Hildale-Colorado City Utility: Water Rate Analysis

3/7/2024

What is RCAC?

- Rural Community Assistance Corporation
- Federally funded to help rural communities like Hildale and Colorado City…
- …stay in compliance with the rules and regulations and build system capacity

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Why do a Rate Study?

- Stay solvent
- Often required for grants and loans
- Prepare for asset replacement
- Ensure system covers debt service
- Maintain system for future generations

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Consequences of not raising rates enough

1. Increased reliance on loans
2. Reduction in reserves
3. Inability to pay bills
4. Inability to maintain system=Violations

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Board Responsibilities

- Fiduciary responsibility to keep the system running…
- ..in the short run and the long run.
- Provide resources for staff to do their job.

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Guiding Principles of this Rate Study

- Sustainable
- Equitable
- Justifiable

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Rate Model

- AWWA Standards
  (American Water Works Association)
- Reviewed by staff and board members
- Staff requests direction from Board to proceed with final Rate Study documents

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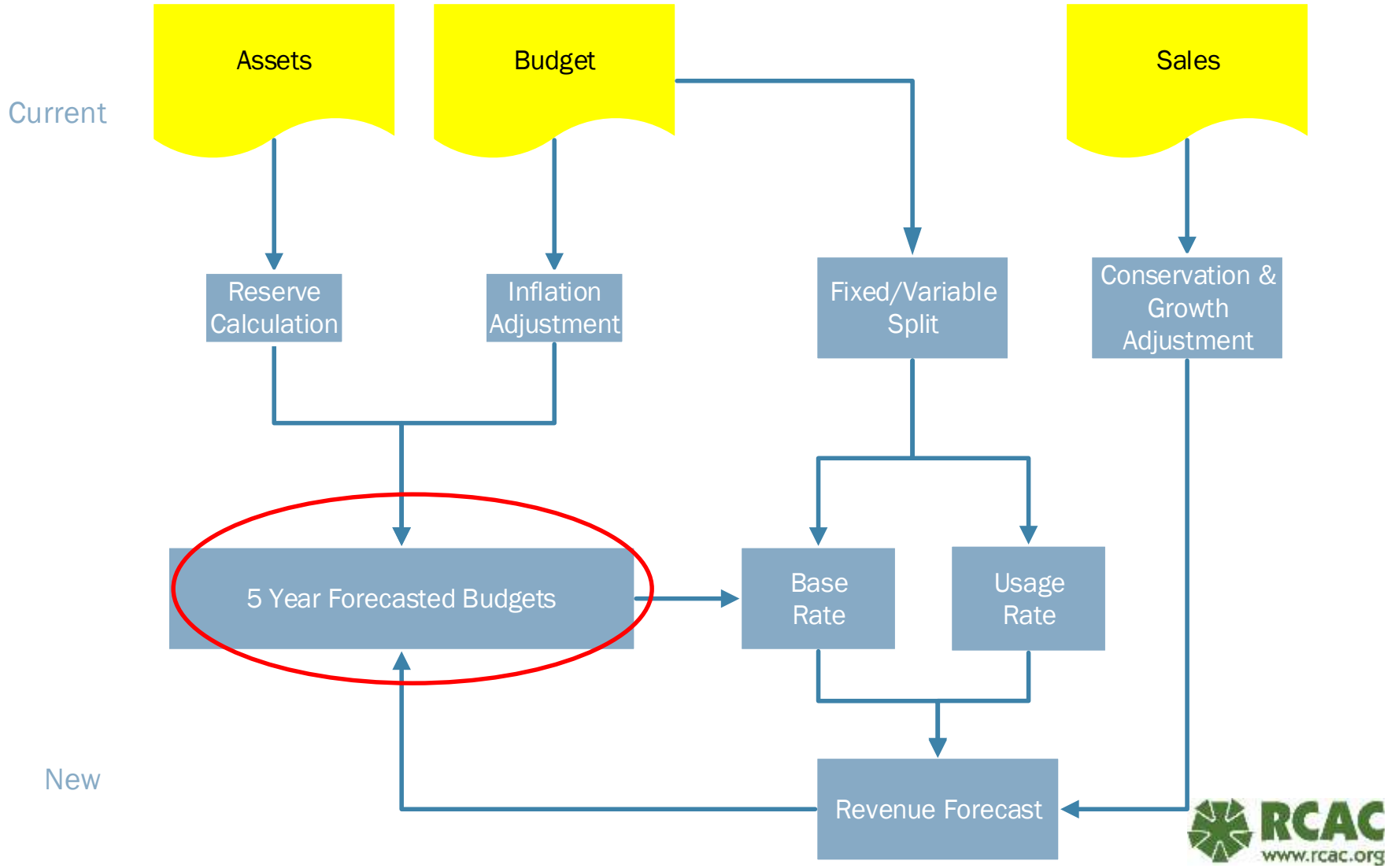
Rate Setting with Water Meters



