ANDERSON REGIONAL
JOINT WATER SYSTEM

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

BOARD AGENDA

Board of Commissioners
January 2023

I. Minutes

1. None

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:

- February 22, 2023
- April 26, 2023
- June 28, 2023

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COMMITTEE SUMMARY

Executive Committee

January 9,2023

11:30 am

I. Discussion Summary

1. **Budget**
   Staff has reviewed rate increases on power and are evaluating potential chemical increases to determine the FY24 budget impacts. Based on these major items along with normal inflation to the total budget, the increase is currently between 4-5%.

2. **Continuous Improvement**
   Staff presented issues and lessons learned from the recent cold weather period in December. We experienced cold water settling issues that on their own are expected but coupled with historical peak demands created very short filter runtimes which decreases the finished water capacity below plant rated capacity. Other issues of concern were related to winterization of chemical supply lines, exposed water services, and exposed and obsolete sample lines.

3. **Legislative/Regulatory Update**
   Mr. Willett reviewed some pre-filed legislative bills of interest to utilities.
   - H3239 – DHEC Restructuring
   - H3498/3499 – MCL's for PFAs, etc…

   Additional discussion related to the Surface Water Permitting Act as well as the Saluda and Savannah River Basin planning schedules.

Chairman Spencer began a discussion on the H2O program that allows customers to round up their water bill to support Anderson Interfaith Ministries (AIM). This program is an avenue for customers with water service and billing issues to seek assistance. AIM then evaluates the level of need to determine if applicants meet the criteria for assistance.

Prepared by: Jeff Caldwell, Deputy Director

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BOARD MEMORANDUM

January 10, 2023

Subject

Finance and Administration Report

Discussion

Billing

Meters were read on January 3, 2023, with usage up 7.29% from last month (for the same number of days) and up 5.65% from last year (for the same number of days).

AGENCY	PREV.YR SAME MONTH	LAST MONTH	CURRENT
# of Billing Days	**29**	**30**	**34**
Anderson	127,529,037	130,576,395	117,795,275
Big Creek	24,500,000	22,800,000	30,900,000
Broadway	18,820,247	18,609,541	28,709,574
Clemson	56,251,220	61,873,900	70,418,192
Clemson University	22,369,091	27,971,928	28,875,543
Hammond	37,732,643	50,228,487	68,647,314
Homeland Park	16,392,613	16,754,958	25,530,204
Pendleton	9,688,520	9,270,764	12,326,452
Powdersville	4,183,108	3,949,225	5,102,653
Sandy Springs	31,097,965	46,253,392	65,634,342
Starr-Iva	27,221,877	29,733,238	38,368,500
West Anderson	33,277,109	33,532,810	46,894,503
Williamston	13,075,740	12,949,752	16,955,020
TOTAL	**442,139,170**	**464,504,390**	**556,157,572**

Finance/Budget Summary

For the month ending December 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

December

No training was conducted for the month of December.

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 December 31, 2022

6+6

	Annual Budget	YTD Budget (5 months)	YTD Actual	Year End Projection	Ideal Percentage	% of Budget	YTD Variance	
Operating Revenue								
Operations and Maintenance	5,729,325	2,864,663	2,880,141	5,744,804	50%	50%	15,479	
Capital Charges	5,331,369	2,665,685	2,665,685	5,331,369	50%	50%	-	
Renewal and Replacement								
Water System	1,499,760	749,880	750,229	1,500,109	50%	50%	349	
Pump Station	67,738	33,869	33,914	67,783	50%	50%	45	
Miscellaneous	51,616	25,808	140,607	166,415	50%	272%	114,799	A
Total Operating Revenue	12,679,808	6,339,904	6,470,576	12,810,480				
Operating Expenses								
Salaries and Wages	1,727,500	863,750	820,516	1,684,266	50%	47%	(43,234)	
Payroll Taxes and Employee Benefits	726,400	363,200	349,235	712,435	50%	48%	(13,965)	
Operations and Maintenance								
Administrative Expenses	310,790	155,395	112,950	268,345	50%	36%	(42,445)	
Operations Expenses								
Lab Supplies/Uniforms/Safety Equipment	118,900	59,450	43,801	103,251	50%	37%	(15,649)	
Chemicals	801,600	400,800	419,226	820,026	50%	52%	18,426	
Sludge and Chemical Disposal	175,000	87,500	25,415	175,000	50%	15%	(62,085)	
Utilities and Security	1,113,300	556,650	589,911	1,146,561	55%	53%	33,261	
Maintenance Expenses	372,135	186,068	141,483	327,551	50%	38%	(44,584)	
Professional Fees	98,000	49,000	38,425	87,425	50%	39%	(10,575)	
Insurance	111,800	55,900	44,217	111,800	50%	40%	(11,683)	
Debt Expenses	5,331,370	2,612,561	2,410,323	5,331,370	50%	45%	(202,238)	
Source Water Protection	50,000	25,000	33,603	58,603	50%	67%	8,603	B
Miscellaneous Expenses	123,900	61,950	29,600	91,550	50%	24%	(32,350)	
Total operating expenses before depreciati	11,060,695	5,477,224	5,058,704	10,918,183				
Net operating income	1,619,113	862,681	1,411,872	1,892,297				
Raw Water								
Raw Water Income	58,811	29,406	132,642	162,047				
Raw Water O&M Expenses	-	-	120,797	120,797				
Raw Water Operating Income	58,811	29,406	11,845	41,251	50%	20%	(17,560)	
Non-Budget Impacting Items								
Junior Lien Bond Payments	240,957	120,479	114,000	240,957	50%	47%	(6,479)	
Water Quality Monitoring Project	52,000	26,000	8,905	52,000	50%	17%	(17,095)	
Alum Pump Replacement	-	-	22,601	22,601	100%	100%	22,601	
Filter PLC Upgrade	140,400	70,200	89,673	140,400	100%	100%	19,473	
	240,957	120,479	114,000	240,957				

