



Central Arizona Water Conservation District

MEMO

DATE: October 7, 1993
TO: Board of Directors
FROM: Tom Clark
SUBJECT: Proposed Program for Repayment Adjustment

A month ago staff provided a preliminary proposal regarding initiation of altered arrangements for the repayment of CAWCD's CAP debt and establishment of water rates, to assist in payment of operation and maintenance costs. Ten days ago we offered a revised version of the initial proposal, and with this memorandum offer a third version reflecting further evolution of the original proposal. This version reflects our consideration of the comments offered at the public meetings of the Board and is presented with the recommendation that the Board of Directors adopt this proposal as the foundation of the CAWCD repayment program and the basis for establishing O&M charges.

The program contains two major elements: 1) it protects the interest-free designation of a major portion of the CAP costs allocated to water supply by encouraging agricultural use of CAP water by making such water available to agricultural users at prices which are less than cost, and 2) it minimizes rate shock and uncertainty for M&I users by establishing a forward pricing policy predicated on utilizing interest savings and CAWCD reserves toward these ends.

The above elements are the same as those presented to you in the previous two proposals. As in the last proposal, the plan does not utilize additional taxing authority, it avoids direct assumption of irrigation district debt by CAWCD, and it is consistent with Board indications about the levels of reserves deemed desirable. Implicit in this proposal as with the previous proposals is the necessity to maintain the pricing program as it would initially be structured.

Primary differences are in the forward pricing schedules and in the priorities in the agricultural program. The supported prices in the agricultural water are somewhat higher, and the M&I prices have been altered to provide additional short-term control on rate shock. Additionally, priorities have been rearranged so that within the group of agricultural users who are not taking water under the terms of now existing subcontracts, the lower-priced water will have a second priority rather than a first priority.

RECOMMENDATIONS

Staff recommends that the CAWCD Board of Directors formally adopt the following outline as the conceptual basis for restructuring the CAP repayment process.

1. Each agricultural subcontractor would be given the opportunity to terminate or amend its CAP subcontract to reduce its percentage entitlement to CAP agricultural water. The reduced entitlement would apply to both annual agricultural deliveries and conversions to M&I use. No other variances would be offered. A cutoff date of December 15, 1993, would be established for subcontractors to request a change in their contract provisions or status.
2. The Arizona Department of Water Resources would be asked to finalize prior to December 1, 1993, recommendations for reallocation or utilization of all CAP water for which no contract or subcontract has been signed.
3. The Secretary of the Interior would be asked to finalize CAP allocations including identification of the amount of CAP water which the United States wishes to reserve. The Secretary will be expected to commit to participating in all costs of using or reserving that amount of CAP water. If the Secretary elects not to expedite final allocation, CAWCD will assume than any water which is not under contract has been reserved by the Secretary in accordance with his previous declarations. CAWCD will expect the CAP cost allocation to reflect capital cost assignments to appropriate non-reimbursable functions associated with the Secretary's declarations and will establish OM&R charges on the basis of the Secretary retaining effective control of the water. CAWCD will, in effect, proceed under the provisions of the master repayment contract.
4. All entitlement to CAP agricultural water supplies retained by CAP subcontractors or the Secretary of the Interior will be subject to a take-or-pay obligation for fixed OM&R costs.
5. CAWCD will create and maintain a new sales process, or market, for CAP agricultural water. Pricing in this market will be controlled in a manner to produce the water use, revenue streams and cost savings required by the plan. A major assumption is that CAWCD currently has the authority and the contractual right to take control of and manage an agricultural pool as suggested. The validity of that assumption will be proved or disproved early in the process should the proposal be adopted.

Designations and Conditions. The overall agricultural pool

will be divided into two major categories:

Category A. This will be agricultural water delivered pursuant to existing contracts or subcontracts which have been modified only in respect to the percentage entitlement of the subcontractor. Subcontractors will be required to pay fixed OM&R charges on all water available for delivery under their subcontracts based on a deliverable water supply of 1,425,000 acre-feet minus, in each year, any shortages declared by the Secretary of the Interior and the amount of M&I and Indian water scheduled for delivery.

Category B. This will be agricultural water sold and delivered without benefit of a long-term agricultural water service subcontract. This category will consist of three pools.

