White Paper

CAP
CENTRAL ARIZONA PROJECT

Understanding CAP's Strategic Reserves

What are the "Strategic Reserves"?

The Strategic Reserves are not a single fund, but rather a collection of individual accounts that have been established for a variety of specific purposes. Other reserves have been established for specific purposes, such as the Water Storage Reserve or Rate Stabilization Reserve, and are not included in the Strategic Reserves.

Unassigned / Unrestricted	Assigned	Restricted	Committed
Working Capital Reserve	Operating Reserve		
	Contingency Reserve		
	Capital Reserve	Major Repair / Replacement Reserve	
		Supplemental Water Reserve	Extraordinary Cost Reserve
		CAGRD Replenishment Reserves	Water Storage Reserve
		CAGRD I&WR Reserves	Rate Stabilization / SO2 Reserves
		Captive Insurance Reserves	Navajo Decommissioning Reserve
		Repayment Reserves	CAGRD Reserves
		Emergency O&M Reserve	9(d) Debt Reserve
			Recovery Reserve

: Strategic Reserves

: Other Reserves

Unassigned Reserves:
Funds at the State Treasurer and bank which are for daily operating purposes.

Assigned Reserves:
The Board established these reserves to provide for potential future needs.

Restricted Reserves:
These funds are established through contracts or legislation that limit the use for specific purposes.

Committed Reserves:
These funds are established through Board action, typically by resolution that identifies reserves to be used for specific purposes.

Strategic Reserves are cash reserves for unusual or unplanned events, such as equipment failures, business interruption or unplanned costs. These reserves may be drawn upon if unusual or unplanned events occur, or they may never be used at all. The Working Capital Reserve is an exception to this rule, as is used to smooth out timing differences in revenues and spending within each year. Ideally, with the exception of the Working Capital Reserve, Strategic Reserves accounts would never have to be used.

UNASSIGNED RESERVES

Unassigned Reserves consist of the Working Capital Reserve, which allows for normal fluctuation throughout the year due to the variability of several items:

- property tax receipts
- capital expenditures
- capital charges
- federal debt payment
- power costs

The Working Capital Reserve includes an account at the State Treasurer and an operating account at a bank for daily operating purposes. The Working Capital Reserve is essentially CAP's checkbook—it is used to receive incoming revenues and pay ongoing expenses.

ASSIGNED RESERVES

1. Operating Reserve - Provides funds for continued operations in the event of a catastrophic event for employees, contractors, materials and supplies, etc., while cash may be delayed if deliveries are reduced or stopped.
2. Contingency Reserve - Prepares for potential property and liability damages, to respond to any claims, judgments, and related costs against CAWCD, its officers, directors and employees. Also provides coverage for extraordinary medical claims and legal claims.
3. Capital Reserve – Arranges coverage for capital expenditures, both for costs relating to repair or replacement in an extraordinary event occurrence, as well as to keep other projects progressing while repairs are made.

Restricted Reserves are those that have a legal or statutory constraint on their use. The exclusion of Restricted Reserves from the Strategic Reserves target is prudent, and these reserves are contractually required as CAWCD has no alternative but to maintain those resources. The Strategic Reserves are established by the organization based on its own risk considerations. The one exclusion to this methodology is the Major Repair and Replacement Reserve, which is restricted by contract, but is managed in conjunction with the Capital Reserve.

RESTRICTED RESERVES

1. Major Repair / Repayment Reserve – This fund was established in 2007 pursuant to the Settlement Stipulation, to cover the costs associated with major repair or replacement of CAP features.
2. Supplemental Water Reserve – Established pursuant to legislation to acquire or conserve water to supplement CAP M&I water supplies.
3. CAGRD Replenishment Reserves – This fund consists of three accounts, one for each Active Management Area (AMA). Funds are to establish and maintain a replenishment reserve of long-term storage credits for each AMA.
4. CAGRD Infrastructure & Water Rights Reserves – Comprised of activation fees and membership dues to support the CAGRD water acquisition program.
5. Captive Insurance Reserve – Established in 2003, this fund provides a self-insurance mechanism for property, casualty and medical insurance to fund claims.
6. Repayment Reserves – Established to help assure payments to the United States under the Master Repayment Contract.
7. Emergency O&M Reserve – This fund is for extraordinary costs of operations & maintenance project work and is required as part of the Master Repayment Contract.