	Cash Balances	Days Cash on Hand
Operating Cash	2,284,618	75
Capital Project Fund	3,644,465	
System R&R Fund (Restricted)	865,622	
Pumped R&R Fund (Restricted)	533,499	
Raw Water O&M	163,247	
Raw Water R&R	243,061	
	7,734,512	

A: Over projected revenue due to the annual Pioneer payment of $40,000 and $70,000 in year-to-date interest earned on bank balances

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

PUMPED REPAIR & REPLACEMENT ACCOUNT

December 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
12/01/2022	Balance Forward LGIP Investment			$525,918.77
12/28/2022	System Transfer for November 2022 Billing	$5,648.06		$531,566.83
12/31/2022	Interest Earned December 2022	$1,932.25		$533,499.08
12/31/2022	Ending Balance LGIP			**$533,499.08**

SYSTEMS REPAIR & REPLACEMENT ACCOUNT

December 31, 2022

DATE	TRANSACTION MEMO	CREDIT	DEBIT	BALANCE
12/01/2022	Balance Forward LGIP Investment			$737,872.97
12/28/2022	System Transfer for November 2022 Billing	$124,979.97		$862,852.94
12/31/2022	Interest Earned December 2022	$2,769.18		$865,622.12
12/31/2022	Ending Balance LGIP			**$865,622.12**

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BOARD MEMORANDUM

January 13, 2022

Subject

Operations and Maintenance Report

Discussion

Operations

As of January 13, 2022, Lake Hartwell's surface elevation was 657.82 ft, 2.18 ft. below full pool. Raw water is being drawn from the top gate of the intake structure. Water temperature at the top gate is 53.5°F. The Joint Water System reached 58% of its settled water turbidity goals for the month of December. Raw water pH levels are relatively constant. Settled and Finished water pH levels are normal. The maximum day for December water production was 73% of Finished water capacity.

