CALFED Facility Components

(Million of 1998 Dollars)

Facility Component	Base Construction Estimate	Contingency Cost	Construction Cost	Engineering Cost	Regulatory Cost	Subtotal Cost	Forgone Investment Adjustment	TOTAL CAPITAL COST	Annual Capital Cost	Annual O&M Cost	Annual Energy Cost	TOTAL ANNUAL COST
A	B	C	D	E	F	G	H	I	J	K	L	M
		0.2 x B	B + C	0.35 x D	0.2 x D	D + E + F		G + H	0.0634 x I	0.015 x D	0.005 x D	J + K + L
SURFACE STORAGE												
Sacramento River Tributary Storage												
Auburn Reservoir (2,300 taf)	1,127.0	225.4	1,352.4	473.3	270.5	2,096.2	286.3	2,382.6	151.2	20.3	6.8	178.2
Colusa Reservoir (3,300 taf)	946.9	189.4	1,136.3	397.7	227.3	1,761.2	240.6	2,001.8	127.0	17.0	5.7	149.7
Fiddlers Reservoir (545 taf)	173.5	34.7	208.3	72.9	41.7	322.8	44.1	366.9	23.3	3.1	1.0	27.4
Folsom Reservoir Enlargement (366 taf)	312.0	62.4	374.4	131.0	74.9	580.3	79.3	659.5	41.8	5.6	1.9	49.3
Freemans Crossing (1,019 taf)	763.2	152.6	915.9	320.6	183.2	1,419.6	193.9	1,613.5	102.4	13.7	4.6	120.7
Freemans Crossing (225 taf)	293.2	58.6	351.8	123.1	70.4	545.4	74.5	619.9	39.3	5.3	1.8	46.4
Garden Bar Reservoir (260 taf)	134.1	26.8	160.9	56.3	32.2	249.3	34.1	283.4	18.0	2.4	0.8	21.2
Glenn Reservoir (2,694 taf)	1,212.9	242.6	1,455.4	509.4	291.1	2,255.9	308.2	2,564.1	162.7	21.8	7.3	191.8
Glenn Reservoir (5,014 taf)	1,631.0	326.2	1,957.1	685.0	391.4	3,033.6	414.4	3,448.0	218.8	29.4	9.8	257.9
Kosk Reservoir (796 taf)	465.5	93.1	558.7	195.5	111.7	865.9	118.3	984.2	62.4	8.4	2.8	73.6
Lake Berryessa Enlargement (13,300 taf)	1,076.5	215.3	1,291.8	452.1	258.4	2,002.3	273.5	2,275.8	144.4	19.4	6.5	170.2
Lake Berryessa Enlargement (6,000 taf)	1,671.3	334.3	2,005.6	702.0	401.1	3,108.7	424.6	3,533.3	224.2	30.1	10.0	264.3
Red Bank Project (359 taf)	137.0	27.4	164.4	57.5	32.9	254.8	34.8	289.6	18.4	2.5	0.8	21.7
Shasta Lake Enlargement (14,300 taf)	1,746.8	349.4	2,096.2	733.7	419.2	3,249.1	443.8	3,693.0	234.3	31.4	10.5	276.2
Shasta Lake Enlargement (6,750 taf)	3,031.9	606.4	3,638.3	1,273.4	727.7	5,639.3	770.3	6,409.6	406.7	54.6	18.2	479.4
Sites (1,200 taf)	319.8	64.0	383.7	134.3	76.7	594.8	81.2	676.0	42.9	5.8	1.9	50.6
Sites (1,900 taf)	460.0	92.0	552.0	193.2	110.4	855.7	116.9	972.6	61.7	8.3	2.8	72.7
Squaw Valley Reservoir (442 atf)	432.9	86.6	519.4	181.8	103.9	805.1	110.0	915.1	58.1	7.8	2.6	68.4
Thomes-Newville Reservoir (1,840 taf)	965.6	193.1	1,158.7	405.5	231.7	1,796.0	245.3	2,041.3	129.5	17.4	5.8	152.7