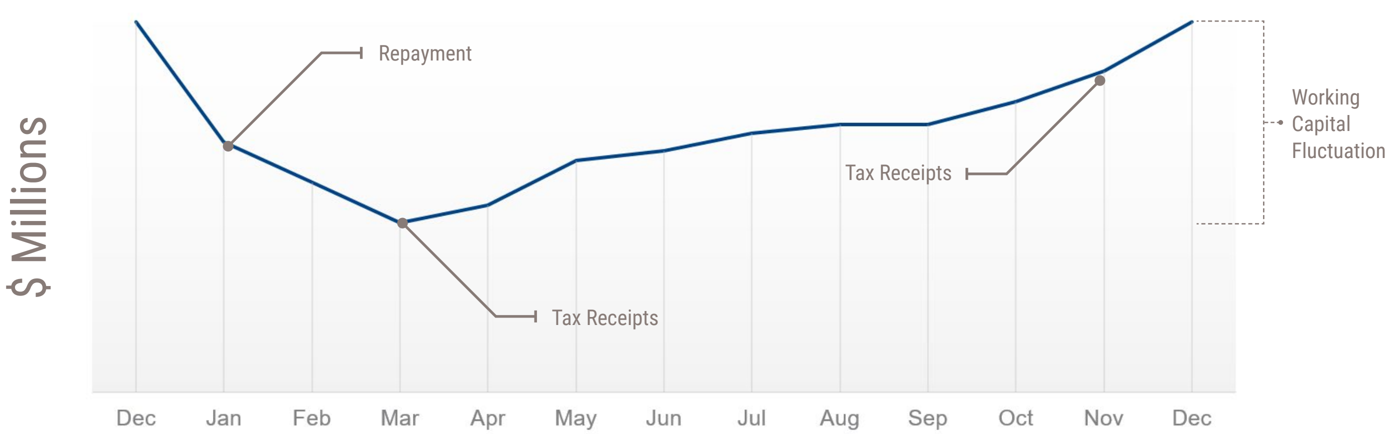
COMMITTED RESERVES

1. Extraordinary Cost Reserve - Addresses unpredictable cost concerns primarily due to the uncertainty in power-related costs.
2. Water Storage Reserve - Established for the purpose of:
    a. Assisting in CAWCD's federal debt payment
    b. Paying toward CAP's fixed OM&R costs
    c. Funding water delivery expenses incurred for underground storage associated with AWBA meeting M&I firming targets
3. Rate Stabilization/SO2 Reserve - Created to provide funds to mitigate rate shock due to potential Colorado River shortages, while the SO2 Reserve is used to stabilize the energy rate.
4. Navajo Decommissioning Reserve - Established to collect funds for CAP's share of future costs associated with decommissioning the Navajo Generating Station.
5. CAGRD Reserves - Includes accounts for infrastructure and water rights excluding activation fees and membership dues, water replenishment and an administration account.
6. 9(d) Debt Reserve - Created as a result of the Arizona Water Settlement Act for the relinquishment of long-term water entitlements by CAP NIA customers. In exchange for this relinquishment, CAP incurred the 9(d) debt liability associated with the transition of the NIA water allocation rights. Upon reallocation, CAWCD will collect charges from those M&I users, an amount sufficient to repay its 9(d) debt liability.
7. Recovery Reserve - Established to provide funds for upfront recovery expenditures. These may include pre-payment to credit exchange recovery partners, as was done in recent agreements with Arizona Water Company and Tucson Water, or investment in the rehabilitation of recovery partners' under-utilized wells.

What determines the size of the Strategic Reserves?

The Strategic Reserves strategy and targets are reviewed, at a minimum, every two years as part of CAP's financial planning cycle. Based on that review, the Board establishes an overall target amount for the Strategic Reserves, based on the purpose and analysis of each account. In March 2018, the Board set the Strategic Reserves target at $179 million. The measurement date for Strategic Reserves accounts is Dec.31, which is generally the highest point during the year for the reserves.

Reserves in a typical year



In 2018, three restricted reserves were removed from the Strategic Reserves category: the Master Repayment Reserve, the Emergency OM&R Reserve and the Medical Reserve required for the captive (CAWCD is self-insured through the CAWCD Insurance Company, a captive insurer). These funds have been funded consistently at the required level and are contractually required or set by industry standards. With this adjustment, the 2018 target is $174 million compared to $222 million. In 2018, with updated analysis, the Board approved a $5 million increase in the Strategic Reserves target to a total of $179 million. The new target involved two changes, an increase to the Operating Reserve target from $66 million to $75 million and a decrease to Capital Reserves from $65 million to $61 million. All other reserve targets remain unchanged.

