ANDERSON REGIONAL
JOINT WATER SYSTEM

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

BOARD AGENDA

Board of Commissioners
May 2022

I. Minutes April 27, 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:

- June 22, 2022
- August 24, 2022
- October 26, 2022

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MINUTES OF THE ANDERSON REGIONAL JOINT WATER SYSTEM April 27, 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; 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; Mitch Ellenburg, Belton-Honea Path

OTHERS PRESENT: Scott Willett, ARJWS; Jeff Caldwell, ARJWS; Lisa Evatt, ARJWS; Kendall Cleary, AJRWS; Christopher Weber, ARJWS; Jodi Logan, ARJWS; Tony Putman, Clemson University; Kevin Simpson, Broadway; Mary Atieh, ARJWS

Chairman Dyke Spencer called the Board meeting of Anderson Regional Joint Water System to order at 12:01 p.m. on April 27, 2022.

Chairman Dyke Spencer asked for any Commissioner comments. Mr. Spencer asked for a moment of silence for the passing of Dwight Edwards with West Anderson Water District who served many roles on ARJWS Board from 2011-2022. Mr. Spencer announced the 20th anniversary of ARJWS. He welcomed Kevin Simpson with Broadway Water to the Board and Tony Putnam with Clemson University. Mr. Willett commented that ARJWS Minutes will no longer include Commissioners absent.

There were no public comments.

Mr. Jackson made a motion to approve the February 16, 2022 minutes and Mrs. Durham seconded.
Motion carried.

I. Consent Calendar (Old Business)

1. Resolution – Joint Operations and Maintenance Support Program

Mr. Caldwell recommended the approval of adopting Resolution No. 22-01, The Adoption Of A Joint Operations and Maintenance Support Program Among The Members Of Anderson Regional Joint Water System. Recognizing that emergencies may require assistance in the form of personnel, equipment, and supplies from outside the area of impact, members endeavor to coordinate response activities and share resources during emergencies. This program sets forth the procedures and standards for the administration of the Program. Mr. Caldwell asked that Commissioners sign the Resolution. Mr. McGill made a motion to adopt Resolution No. 22-01 and Mr. Ellenburg seconded. The motion was unanimous.

II. Items requiring immediate action

1. FY 2022/23 Budget – First Reading

Mrs. Cleary presented a PowerPoint explaining the proposed annual budget for the fiscal year 2022/23. The discussion included an increase in operations costs due to an increased chemical cost associated with using bulk sodium hypochlorite for disinfection. Maintenance costs increased due to the cost of contracted locates, increasing inventory and parts, and planned tank maintenance. Total employee costs increased related to increase in salaries to keep up with market conditions and increased expenses related to State health insurance and pension benefits. Mr. Caldwell discussed CIP Expenditures. Mr. Cortez thanked Mrs. Cleary for her work on smoothing out the budget. Mr. Cortez made a motion to approve the first reading of the proposed FY 2022/23 Annual Budget. Mr. McGill seconded. The motion passed with nine yay votes and the Town of Williamston opposed.

2. Clemson University Wholesale Rate – FY 2022/23

Mr. Caldwell recommended increasing the water rate service to Clemson University from $2.05 per thousand gallons to $2.24 per thousand gallons. Mrs. Cleary discussed the resulting expected rate increase is exacerbated by reduced System as well as University annual demand during the previous 3 years requiring the fixed cost for debt service to be spread over a significantly smaller base. Mrs. Cleary explained the Wholesale Water Rate Schedule Applicable To Clemson University. Mr. Caldwell asked for any comments, there were none. Mr. Jackson made a motion to increase the existing water rate for Clemson University to $2.24 per thousand gallons. Mr. Locke seconded. The motion was unanimous.

III. Discussion (New Business).

1. Executive Director's Report (Oral)

Mr. Willett provided an update on the proposed legislation S1010 and H4778 to require return flow credits for all Army Corps of Engineers' reservoirs. The legislation has been approved and signed by the governor on Monday, April 25, 2022. Mr. Willett thanked everyone involved. Mr. Willett gave a brief update on the Reallocation Study of Lake Hartwell and personnel changes. Mr. Willett reminded the Board the Executive Committee nominations are required at the next meeting and there is a vacancy to fill.