Reserves

Reserve	Target	Existing
Debt Reserve	$14,758	$0
Operating	$174,360	$174,360
Emergency	$20,000	$20,000
Capital Replacement	To be calculated	$468,680
Future Capital Assets		$300,000

- Total existing reserves available based on Water Fund Balance Sheet June 30, 2023
- $1,167,138 in 81-11900 Cash-Combined Fund, less the $204,098 in 81-21350 Customer Deposits

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Capital Replacement Program

- Inventory of all assets
  - Exclude those that will not be replaced
- Those that will be replaced
  - When
  - How much it will cost
  - How to pay for it (cash, grant or loan)
- → Calculate how much we must set aside each year to have enough cash when needed

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Existing Asset Reserve

Quantity	Asset	Year Acquired	Unit Cost (Historic, Current or Future)	Cost Type (H, C, F)	% Belonging to Water	Estimated Remaining Life	Estimated Future Cost	Fund with Cash	Fund with Grant	Fund with Loan	Existing Reserves	Annual Reserve Required
	Replacement of Existing Capital Assets											
	Wells				100%			0%	0%	100%	0	0
1	Well 4 - 140' 8" 190gpm	2021	200,000	H	100%	49	1,162,194	2%	40%	58%	1,845	357
1	Well 4B - 140' 6"	1985	200,000	C	100%	13	312,791	10%	40%	50%	8,565	1,641
5146	Jans Canyon Spring Transmission Line - 2"	2015	3	C	100%	68	160,153	25%	0%	75%	1,653	429
1	Maxwell Canyon Spring Collection - 4" 64gpm	1980	100,000	C	100%	58	735,428	5%	40%	55%	2,141	471
1	Maxwell Canyon Spring Box	1910	10,000	C	100%	20	19,898	100%	0%	0%	4,283	712
1	800k gallon tank	1998	1550000	C	100%	31	4,502,799	2%	40%	58%	13,276	2,163
1	600k gallon tank	1970	1150000	C	100%	15	1,926,651	2%	40%	58%	9,850	1,780
1	Elm Street Tank (Concrete) - 1MG	2000	1825000	C	100%	58	13,421,565	2%	40%	58%	15,632	3,442
1	*Treatment Plant Building*	1975	75000	C	100%	3	83,154	25%	0%	75%	8,030	4,201
3	Pressure Tanks (West Side) (Recoated in 2021)	2001	110000	C	100%	9	449,756	10%	40%	50%	14,133	3,279
3	Pressure Tanks (East Side) (Recoated in 2004)	1975	110,000	C	100%	15	552,865	5%	40%	55%	7,066	1,277
8	Treatment Plant Pumps (40hp)	2005	7,500	H	100%	3	106,347	25%	0%	75%	10,270	5,373

- On average, save $127,240 a year for replacement of existing assets

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Funded Asset Replacement

- Fencing, raw water transmission line, and 2 new wells at treatment plan
  - Assume $1,780,000 to be completed in 2024
  - Assume 30 to 50-year lifespans
  - Save $3,897 a year for future replacement