As noted above, the Strategic Reserves are not a single fund, and the $179 million overall target is merely the sum of the various individual reserve accounts shown here:

Individual Reserve Accounts	Target ($M)	Target ($M)
Operating Reserve	$66	$75
Capital Reserve (combined)	65	61
Contingency Reserve	8	8
Working Capital Reserve	35	35
Overall Strategic Reserves Target	**$174**	**$179**

Based on industry best practices and CAP's historical experience, the Contingency Reserve consists of $5 million in Property/Casualty, $2 million for Legal and $1 million for Medical. Based on input from staff, the Board determines the appropriate target for the remaining reserve accounts, principally the Operating Reserve, Capital Reserve and Working Capital Reserve.

The $136 million target for the combined Operating and Capital Reserves represents about 40% of CAP's annual operating and capital cash expenditures. These reserves are intended to cover costs in the event of a business interruption (water delivery revenues cease) and/or to repair catastrophic property loss.

The Operating Reserve target of $75 million is based on one year of "net expenditures"— the annual fixed operating budget expenses, less non-cash items (amortization and depreciation) and variable cost (power), less the amount of revenues from the ad valorem property tax not dedicated to a specific purpose.

The Government Finance Officers Association (GFOA) Best Practice for operating reserves recommends maintaining a balance of not less than two months of either operating revenues or operating expenditures. The Best Practice goes on to say that "the government should also consider a variety of factors, including predictability and volatility of expenditures, exposure to significant one-time costs, whether the government is a general government or an enterprise fund, etc., and that the appropriate level may be significantly in excess of the two-month minimum." CAP's target for Operating Reserves of one year of "net expenditures" is approximately equal to 3.5 months of operating expenditures, well within the GFOA Best Practice.

The Capital Reserve target of $61 million is based on two times the moving average of annual capital expenditures. The annual expenditure variable is a reliable "yardstick" on which to base the calculation. The Capital Reserve's purpose is to have a source of funds to make unplanned repairs to infrastructure. Each year's capital expenditure currently represents about 1% of the cost of replacing the entire replaceable portion of the CAP system.

The “two times” factor arises for two reasons:

- The first reason is a theoretical risk management concept. The probability of a single unplanned event is “X” percent. There is also a lesser probability of a second unplanned event, and an even lesser probability for a third, etc. The “two times” factor is to approximate the combined probability of multiple unplanned events.
- The second reason for the “two times” factor is more pragmatic. If an unplanned event occurs, there needs to be money to make repairs and to fund ongoing planned capital needs if there is a business interruption. The funds that are used must be replaced, so additional funds need to be available to continue operations until replacement money (e.g., borrowing or revenue) is in place.

What is the current status of the Strategic Reserves?

Strategic Reserves ended 2018 at $197 million. In 2018, the energy rate was significantly lower than the preset rate. As a result, long-term contracts require reconciliation and settlement of delivery rate differences. Therefore, about $14 million of this balance will need to be refunded to customers in April 2019. Taking into consideration the refund, Strategic Reserves are in alignment with the Strategic Reserves target.

Individual Reserve Accounts	Target ($M)	(12/31/18) Balance ($M)
Operating Reserve	$75	$75
Capital Reserve (combined)	61	
- Capital Reserve		41
- Major Repair and Replacement Reserve		20
Contingency Reserve	8	8
Working Capital Reserve	35	52
Overall Strategic Reserves Target	**$179**	**$196**

Why were the Strategic Reserves significantly below their targets in previous years?

Previously, Strategic Reserves were significantly below target. At the end of 2017, the cumulative balance of the Strategic Reserves accounts was $118 million—$61 million below the current target.

Just as the Lower Colorado River operates under a structural deficit—using more water each year than it receives—CAP was also under its own financial structural deficit.

Most CAP revenues accrue to the Working Capital Reserve, which is then used to cover ongoing costs including fixed OM&R and CAP’s annual repayment to the United States. When revenues to the Working Capital Reserve exceed ongoing expenses, the surplus can be used to replenish or build other Strategic Reserves accounts. But when revenues are insufficient to cover costs—as had been the case for the past few years—then CAP must draw from its other Strategic Reserves accounts.