IV. Informational Reports

1. Finance and Administration Report
2. Operations and Maintenance Report
3. Engineering Report
4. Executive Committee Meeting Summary
5. 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.

V. Adjournment

With no further business, Mr. McGill made a motion to adjourn at 12:54 p.m. and Mr. Locke seconded. Motion carried.

Respectfully submitted,

Phillip Mishoe
Secretary/Treasurer

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COMMITTEE SUMMARY

Executive Committee

May 16, 2022

11:30 am

I. Discussion Summary

1. FY 2022/2023 Budget

There are no changes from the first reading approved last month. Staff is continuing to evaluate the budget drivers specifically chemicals. There was general discussion related to specific line items. Support for plan to split a COLA adjustment (July 1) and Pay for Performance adjustments (October 1). This creates a clearer and more focused message regarding individual performance reviews.

2. Capital Improvements Plan

There were no changes from the first reading. Mr. Weber answered questions related to the planned water quality monitoring project.

3. Legislative Updates

- SCRS Pension bill did not meet the deadline for approval in this legislative cycle.
- ARPA Funding bill passed in May which authorizes the expenditure of $900,000,000 through a competitive grant program. Also sets priorities for project funding.
- Return Flow Credits bill is now law and the Corps has indicated there intentions to assess return flow credits. This will likely delay offer for additional storage capacity.

4. RIA/ARPA Projects

Staff has compiled a projects list for ARPA consideration. Over $24M of projects would have a $6M impact to the ARJWS at 25% local match. The system could not deliver this entire list within the current requirements to disperse funds by the end of 2026. ARJWS will engage a consultant to better prioritize projects based on ability to deliver the projects under the funding requirements and best position for successful application to the RIA.

5. Continuous Improvement

- Asset Management – Staff is working on ways to assess the effectiveness of the AM program that demonstrates our progress toward our plan objectives.

- Power Quality Monitoring – Staff has partnered with Duke Energy to better understand incoming power quality as it relates to Ozone operation, faults and alarms.
- Staffing – Recognized the promotions of Austin Satterfield and Justin Clemones to ICS positions. This leaves a vacancy for treatment plant operator.
- Communication – Committee members requested that ARJWS prepare to communicate industry-wide messages, i.e. lead and copper, so that a consistent message is available to the service area.

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BOARD MEMORANDUM

May 4, 2022

Subject

Finance and Administration Report

Discussion

Billing

Meters were read on April 28th, 2022, with usage up 20.83% from last month (for the same number of days) and up 10.84% from last year (for the same number of days).

AGENCY	PREV.YR SAME MONTH	LAST MONTH	CURRENT
# of Billing Days	**29**	**31**	**28**
Anderson	110,050,334	123,717,274	132,969,649
Big Creek	23,900,000	21,900,000	24,000,000
Broadway	19,883,658	16,513,600	19,155,336
Clemson	52,466,544	53,012,212	57,319,101
Clemson University	26,361,050	28,290,143	30,422,991
Hammond	57,654,257	48,819,557	54,282,599
Homeland Park	19,616,112	17,375,944	17,168,294
Pendleton	9,639,462	10,081,004	9,582,640
Powdersville	2,868,479	4,523,243	5,970,191
Sandy Springs	51,084,000	50,337,537	54,877,317
Starr-Iva	27,592,261	25,967,925	29,312,410
West Anderson	38,700,490	30,783,932	37,039,053
Williamston	13,723,489	13,420,392	13,272,764
TOTAL	**453,540,136**	**444,742,763**	**485,372,345**

Finance/Budget Summary

For the month ending April 30, 2022, ARJWS is slightly over budget in revenue collections primarily due to the unbudgeted collection of $40,000 from Pioneer Water for water rights. This is an annual collection that should end with the adoption of the new allocation from the Corps.