Pool 1. Pool 1 will consist of 200,000 acre-feet with a lesser priority than Category A water. It will be available through calendar year 1999 at established prices reflected in Table I (\$27 to \$32 per acre-foot). The schedule of prices shown in Table I for the years 2000 through 2011 are estimates only. The CAWCD Board of Directors will review forward prices annually and set a firm schedule for the succeeding five years. Scheduled prices will not be guaranteed but will reflect the considered goals and the intent of the Board. The information available about the CAP water supply suggests that Pool 1 water will be available for most of the repayment period in the full amount designated for the pool. Any entity which executed a CAP subcontract and returned that executed contract to the United States prior to October 1, 1993, and which is otherwise eligible to receive agricultural water service will be eligible to purchase Pool 1 water. In case of oversubscription, entities will be prorated a portion of the 200,000 acre-feet based on eligible acres associated with original CAP subcontracts.

Pool 2. Pool 2 will consist of 200,000 acre-feet with a lesser priority than Pool 1. It will be available through year 1999 at established prices reflected in Table 1 (\$17 to \$22 per acre-foot). The CAWCD Board of Directors will review forward pricing annually and set a firm schedule for the succeeding five years. Scheduled prices and water amounts will not be guaranteed but will reflect the considered goals and the intent of the Board. The information available about the CAP water supply suggests that the availability of Pool 2 water will diminish significantly with time. This condition and the intent to curtail the life of this emergency program are reflected in the termination of the pool at the end of

the year 2003. Participation in this pool will be limited to those CAP subcontractors who relinquish all or a part of their validated water service subcontracts between October 7, 1993, and January 1, 1994. In case of oversubscription, entities will be prorated a portion of the 200,000 acre-feet based on eligible acres associated with the original CAP subcontracts. Any portion of the pool which is not sold to those eligible to purchase Pool 2 water in any year shall be made available first to Pool 1 until exhausted and then to Pool 3.

Pool 3. Pool 3 will consist of any agricultural water remaining after sales from Pools 1 and 2. It will be available at the project water supply permits through the year 2010 unless the Board of Directors determines that this agricultural incentive program is no longer beneficial to the District. Pool 3 water will be priced no less than pumping energy costs plus a capital charge to be determined each year. Entities otherwise eligible to receive CAP water service (without reference to a validated CAP water service subcontract) will be eligible to buy pool 3 water.

6. In order to facilitate M&I water supply planning, the combined water rate charged the M&I subcontractors will be established by the CAWCD Board of Directors through the year 1999. The CAWCD Board of Directors will review forward prices annually and set a schedule for the succeeding five years. To the extent that annual charges did not cover annual payments required, the shortfall would be made up from CAWCD reserve funds.

7. All water not covered by contract, subcontract, or reservation by the United States will accrue to CAWCD to sell through a market facilitated by CAWCD, to utilize in meeting its groundwater replenishment district responsibilities, or to otherwise sell or manage in consultation with ADWR.

8. Spot market sales to Arizona users other than non-Indian agricultural users will be on the same cost basis as CAWCD will identify for use in pricing CAP water used for replenishment district purposes. Specific prices for individual users could vary as determined on a case-by-case basis by the Board of Directors.

9. CAWCD will not directly assume or be a principal in the restructuring of the private or public debt of the subcontractors.

USE OF AG WATER IN POOLS ESTABLISHED UNDER CAWCD'S PROGRAM FOR REPAYMENT ADJUSTMENT

**(Adopted by the Board of Directors at its
October 7, 1993 meeting)**

The percent of participation by each agricultural irrigation district in pools 1 and 2 is arrived at by identifying the original CAP eligible acres for each district as declared by the Bureau of Reclamation, minus the amount that would have been delivered to eligible acres in the district's service area that have been converted to M&I use or have otherwise been removed from irrigation as determined by the Bureau. Each district's eligible acres is then divided by the sum of all districts' acres participating in each pool, and it is that percentage when multiplied by the amount of water in each pool (200,000 acre-feet) that gives the maximum amount of water that is available to each district from each pool (see Table 1).

Each district that relinquishes all or a part of its original entitlement between October 7, 1993 and January 1, 1994, may participate in pool 2, and each district that executed a CAP subcontract prior to October 1, 1993, may participate in pool 1 up to its full percentage per each pool as identified in Table 1.