Operations and Maintenance Highlights

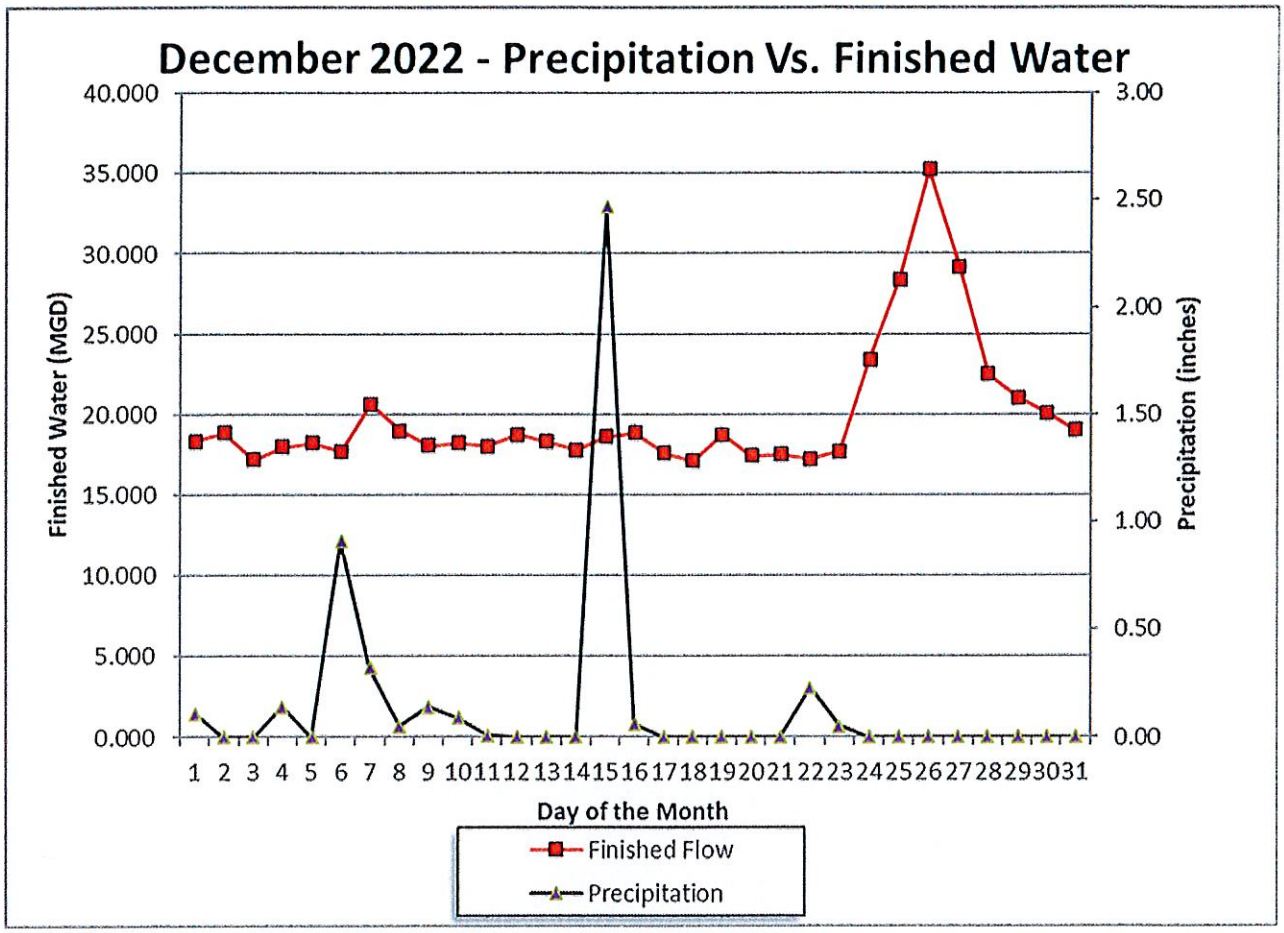
- Completed internal laboratory proficiency testing
- MIOX generators taken out of service permanently. A new onsite disinfection process was included in our ARPA grant application.

In addition to water quality sampling for the Lake Hartwell Water Treatment Plant, Joint Water System staff processed 164 Total Coliform distribution samples for local entities during the month of December.

Water Quality Data

	Raw	Settled	Finished
pH	7.07	6.63	7.16
Turbidity (NTU) Range	1.70-6.60	0.59-1.80	0.03-0.30
Turbidity (NTU) Average	3.57	0.94	0.05
Turbidity (NTU) Exceedance	-	42%	0%
Total Organic Carbon	1.53	-	0.923
Fluoride Average (ppm)	-	-	0.67
Phosphate Average (ppm)	-	-	.51 (dry wt PO4)
Residual Disinfectant (ppm)	-	-	1.77
TTHM (DBP)	-	-	2.1 ppb
Methylisoborneol (MIB)	14.4 NG/L	-	2.0 NG/L
Geosmin	2.0 NG/L	-	<1.0 NG/L