For expenses, the ideal percentage column reflects that not all expenses are linear over 12 months. Expenses such as chemicals and power are seasonal based on water produced. Most expense categories are trending appropriately except for chemicals, sludge, and maintenance. These categories are over budget due to using bulk sodium hypochlorite for disinfection rather than onsite generation and one-time maintenance projects. See the Profit & Loss report for additional information.

Safety Training

April
Subject: **Active Shooter Training**
Training Date: **April 28, 2022**

Onsite Attendance
ARJ Staff – 12
Member Agency – 14
Online Attendance
ARJ Staff - 9

May
Subject: **Mental Health Awareness in the Workplace**
Training Date: **May 23, 2022**

Prepared by: Kendall Cleary, Accounting Manager
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 April 30, 2022

	Annual Budget	YTD Budget (7 months)	YTD Actual	10+2 Year End Projection	Ideal Percentage	% of Budget Used	YTD Variance	
Operating Revenue								
Operations and Maintenance	5,363,635	4,469,696	4,456,441	5,350,380	83%	83%	(13,255)	
Capital Charges	5,221,245	4,351,038	4,351,038	5,221,245	83%	83%	-	
Renewal and Replacement								
Water System	1,498,635	1,248,863	1,252,717	1,502,489	83%	84%	3,854	
Pump Station	67,738	56,448	58,207	69,496	83%	86%	1,758	
Miscellaneous	51,105	42,588	84,313	92,830	83%	165%	41,725	A
Total Operating Revenue	12,202,358	10,168,632	10,202,715	12,236,441				
Operating Expenses								
Salaries and Wages	1,650,100	1,375,083	1,254,196	1,529,212	83%	76%	(120,888)	
Payroll Taxes and Employee Benefits	645,700	538,083	531,810	639,427	83%	82%	(6,273)	
Operations and Maintenance								
Administrative Expenses	417,435	347,863	225,499	295,072	83%	54%	(122,363)	
Operations Expenses								
Lab Supplies/Uniforms/Safety Equipment	136,700	113,917	102,257	125,040	83%	75%	(11,660)	
Chemicals	572,000	476,667	605,373	700,706	81%	106%	128,706	B
Sludge and Chemical Disposal	150,000	125,000	249,163	250,000	100%	166%	124,163	C
Utilities and Security	1,105,600	921,333	794,090	978,357	83%	72%	(127,243)	
Maintenance Expenses	299,200	249,333	319,003	368,869	83%	107%	69,669	D
Professional Fees	110,000	91,667	44,112	62,445	83%	40%	(47,555)	
Insurance	94,900	79,083	17,724	94,900	20%	19%	(61,360)	
Debt Expenses	5,221,245	4,351,038	4,353,170	5,221,245	83%	83%	2,132	
Source Water Protection	51,000	42,500	10,455	18,955	83%	20%	(32,045)	
Miscellaneous Expenses	131,000	109,167	113,170	135,003	83%	86%	4,003	
Total operating expenses before depreciati	10,584,880	8,820,733	8,620,020	10,419,231				
Net operating income	1,617,478	1,347,898	1,582,694	1,817,210				
Raw Water								
Raw Water Income	58,223	48,519	202,983	212,687				
Raw Water O&M Expenses	-	-	234,997	234,997				
Raw Water Operating Income	58,223	48,519	(32,014)	(22,310)	83%	-55%	(80,533)	E
Non-Budget Impacting Items								
Junior Lien Bond Payments	246,090	205,075	190,000	246,090	83%	77%	(15,075)	
Alum Tanks Replacement	136,350	113,625	105,809	136,350	100%	78%	(7,816)	
PLC Upgrade Projects	214,200	178,500	172,319	214,200	83%	80%	(6,181)	
Transfer Pump #6	42,000	35,000	47,928	47,928	100%	114%	12,928	
Clarifier 2 Flocc Drive	-	-	67,957	67,957	0%	100%	67,957	
	596,640	497,200	468,128	596,640				

	Cash Balances	Days Cash on Hand
Operating Cash	1,746,268	60
Capital Project Fund	2,325,893	
System R&R Fund (Restricted)	1,402,745	
Pumped R&R Fund (Restricted)	479,642	
Raw Water O&M	149,267	
Raw Water R&R	217,465	
	6,321,280	

A: Over budget due to the annual Pioneer payment of $40,000 and a termination balance returned from the refunding of Series 2011A.