There are 10 districts that qualify for participation in pool 1 and seven districts that qualify for participation in pool 2. It is expected that those districts which may draw from both pool 1 and pool 2 will draw first from pool 2. If a district in pool 2 does not take its full supply, then any remaining amount will be made available to the remaining districts in pool 2 based on the percentage of their eligible acres to the sum of the remaining districts' acres.

If a district in pool 1 does not take all of its percentage allocated to it, then that amount will be made available to the remaining districts in pool 1 based on the percentage of their eligible acres to the sum of the remaining districts' acres. If all water of pool 2 is not allocated to pool 2 participants, it will be made available to pool 1 participants at pool 1 prices.

If, after all requests are met for pool 1 participants, water is still available under pool 1, then that water will be made available to agricultural nonsubcontractors at a price to be set by the Board in that calendar year. If the commitment is to sell 400,000 acre-feet of ag water and if the participants in pools 1 and 2 took only 350,000 acre-feet of water in any year, the Board may want to consider selling the remaining 50,000 acre-feet at pool 1 prices or, if demand would be sufficient, to sell the 50,000 acre-feet at pool 3 prices.

TABLE I
Analysis of Alternative Proposed Programs for CAP Repayment Adjustments
3-Tier Ag Pricing
Alternative 9 - No Tax Increase • Ag Prices: \$27, \$17, \$41 • M&I Capital Increase by \$9/AF/Year to Maximum of \$54 • Interest Savings
from Ag Participation Reduces M&I and Indian OM&R Charges • Annual Ag Price Increases by \$1/Year Through 2011
and 2%/year Thereafter.

Year	Constant Assumptions					Zero Ag Deliveries			Assumed Proposal Results										
	M&I Deliveries (KAF)	Indian Deliveries (KAF)	Total Fixed OM&R (\$1000)	Take-or-Pay Charge on Subcontracted but Unused Ag Water (\$/AF)	M&I Capital Charge (\$/Alloc AF)	Ad Valorem Tax Rate (¢/\$100)	January Fund Balance (\$1000)	M&I Delivery Price (Energy + OM&R) (\$/af)	Indian Delivery Price (Energy + OM&R) (\$/af)	Pool 1 Non-Indian Ag Deliveries (KAF)	Pool 1 Non-Indian Ag Price (\$/af)	Pool 2 Non-Indian Ag Deliveries (KAF)	Pool 2 Non-Indian Ag Price (\$/af)	Pool 3 Non-Indian Ag Deliveries (KAF)	Pool 3 Non-Indian Ag Price (\$/af)	Interest Savings from Ag Use Applied to OM&R (\$1000)	January Fund Balance (\$1000)	M&I Delivery Price (Energy + OM&R) (\$/af)	Indian Delivery Price (Energy + OM&R) (\$/af)
1994	275	75	31,100	\$22	\$10.50	10	163,000	\$60	\$89	200	\$27	200	\$17	50	\$41	(6,400)	163,000	\$60	\$66
1995	289	75	33,696	\$24	\$21.00	10	191,203	\$61	\$122	200	\$28	200	\$18	0	--	7,961	182,820	\$61	\$77
1996	307	75	36,295	\$26	\$30.00	10	181,666	\$65	\$124	200	\$29	200	\$19	0	--	4,628	177,482	\$63	\$80
1997	315	75	38,197	\$27	\$39.00	10	173,251	\$69	\$128	200	\$30	200	\$20	0	--	5,693	169,538	\$67	\$82
1998	319	75	39,402	\$28	\$48.00	10	160,501	\$74	\$131	200	\$31	200	\$21	0	--	8,735	158,215	\$71	\$85
1999	277	75	40,510	\$29	\$48.00	10	140,210	\$86	\$145	200	\$32	200	\$22	0	--	8,797	142,246	\$82	\$89
2000	296	75	41,921	\$30	\$54.00	10	121,412	\$93	\$145	200	\$33	200	\$23	0	--	8,852	127,174	\$87	\$91
2001	316	75	43,336	\$31	\$54.00	10	107,671	\$106	\$143	200	\$34	200	\$24	0	--	8,901	116,921	\$91	\$91
2002	337	75	44,754	\$32	\$54.00	10	97,794	\$120	\$142	200	\$35	200	\$25	0	--	8,944	107,895	\$93	\$93
2003	357	75	46,175	\$33	\$54.00	10	92,653	\$130	\$142	200	\$36	200	\$26	0	--	8,979	99,449	\$94	\$94
2004	378	75	47,801	\$34	\$54.00	10	91,831	\$130	\$142	200	\$37	0	--	0	--	12,385	91,340	\$104	\$112
2005	346	141	49,330	\$35	\$54.00	10	90,220	\$129	\$139	200	\$38	0	--	0	--	12,383	90,026	\$104	\$112
2006	366	154	50,862	\$36	\$54.00	10	90,618	\$127	\$137	200	\$39	0	--	0	--	12,391	90,352	\$103	\$112
2007	387	167	52,399	\$37	\$54.00	10	92,146	\$125	\$135	200	\$40	0	--	0	--	12,395	91,611	\$103	\$112
2008	398	181	54,040	\$38	\$54.00	10	94,660	\$124	\$135	200	\$41	0	--	0	--	12,395	94,136	\$103	\$113
2009	411	194	55,585	\$39	\$54.00	10	94,168	\$123	\$134	200	\$42	0	--	0	--	12,392	93,666	\$103	\$113
2010	424	207	57,335	\$41	\$54.00	10	94,435	\$122	\$134	200	\$43	0	--	0	--	12,384	94,004	\$103	\$114
2011	438	221	59,289	\$42	\$54.00	10	95,356	\$121	\$135	200	\$44	0	--	0	--	12,373	95,096	\$103	\$115