Future Asset Reserve

Quantity	Asset	Year to be Purchased	Unit Cost (Current or Future)	Cost Type (C, F)	% Belonging to Water	Years to save	Estimated Future Cost	Fund with Cash	Fund with Grant	Fund with Loan	Existing Reserves	Annual Reserve Required
	Reserves for Additional Capital Assets											
1	Fire Hydrants	2027	1,785,505	F	100%	3	1,785,505	2%	40%	58%	19,232	5,404
1	Trailhead Well 1	2027	1,700,000	F	100%	3	1,700,000	2%	40%	58%	18,311	5,145
1	Sandhill Tank and Jessop Ave Line	2028	5,236,534	F	100%	4	5,236,534	2%	40%	58%	54,429	12,283
1	Trailhead Well 2, Trailhead Tank (1MG), and Canyon S	2030	2,500,000	F	100%	6	2,500,000	2%	40%	58%	24,198	4,145
1	University Ave Line	2030	406,633	F	100%	6	406,633	5%	40%	55%	9,840	1,686
1	Water Canyon Wells	2032	4,999,729	F	100%	8	4,999,729	2%	40%	58%	45,065	6,542
1	Maxwell Canyon Well	2036	4,872,243	F	100%	12	4,872,243	2%	40%	58%	38,083	4,617
1	Annexation Trunklines	2040	3,930,543	F	100%	16	3,930,543	2%	40%	58%	26,642	2,978
1	New Annexation Area Tank - 1MG	2042	4,169,914	F	100%	18	4,169,914	2%	40%	58%	26,321	2,883
1	SCADA Upgrades	2025	250,000	F	100%	1	250,000	5%	40%	55%	7,229	5,271
1	Well #8 Enhancements	2025	500,000	F	100%	1	500,000	5%	40%	55%	14,458	10,542
1	Booster Station	2025	650,000	F	100%	1	650,000	2%	40%	58%	7,518	5,482
1	Other FY24 Projects (Well rehab, clear well tank, plant	2025	300,000	F	100%	1	300,000	5%	40%	55%	8,675	6,325
1	Backup Generator	2025	175,000	F	100%	1	175,000	10%	0%	90%	10,121	7,379
	Subtotal Reserves for Additional Capital Assets						31,301,101	2%	40%	58%	300,000	80,681

- On average, save $46,006 a year for initial costs of future assets
- $80,681 in first year, decreasing to $22,850 in later years

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Budget

- Based on current budget with planned increases
- Adjustments for inflation
- Includes reserve requirements
- Includes other water revenue
  - Interest Income
  - Connection Fees
  - Planned Impact fees

Budget Considerations

Expenses

- Equipment Supplies and Maintenance costs increase in base year from previous years ($3,000 to $50,000)
- Maintenance & Supply – System costs increase in base year from previous years ($90,043 to $177,700)
- Power costs increase in base year from previous years ($135,000 to $200,000)
- Laboratory costs are increasing due to additional sampling needs.
- System construction services expenses are increasing due to planned projects over the next 5 years.

Revenue

- Sales Revenue is calculated from actual usage data, will vary based on proposals.
- Current revenue under existing rates and usage - $955,016
- Additional revenue from new connections based on system growth.
- Interest income increased in base year from previous years ($4,174 to $22,000)
  - Increasing interest from PTIF rates

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Allocation of Existing Reserves

- With many planned projects in the near future, it is recommended that HCC internally restrict $300,000 of existing reserves for these planned projects
- This will temper the rate increase needed compared to raising funds needed for these projects only from sales revenue

Fixed vs Variable Expenses

Fixed

- Do not change with the volume of water sold
- Examples
  - Insurance
  - Most personnel
  - Debt service
  - Future capital replacement and purchases
- 89%

Variable

- Vary with the volume of water sold
- Examples
  - Electricity
  - Chemicals
- 11%

Water Rate Components

- Fixed Expenses
-  Base Rate
- Variable Expenses
-  Usage Charge

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Sales Forecast

- Conservation Adjustment
  - Dependent on rate scenario
- Community Growth
  - 2% each year
- Conservation Factor
  - Variable, .5% to 3%
  - As usage rates increase, customers will likely conserve water