B: Over budget due to using bulk sodium hypochlorite for disinfection and increases in Liquid Oxygen cost.

C: Over budget due to increasing the sludge budget by $80,000 to remove additional sludge and mitigate mobilization costs.

D: Over budget primarily due to the Ozone generator repair of $61,000 and the repair of a MIOX pump for $27,000.

E: Expenses for the year exceed revenues collected due to the repair of SAWS pump #4 for $64,000.

PUMPED REPAIR & REPLACEMENT ACCOUNT

April 30, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
04/01/2022	Balance Forward LGIP Investment			$473,794.01
04/28/2022	System Transfer for March 2022 Billing	$5,644.84		$479,438.85
04/30/2022	Interest Earned April 2022	$203.58		$479,642.43
04/30/2022	Ending Balance LGIP			**$479,642.43**

SYSTEMS REPAIR & REPLACEMENT ACCOUNT

April 30, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
04/01/2022	Balance Forward LGIP Investment			$1,277,178.42
04/28/2022	System Transfer for March 2022 Billing	$125,014.28		$1,402,192.70
04/30/2022	Interest Earned April 2022	$552.19		$1,402,744.89
04/30/2022	Ending Balance LGIP			**$1,402,744.89**

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BOARD MEMORANDUM

May 9, 2022

Subject
Operations and Maintenance Report

Discussion

Operations

As of May 9, 2022, Lake Hartwell's surface elevation was 660.53 ft, 0.53 ft. above full pool. Raw water is being drawn from the top gate of the intake structure. Water temperature at the top gate is 75.4°F. The Joint Water System reached 100% of settled water turbidity goals for the month of April. Raw water pH levels are relatively constant. Settled and Finished water pH levels are normal. The maximum day for April water production was 44.8% of finished water capacity.

Operations and Maintenance Highlights

- Visited Seneca water treatment plant to see Microclor equipment – a possible replacement for existing MIOX/onsite disinfection process
- Inverted order of addition of coagulant and pH adjustment chemicals to begin evaluating potential improvements in settled water turbidity performance.
- Performed Spring clarifier cleanouts
- Trevor Burrell passed his "B" treatment exam

In addition to water quality sampling for the Lake Hartwell Water Treatment Plant, Joint Water System staff processed 154 Total Coliform distribution samples for local entities during the month of April.

Water Quality Data

	Raw	Settled	Finished
pH	6.92	6.55	7.09
Turbidity (NTU) Range	1.50 to 8.40	0.46 to 0.94	0.03-0.04
Turbidity (NTU) Average	2.99	0.65	0.03
Turbidity (NTU) Exceedance	-	0%	0%
Total Organic Carbon	1.62	-	0.91
Fluoride Average (ppm)	-	-	0.66
Phosphate Average (ppm)	-	-	1.13 (wet)
Residual Disinfectant (ppm)	-	-	1.79
TTHM (DBP)	-	-	ppb
Methylisoborneol (MIB)	<1.0 NG/L	-	<1.0 NG/L
Geosmin	6.7 NG/L	-	<1.0 NG/L