Assumptions:

- Capital charge to M&I is \$9/AF from Jan-Jun 1994; \$12/AF from Jul-Dec 1994.
- 11% of non-Indian ag allocations is reserved but unused (fixed OM&R is paid under take-or-pay provisions for this unused water).
- 21 percent of the total reimbursable project cost is allocated to power.
- CAWCD fund balance must stay above \$90 million.
- Increase in total M&I price per acre-foot (OM&R + Capital) not to exceed 20% of previous year's price.



TABLE II
CAWCD Repayment Obligation and Savings
With 3-Tier Ag Pricing

Year	CAWCD Repayment Obligation with No Ag (\$1000)	Potential Proposal Results					
		Ag Deliveries (KAF)	CAWCD Repayment Obligation (\$1000)	Repayment Savings Over Zero Ag (\$1000)	Cost to Deliver to Ag at Lower Price (\$1000)	Cost to Meet Contract Obligations to Indians (\$1000)	Remaining Repayment Savings (\$1000)
1994	0	450	900	(900)	5,500	1,725	(8,125)
1995	46,133	400	32,684	13,449	5,488	3,375	4,586
1996	54,288	400	44,279	10,009	5,382	3,300	1,328
1997	63,779	400	52,805	10,974	5,281	3,450	2,243
1998	76,893	400	62,970	13,922	5,187	3,450	5,285
1999	76,291	400	62,395	13,896	5,099	4,200	4,597
2000	75,690	400	61,821	13,869	5,017	4,050	4,802
2001	78,868	400	65,026	13,842	4,941	3,900	5,001
2002	78,266	400	64,451	13,815	4,872	3,675	5,269
2003	77,539	400	63,750	13,789	4,809	3,600	5,379
2004	78,431	200	64,669	13,762	1,377	2,250	10,135
2005	77,703	200	63,968	13,735	1,352	3,797	8,586
2006	76,921	200	63,199	13,722	1,331	3,849	8,542
2007	76,139	200	62,430	13,709	1,314	3,847	8,547
2008	79,137	200	65,442	13,695	1,300	3,973	8,422
2009	78,355	200	64,673	13,682	1,290	4,072	8,319
2010	77,446	200	63,778	13,668	1,284	4,145	8,239
2011	78,158	200	64,503	13,655	1,282	4,411	7,962
2046	15,555	200	14,980	575	575	7,601	(7,601)
NPV - 1994-2011	686,633		560,629	126,004	42,011	36,878	47,115
NPV - 1994-2046	1,023,560		838,476	185,083	49,459	61,132	74,492

Assumptions:

- 200 KAF/Yr will be delivered to ag from year 2012 through the end of the repayment period under this alternative.
- Total reimbursable project cost is \$1.8 billion.
- 21 percent of the total reimbursable project cost is allocated to power.
- Net present value calculated with an interest rate of 6.35%.
- CAWCD will complete repayment of the project in 2046.
- Pool 1 water priced at \$27/AF, Pool 2 at \$17/AF, and Pool 3 at \$41/AF in 1994, escalated \$1/year through 2011 and 2%/year after 2011.