No Change

- Do Nothing
- Drawing on reserves to cover expenses
- **Not Recommended**

With No Rate Changes

Results of the current rates	2024	2025	2026	2027	2028	5 Years
TOTAL EXPENSES	$1,833,173	$1,835,846	$1,978,571	$1,786,673	$1,925,447	$9,359,710
TOTAL REVENUE	$1,098,305	$1,129,748	$1,177,372	$1,257,188	$1,273,192	$5,935,805
NET LOSS OR GAIN: (Short/Over to Reserves)	-$734,868	-$706,098	-$801,199	-$529,484	-$652,256	-$3,423,905
NET CASH FLOW (Contribution to Reserves)	-$451,261	-$502,278	-$613,544	-$374,812	-$506,870	-$2,448,766
Affordability assuming MHI of $62857 for residential meters.	1.15%	1.17%	1.18%	1.19%	1.21%	
Are you putting enough money in reserves?	No	No	No	No	No	
Positive Annual Cash Flow?	No	No	No	No	No	

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Alternatives to Consider

- Originally, 3 possible scenarios were presented to HCC staff, of these, scenario 3 was determined to be best option.
- The next two scenarios are those that have already incorporated input from HCC staff. The other scenarios can be seen in the handout.

Alternative 3.1

- Smaller initial base rate increase, tighten tiers, increase usage rates
- Annual increases over five years
- Results in net gain over $34,000 over five years
  - This is the amount saved above the recommended amount in the model

New Rates – Alternative 3.1

Customer Class	Rate Structure	Base Rate	Usage Rates
¾" Meter	Tiered Block	$38.50	0 – 10,000 - $1.75/1,000 10,001-30,000 - $1.90/1,000 30,001+ - $2.50/1,000
1" Meter	Tiered Block	$64.00	0 – 10,000 - $1.75/1,000 10,001-30,000 - $1.90/1,000 30,001+ - $2.50/1,000
1.5" Meter	Tiered Block	$128.50	0 – 30,000 - $2.50/1,000 30,001-80,000 - $2.80/1,000 80,001+ - $3.10/1,000
2" Meter	Tiered Block	$205.50	0 – 35,000 - $2.50/1,000 35,001 – 90,000 - $2.80/1,000 90,001-200,000 - $3.50/1,000 200,001+ - $4.50/1,000
Hydrant Meter	Tiered Block	$150.00	Any amount - $10.00/1,000

Growth Factor of Rates		Year 2	Year 3	Year 4	Year 5
	Base	15.00%	5.00%	2.00%	2.00%
	Usage	10.00%	5.00%	2.00%	2.00%

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Impact of New Rates – Alt. 3.1

Growth Factor of Rates			Year 2	Year 3	Year 4	Year 5	
	Base		15.00%	5.00%	2.00%	2.00%	
	Usage		10.00%	5.00%	2.00%	2.00%	
Results of the new rates		**2024**	**2025**	**2026**	**2027**	**2028**	**5 Years**
TOTAL EXPENSES		$1,790,316	$1,827,096	$1,980,889	$1,880,722	$2,067,892	$9,546,914
TOTAL REVENUE		$1,594,343	$1,795,937	$1,950,394	$2,085,999	$2,154,398	$9,581,072
NET LOSS OR GAIN: (Short/Over to Reserves)		-$195,972	-$31,158	-$30,495	$205,277	$86,505	$34,157
NET CASH FLOW (Contribution to Reserves)		$44,777	$162,515	$158,082	$350,155	$219,101	$934,630
Affordability assuming MHI of $62857 for residential meters.		1.62%	1.83%	1.96%	2.03%	2.10%	
Are you putting enough money in reserves?		No	No	No	Yes	Yes	
Positive Annual Cash Flow?		Yes	Yes	Yes	Yes	Yes	

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Average Bill Increase – Alt 3.1

Average Bill Every M by Meter Size								
Meter Size	Count	Meter Size	Current	Year 1	Year 2	Year 3	Year 4	Year 5
0.750	845	3/4"	$59.10	$84.01	$94.61	$101.37	$105.18	$108.80
1.000	118	1"	$103.25	$141.69	$159.52	$170.91	$177.31	$183.40
1.500	28	1.5"	$144.00	$261.32	$294.65	$315.08	$326.38	$337.16
2.000	34	2"	$244.85	$537.12	$603.11	$648.01	$673.89	$698.38