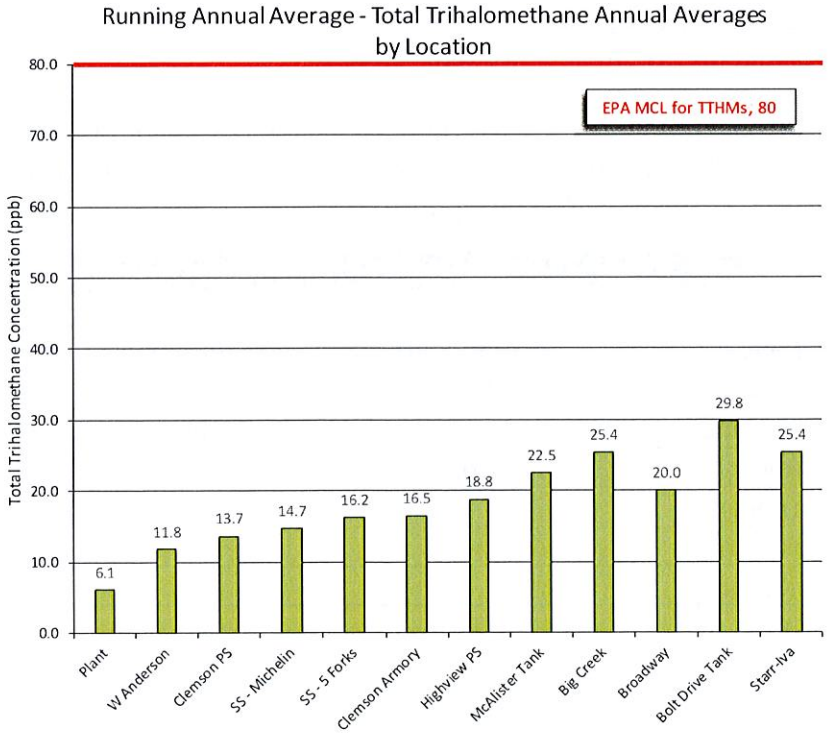
Water Production Data

	Average	Minimum	Maximum	Total
Raw Water	18,870,000	16,384,000	21,476,000	566,101,000
Finished Water	19,592,000	18,004,000	21,499,000	587,754,000
Finished Max Capacity	40.8%	37.5%	44.8%	40.8%

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.

Disinfection Byproduct Analysis Report



Monthly Power Consumption Update

For the month of April, ARJWS treated 587,754,000 gallons of water at a power cost of $81.66 per million gallons produced. The 12 month Running Annual Average is currently at $94.56.

Monthly Power Consumption Data

Month	On Peak kW	Off Peak kW	Total kW	Finished Water MG	$/ MG	12 month Average
Apr – 21	194,337	880,130	1,074,467	571.7	$89.46	$94.23
May – 21	215,996	909,415	1,125,411	662.4	$74.97	$92.58
Jun – 21	218,574	1,098,505	1,317,079	667.4	$94.20	$94.16
Jul – 21	271,224	947,223	1,218,447	649.6	$122.47	$94.06
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

Water Quality Strategic Planning

For the month of April, 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

May 16, 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	186
PMs Deferred	191
Work Orders Open	37
Work Orders Completed	12

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 April.

Plant Rated Capacity	42.00 MGD		
Reliable Capacity	31.68 MGD	**% of rated capacity**	75.43%
3-year Max Day (same month) + 10%	24.98 MGD	**Reliability**	126.82%
3-year Max Day (Next 90 days) + 10%	30.22 MGD	**Reliability**	104.83%

For April 2022, the limiting treatment component was the high service pump station with a current reliable capacity of 31.68 MGD.

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	Website	Events	Tours	Total
Reach	558	1,754	297	731	290	40	3,670
Engagement	9.09%	32.40%	10.17%				

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. Lake Hartwell Partners for Clean Water
    a. Contracted a website designer. Looking to go live in June.
2. Riverside Middle School
    a. Participated in 8th grade career fair on April 7th.
3. Palmetto High School & Future Farmers of America (FFA)
    a. Lisa Evatt worked the event the evening of April 7th.
4. BHP High School
    a. Participated in the Bear Shuffle event for 150 seniors on April 21st.
5. Clemson University
    a. Virtual tour for Environmental Engineering class on April 14th.

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	200	8.5
Hurricane Creek	133	8.3
Town Creek	100	7.8
Six and Twenty Creek	67	5.9

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