Thomes-Newville Reservoir (3,080 taf)	1,101.5	220.3	1,321.8	462.6	264.4	2,048.8	279.9	2,328.6	147.7	19.8	6.6	174.2
Waldo Reservoir (300 taf)	334.8	67.0	401.7	140.6	80.3	622.6	85.1	707.7	44.9	6.0	2.0	52.9
San Joaquin River Tributary Storage												
Cooperstown Reservoir (441 taf)	303.2	60.6	363.9	127.4	72.8	564.0	77.0	641.1	40.7	5.5	1.8	47.9
Cooperstown Reservoir (933 taf)	508.4	101.7	610.1	213.5	122.0	945.6	129.2	1,074.7	68.2	9.2	3.1	80.4
Millerton Lake Enlargement (720 taf)	763.9	152.8	916.7	320.9	183.3	1,420.9	194.1	1,615.0	102.5	13.8	4.6	120.8
Montgomery Reservoir (240 taf)	161.1	32.2	193.3	67.7	38.7	299.6	40.9	340.5	21.6	2.9	1.0	25.5
Nashville Reservoir (1,154 taf)	540.9	108.2	649.1	227.2	129.8	1,006.1	137.4	1,143.5	72.5	9.7	3.2	85.5
Off-Aqueduct Storage												
Garzas Reservoir (1,999 taf)	1,863.7	372.7	2,236.5	782.8	447.3	3,466.5	473.5	3,940.0	250.0	33.5	11.2	294.7
Ingram Reservoir (401 taf)	450.3	90.1	540.3	189.1	108.1	837.5	114.4	951.9	60.4	8.1	2.7	71.2
Ingram Reservoir (1,375 taf)	1,017.3	203.5	1,220.7	427.3	244.1	1,892.1	258.5	2,150.6	136.4	18.3	6.1	160.9
Kettleman Plain Reservoirm (338 taf)	244.0	48.8	292.8	102.5	58.6	453.9	62.0	515.9	32.7	4.4	1.5	38.6
Little Salado-Crow Reservoir (206 taf)	367.9	73.6	441.5	154.5	88.3	684.3	93.5	777.8	49.3	6.6	2.2	58.2
Los Banos Grandes (1,729 taf)	716.8	143.4	860.1	301.0	172.0	1,333.2	182.1	1,515.3	96.1	12.9	4.3	113.3
Los Banos Grandes (2,030 taf)	843.7	168.7	1,012.4	354.3	202.5	1,569.2	214.4	1,783.6	113.2	15.2	5.1	133.4
Los Vaqueros Enlargement (1,065)	1,161.2	232.2	1,393.4	487.7	278.7	2,159.8	295.0	2,454.8	155.7	20.9	7.0	183.6
Orestimba Reservoir (380 taf)	693.1	138.6	831.7	291.1	166.3	1,289.2	427.9	1,717.1	108.9	12.5	4.2	125.6
Orestimba Reservoir (1,140 taf)	1,684.2	336.8	2,021.0	707.3	404.2	3,132.5	176.1	3,308.7	209.9	30.3	10.1	250.3
Panoche Reservoir (3,100 taf)	2,527.0	505.4	3,032.4	1,061.3	606.5	4,700.2	642.0	5,342.2	338.9	45.5	15.2	399.6
Quinto Reservoir (378 taf)	444.0	88.8	532.8	186.5	106.6	825.9	112.8	938.7	59.6	8.0	2.7	70.2
Quinto Reservoir (434 taf)	615.6	123.1	738.7	258.6	147.7	1,145.0	156.4	1,301.4	82.6	11.1	3.7	97.3
San Luis Enlargement (390 taf)	509.4	101.9	611.3	213.9	122.3	947.4	129.4	1,076.9	68.3	9.2	3.1	80.5
Sunflower Reservoir (363 taf)	386.3	77.3	463.6	162.3	92.7	718.6	98.2	816.7	51.8	7.0	2.3	61.1
Sunflower Reservoir (600 taf)	459.1	91.8	550.9	192.8	110.2	853.8	116.6	970.5	61.6	8.3	2.8	72.6