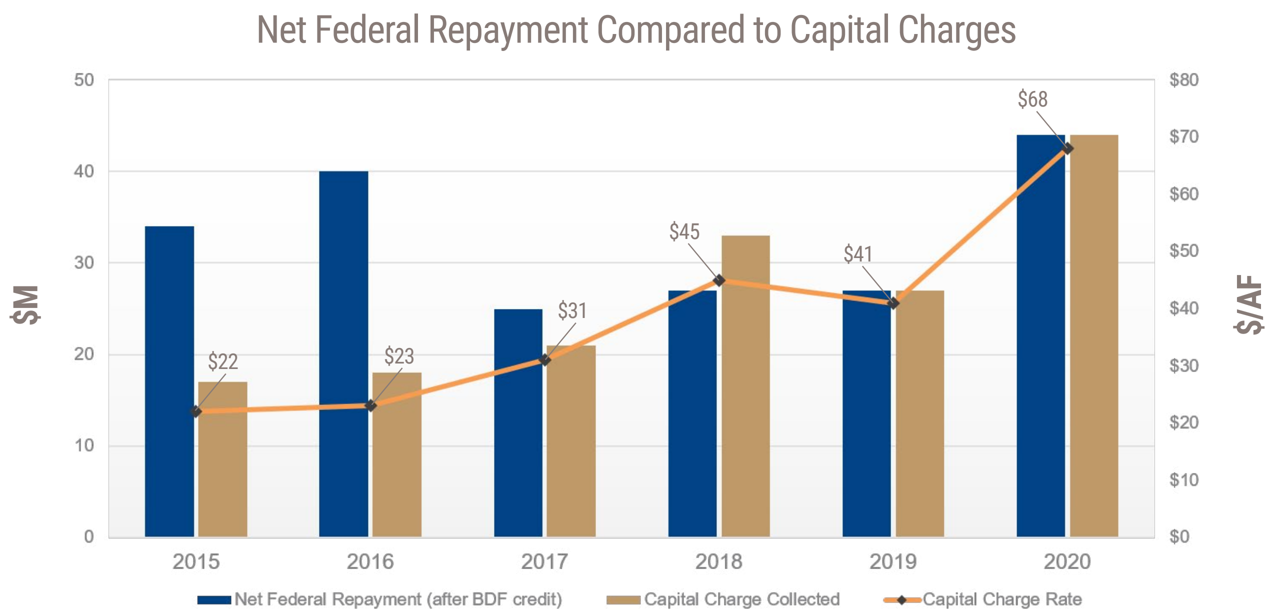
AG SETTLEMENT PROGRAM DEFICIT

Property tax revenues are used to cover the Ag Fixed OM&R costs and any reductions to Ag energy cost due to Ag incentive programs. CAP's Strategic Reserves had been depleted in prior years because the cost of the CAP Ag Settlement Program had exceeded the 6 cents of ad valorem tax revenue dedicated for that purpose. Lower property tax revenues related to Proposition 117 and higher Ag-related Fixed OM&R and energy costs mostly related to higher Ag delivery volumes were significant factors.

In 2017, the Ag Settlement Pool decreased from 400,000 acre-feet to 300,000 acre-feet, and the Ag Forbearance programs further decreasing Ag delivery volumes; these resulted in reducing CAP's overall cost of the Ag programs.

REPAYMENT DEFICIT

The most significant impact on Strategic Reserves, from the structural deficit, was related to CAP's annual federal repayment. Revenues from the three sources available for repayment—Basin Development Fund revenues (primarily from Navajo Surplus sales), M&I capital charges and ad valorem taxes—were insufficient to cover CAP's annual repayment to the United States, so Strategic Reserves were being mined to make up the difference. For 2015 and 2016, the deficits were $17 million and $23 million respectfully.



In March 2018, the Board approved the transfer of $44.7 million from the 4 cent (Water Storage) tax reserves to Strategic Reserves associated with funding past payments on CAP's federal debt.

In 2017, capital charges were adjusted up to cover a larger portion of the federal repayment. For 2018 and beyond, capital charges are set at a higher level, which fully covers the estimated cash payment on the federal debt—thus eliminating the structural deficit related to CAP's annual federal debt payments.

Because 1) capital charges should now fully cover the cash payment on federal debt, 2) lower energy costs due to NGS closure causes Ag incentives on energy to be zero for 2019 forward, and 3) Ag consideration (coverage of Ag fixed OM&R) now only requires about 5 cents of ad valorem tax, the Strategic Reserves are projected to exceed the target at the current tax rate. Annually, starting in June of 2019, the Board will make decisions on property tax levels, while taking into consideration capital charge rates, special programs that may require the use of some property tax revenues and any revisions to the strategic reserves target.

In addition, in mid-2016, the Property Tax Revenue contribution to Strategic Reserves transitioned from 6 cents to 7.5 cents to assist in the Strategic Reserves recovery.