BOARD AGENDA BRIEF

Information Only

Date: November 21, 1996

Subject: Update and Review of Target Pricing Analysis and
CAWCD's Long Term Financial Position

From: John Newman, Assistant General Manager

Staff has updated the target pricing analysis which formed the basis for the program for repayment adjustments approved by the Board in October 1993. There are several changes in the overall assumptions that were made as follows:

1. The amount of power revenues anticipated to be derived from the sale of excess Navajo energy and capacity was underestimated. The original analysis included about \$19 million annually; whereas, the SRP contract provides for about \$22 million annually. In addition, these revenues accrued one year earlier than anticipated in 1993.
2. The levels of fixed OM&R costs are lower than were anticipated in 1993. Hiring levels have not been realized and the District's budgets are lower.
3. The maximum delivery volume for Indian water was increased from 447,000 to 466,000 acre-feet to reflect 19,000 acre-feet of non-Indian agricultural water which was acquired by the United States from the Harquahala Valley Irrigation District and converted to Indian priority for use in future water rights settlements.
4. CAWCD has delivered more water (both M&I and Ag) than was anticipated in 1993, and with the Arizona Water Banking Authority (AWBA) in operation, future projections of M&I deliveries are higher.
5. CAWCD has funded the replacement/repair of the Agua Fria and Centennial siphons.

Attached is a table that shows the 1993 analysis as compared to the 1996 analysis out to the year 2010. The projected reserve fund balance under the original analysis showed the District's reserves reaching the \$90 million level in about the year 2005. The current analysis shows the reserves continually growing through the end of the study period. The current analysis uses the same annual repayment obligation as in the original analysis and also assumes the same water delivery prices for M&I, agriculture and Indian water as was approved in the original study. The updated analysis also assumes that the AWBA deliveries will always bring total annual water deliveries to 1.415 MAF. The numbers shown for 1994, 1995, and 1996 under the updated analysis are actuals or projected actuals.

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Attachment



Original 1993 Analysis

Updated 1996 Analysis

Year	M&I (kaf)	Ag (kaf)	Fed (kaf)	Fixed OM&R (\$1000)	Siphon Costs (\$1000)	Reserve Balance (\$1000)	M&I (kaf)	AWBA (kaf)	Ag (kaf)	Fed (kaf)	Fixed OM&R (\$1000)	Siphon Costs (\$1000)	Reserve Balance (\$1000)
1994	275	400	75	31,100	0	163,000	216	0	513	80	26,907	0	160,895
1995	289	400	75	33,696	0	182,820	171	174	536	76	30,918	80	178,162
1996	307	400	75	36,295	0	177,482	175	269	578	75	31,846	21,800	194,774
1997	315	400	75	38,197	0	169,538	181	547	400	75	32,801	6,700	195,479
1998	319	400	75	39,402	0	158,215	248	692	400	75	33,785	0	178,146
1999	277	400	75	40,510	0	142,246	269	671	400	75	34,798	0	192,413
2000	296	400	75	41,921	0	127,174	291	649	400	75	35,842	0	211,079
2001	316	400	75	43,336	0	116,921	298	642	400	75	36,918	0	237,001
2002	337	400	75	44,754	0	107,895	306	634	400	75	38,025	0	266,520
2003	357	400	75	46,175	0	99,449	314	626	400	75	39,166	0	299,039
2004	378	200	75	47,801	0	91,340	322	818	200	75	40,341	0	334,539
2005	346	200	141	49,330	0	90,026	329	792	200	94	41,551	0	387,961
2006	366	200	154	50,862	0	90,352	348	755	200	112	42,798	0	
2007	387	200	167	52,399	0	91,611	366	718	200	131	44,082	0	
2008	398	200	181	54,040	0	94,136	384	681	200	150	45,404	0	
2009	411	200	194	55,585	0	93,666	403	644	200	168	46,766	0	
2010	424	200	207	57,335	0	94,004	421	607	200	187	48,169	0	
Average	341	300	117				297	364.1	340	98			