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Alternative 3.2

- Compared to 3.1, same base rates, additional usage tiers, more variance in usage rates
- Annual increases over five years
- Results in net gain over $17,520 over five years

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New Rates – Alternative 3.2

Customer Class	Rate Structure	Base Rate	Usage Rates	
¾" Meter	Tiered Block	$38.50	0 – 15,000	- $1.50/1,000
			15,001-30,000	-$1.85/1,000
			30,001-50,000	- $2.00/1,000
			50,001+	- $2.75/1,000
1" Meter	Tiered Block	$64.00	0 – 10,000	- $1.50/1,000
			10,001-45,000	- $2.00/1,000
			45,001-100,000	- $2.75/1,000
			100,001+	- $3.50/1,000
1.5" Meter	Tiered Block	$128.50	0 – 35,000	- $1.50/1,000
			35,001-55,000	- $2.00/1,000
			55,001-125,000	- $2.75/1,000
			125,001+	- $3.50/1,000
2" Meter	Tiered Block	$205.50	0 – 55,000	- $2.50/1,000
			55,001-90,000	- $2.80/1,000
			90,001-200,000	-$3.50/1,000
			200,001+	- $5.50/1,000
Hydrant Meter	Tiered Block	$150.00+$200.00 Deposit	Any amount	- $10.00/1,000

Growth Factor of Rates		Year 2	Year 3	Year 4	Year 5
	Base	18.00%	5.00%	2.00%	2.00%
	Usage	10.00%	5.00%	2.00%	2.00%

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Impact of New Rates – Alt. 3.2

Growth Factor of Rates			Year 2	Year 3	Year 4	Year 5	
	Base		18.00%	5.00%	2.00%	2.00%	
	Usage		10.00%	5.00%	2.00%	2.00%	
Results of the new rates		**2024**	**2025**	**2026**	**2027**	**2028**	**5 Years**
TOTAL EXPENSES		$1,790,316	$1,827,096	$1,980,889	$1,880,722	$2,067,892	$9,546,914
TOTAL REVENUE		$1,575,789	$1,794,465	$1,950,273	$2,087,162	$2,156,745	$9,564,434
NET LOSS OR GAIN: (Short/Over to Reserves)		-$214,527	-$32,630	-$30,616	$206,440	$88,853	$17,520
NET CASH FLOW (Contribution to Reserves)		$26,223	$161,043	$157,960	$351,318	$221,448	$917,992
Affordability assuming MHI of $62857 for residential meters.		1.56%	1.78%	1.91%	1.98%	2.05%	
Are you putting enough money in reserves?		No	No	No	Yes	Yes	
Positive Annual Cash Flow?		Yes	Yes	Yes	Yes	Yes	

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Average Bill Increase – Alt 3.2

Average Bill Every M by Meter Size								
Meter Size	Count	Meter Size	Current	Year 1	Year 2	Year 3	Year 4	Year 5
0.750	845	3/4"	$59.10	$80.71	$92.13	$98.74	$102.47	$106.02
1.000	118	1"	$103.25	$148.35	$168.86	$181.38	$188.58	$195.42
1.500	28	1.5"	$144.00	$233.81	$268.21	$287.09	$297.64	$307.71
2.000	34	2"	$244.85	$573.11	$649.15	$698.46	$727.19	$754.33

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Comparison

- Both 3.1 and 3.2 take a similar approach
- 3.2 allows for more water available at the most affordable tier and sends greater price signals for highest use tier
- 3.2 may need a greater increase in year 2
- 3.2 may result in lower average bills in five years for all customers, other than largest users (2”)

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Recommendations

- Water rates for HCC need to increase substantially to cover the anticipated upcoming expenses, asset replacement, and O&M costs
- HCC can consider delaying capital projects, if possible, to reduce immediate customer burden
- Optimal funding packages should be sought on capital projects to reduce customer burden
- A delay in rate increases ultimately results in a greater rate increase later

Future Considerations

- Rates should be reviewed annually to ensure they are adequate in covering annual expenses
- A more thorough rate analysis should be done when additional debt is taken on and/or every five years

Discussion and HCC Utility Board Input

- Live review of selected rate model(s)
- Input from board on direction of rates, changes to consider
- Next steps

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