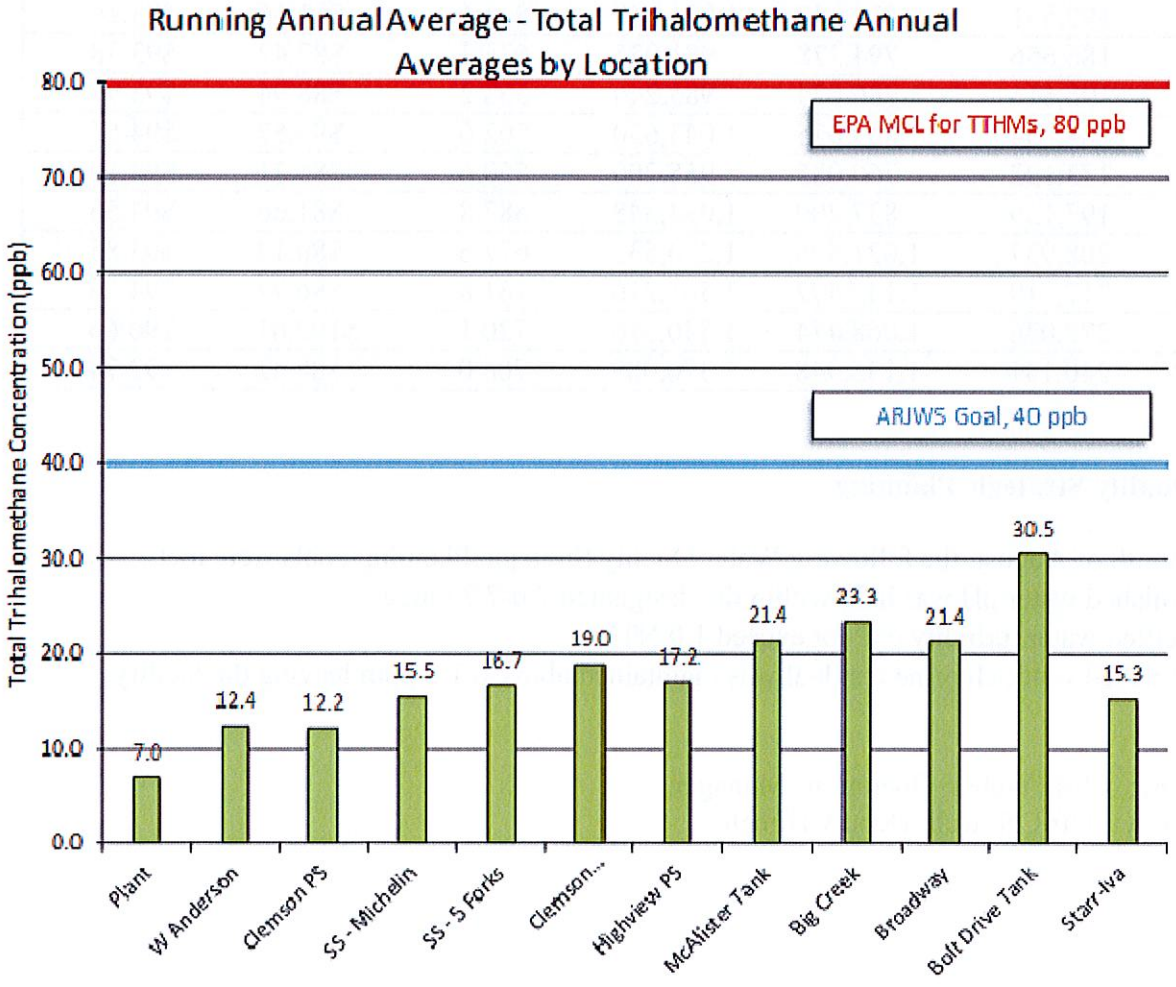
	Minimum	Maximum	Total
Rainfall	0.00 in.	0.84 in.	1.89 in.
Temperature	68.1° F	93.2° F	N/A
Humidity	37.8%	89.0%	N/A

Water Production Data

	Average	Minimum	Maximum	Total
Raw Water	21,601,000	17,647,000	25,388,000	669,635,000
Finished Water	22,775,000	21,145,000	25,388,000	706,040,000
Finished Max Capacity	47.4%	44.1%	52.9%	47.4%

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 August, ARJWS treated 706,040,000 gallons of water at a power cost of $88.42 per million gallons produced. The 12 month Running Annual Average is currently at $92.74.

Monthly Power Consumption Data

Month	On Peak kW	Off Peak kW	Total kW	Finished Water MG	$/ MG	12 month Average
Aug – 21	281,251	974,455	1,255,706	666.0	$116.14	$94.99
Sep – 21	236,672	1,031,508	1,268,180	620.1	$104.64	$94.15
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

Water Quality Strategic Planning

For the month of August, 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

September 23, 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	157
PMs Deferred	299*
Work Orders Open	34
Work Orders Completed	27

*Working through issues with software not allowing staff to close out assigned PM tasks.

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 August.

Plant Rated Capacity	42.00 MGD		
Reliable Capacity	30.24 MGD	**% of rated capacity**	72%
3-year Max Day (same month) + 10%	26.53 MGD	**Reliability**	114%
3-year Max Day (Next 90 days) + 10%	29.67 MGD	**Reliability**	102%

Transfer Pump #2 is currently down due to a failed retainer bearing. This item has a 14 week delivery time.

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	429	15,215	1,876	1,390	0	33	18,943
Engagement	9.77%	6.73%	8.25%				

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. $300,000 grant application submitted for a comprehensive study of bacteria, litter, nutrient, and sediment loading in the ARJWS watershed.
    a. Partners include:
        i. Phinizy Center for Water Sciences
        ii. Lake Hartwell Partners for Clean Water
        iii. Anderson & Pickens Counties Stormwater Partners
        iv. Palmetto Pride
2. Anderson Soil & Water Conservation District
    a. $50,000 grant application submitted for education curriculum and materials in the Broadway Lake area.
    b. ARJWS is a partner in the grant submittal.

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	33	5.6
Hurricane Creek	133	6.7
Town Creek	100	6.3
Six and Twenty Creek	33	7.8

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