Weather Data



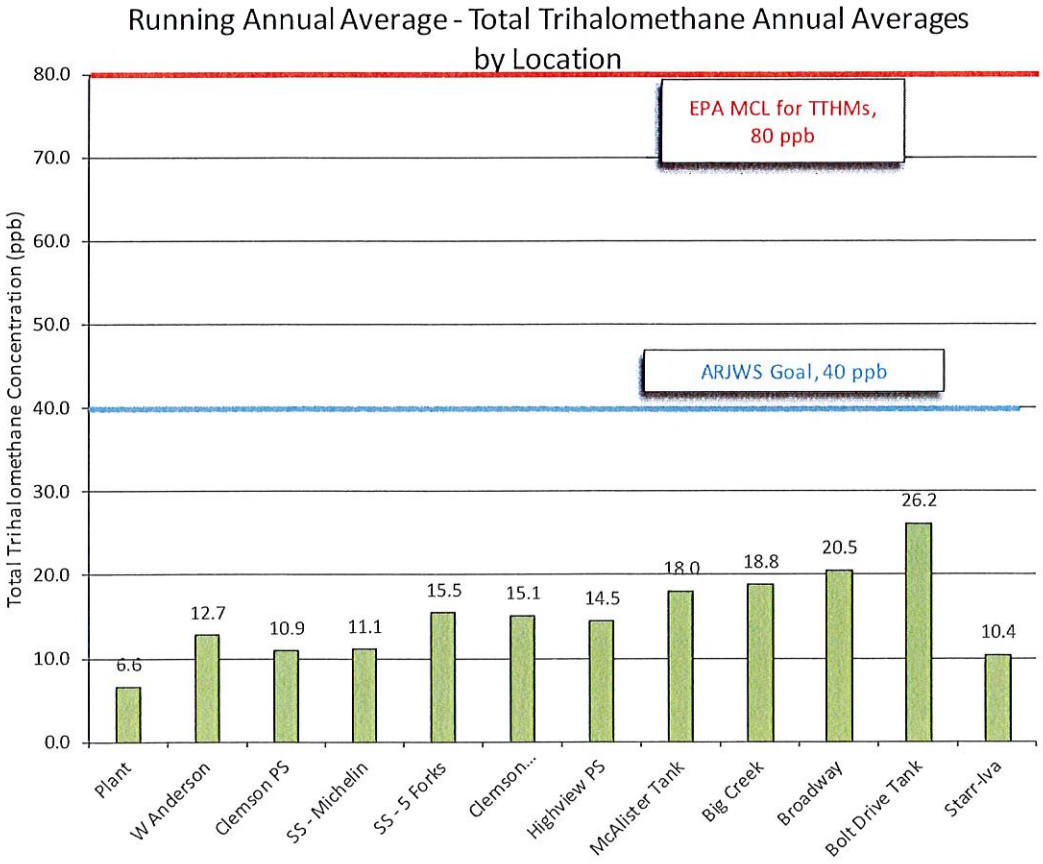
	Minimum	Maximum	Total
Rainfall	0.00 in.	2.47 in.	4.58 in.
Temperature	7° F	69° F	N/A
Humidity	17%	100%	N/A

Water Production Data

	Average	Minimum	Maximum	Total
Raw Water	20,096,000	14,651,000	35,645,000	622,961,000
Finished Water	19,888,000	17,126,000	35,230,000	616,541,000
Finished Max Capacity	41.4%	30.5%	73.4%	41.4%

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 December, ARJWS treated 616,541,000 gallons of water at a power cost of $101.84 per million gallons produced. The 12 month Running Annual Average is currently at $94.70.

Monthly Power Consumption Data

Month	On Peak kW	Off Peak kW	Total kW	Finished Water MG	$/ MG	12 month Average
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	$84.09	$94.15
June - 22	217,719	1,143,497	1,361,216	761.8	$90.61	$95.35
Jul – 22	272,036	1,068,474	1,340,510	720.1	$102.01	$95.96
Aug – 22	240,141	1,135,948	1,376,089	706.0	$88.42	$93.34
Sep – 22	235,923	1,022,295	1,258,218	682.5	$104.18	$92.42
Oct – 22	212,428	980,990	1,193,418	663.2	$104.84	$92.43
Nov – 22	186,903	896,111	1,083,014	564.0	$116.20	$93.92
Dec – 22	194,312	808,284	1,002,597	616.5	$101.84	$94.70

Water Quality Strategic Planning

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

- Finished water pH was held within the designated 7.0-7.2 range.
- 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

January, 2023

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	282
PMs Deferred	72
Work Orders Open	42
Work Orders Completed	24

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 November.

Plant Rated Capacity	42.00 MGD		
Reliable Capacity	40.32 MGD	**% of rated capacity**	96%
3-year Max Day (same month) + 10%	38.75 MGD	**Reliability**	104%
3-year Max Day (Next 90 days) + 10%	23.39 MGD	**Reliability**	172%

Limiting treatment component is the transfer pump station, Pump #2 is currently down due to a failed retainer bearing. Expected parts delivery date is 3/28/23.

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	362	2,295	955	948	0	18	4,578
Engagement	14.83%	21.96%	15.50%				

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. Clemson Process Instrumentation Class
    a. Class came out for a tour courtesy of Natalie Whitaker, former co-op.
2. Lake Hartwell Partners for Clean Water
    a. Officially filed as a nonprofit with 9 board members.

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	100	8.1
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