TABLE E

D-011271

D-011271

CALFED Facility Components

(Million of 1998 Dollars)

Facility Component	Base Construction Estimate	Contingency Cost	Construction Cost	Engineering Cost	Regulatory Cost	Subtotal Cost	Forgone Investment Adjustment	TOTAL CAPITAL COST	Annual Capital Cost	Annual O&M Cost	Annual Energy Cost	TOTAL ANNUAL COST
A	B	C	D	E	F	G	H	I	J	K	L	M
		0.2 x B	B + C	0.35 x D	0.2 x D	D + E + F		G + H	0.0634 x I	0.015 x D	0.005 x D	J + K + L
MAJOR RESERVOIR CONVEYANCE												
(1a) Enlarge by widening existing T-C Canal from Funks Reservoir to Bird Creek (Reaches 6 through 8) plus extend new canal from Bird Creek to Winters Pumping Plant at Berryessa Intertie	231.2	46.2	277.4	97.1	55.5	429.9	12.9	442.8	28.1	4.2	1.4	33.6
(1b) Same as (1a), except enlarge by constructing new parallel canal	279.2	55.8	335.0	117.2	67.0	519.2	15.6	534.8	33.9	5.0	1.7	40.6
(2a1) Enlarge existing T-C Canal from Red Bluff Diversion to Funks Reservoir (Reaches 1 through 5) -- Fish Ladder Alternative	192.3	38.5	230.8	80.8	46.2	357.7	10.7	368.4	23.4	3.5	1.2	28.0
(2a2) Enlarge existing T-C Canal from Red Bluff Diversion to Funks Reservoir (Reaches 1 through 5) -- Screened Pump Alternative	244.7	48.9	293.7	102.8	58.7	455.2	13.7	468.8	29.7	4.4	1.5	35.6
(2b1) Same as (2a1), except enlarge by constructing new parallel canal (Reaches 1 through 5) -- Fish Ladder Alternative	273.4	54.7	328.1	114.8	65.6	508.5	15.3	523.8	33.2	4.9	1.6	39.8
(2b2) Same as (2a2), except enlarge by constructing new parallel canal (Reaches 1 through 5) -- Screened Pump Alternative	325.8	65.2	391.0	136.8	78.2	606.0	18.2	624.2	39.6	5.9	2.0	47.4
(2c) Enlarge existing T-C Canal structure from the intersection of the Chico Landing Canal to Funks Reservoir (Reaches 3 through 5)	72.9	14.6	87.5	30.6	17.5	135.7	4.1	139.7	8.9	1.3	0.4	10.6
(2d) Same as (2c), except enlarge by constructiong new parallel canal	119.1	23.8	142.9	50.0	28.6	221.5	6.6	228.1	14.5	2.1	0.7	17.3
(2e1) Enlarge existing T-C Canal structure from the Red Bluff Diversion to the Sour Grass Canal (Reaches 1 through 2) -- Fish Ladder Alternative	119.4	23.9	143.2	50.1	28.6	222.0	6.7	228.7	14.5	2.1	0.7	17.4
(2e2) Enlarge existing T-C Canal structure from the Red Bluff Diversion to the Sour Grass Canal (Reaches 1 through 2) -- Screened Pump Alternative	171.8	34.4	206.1	72.1	41.2	319.5	9.6	329.1	20.9	3.1	1.0	25.0
(2f1) Same as (2e1), except enlarge by constructing new parallel canal -- Fish Ladder Alternative	154.3	30.9	185.2	64.8	37.0	287.0	8.6	295.6	18.8	2.8	0.9	22.5
(2f2) Same as (2e2), except enlarge by constructing new parallel canal -- Screned Pump Alternative	206.7	41.3	248.1	86.8	49.6	384.5	11.5	396.1	25.1	3.7	1.2	30.1
Lake Berryessa Intertie (3)	413.6	82.7	496.3	173.7	99.3	769.2	23.1	792.3	50.3	7.4	2.5	60.2
Chico Landing Intertie (4)	261.0	52.2	313.2	109.6	62.6	485.5	14.6	500.1	31.7	4.7	1.6	38.0
Mid-Valley Canal	575.7	115.1	690.9	241.8	138.2	1,070.8	32.1	1,102.9	70.0	10.4	3.5	83.8
DELTA CONVEYANCE												
CVP-SWP Improvements												
No Intake; New Fish Screens @ Tracy; and Tracy/CCFB Interite	73.9	14.8	88.6	31.0	17.7	137.4	18.8	156.1	9.9	1.3	0.4	11.7
5,000 cfs Pump Station @ CCFB; New Fish Screens @ Tracy; and Tracy/CCFB Interite	239.3	47.9	287.2	100.5	57.4	445.1	60.8	506.0	32.1	4.3	1.4	37.8
New Fish Screen @ Skinner; New Fish Screen @ Tracy; and Tracy/CCFB Interite	180.3	36.1	216.3	75.7	43.3	335.3	45.8	381.1	24.2	3.2	1.1	28.5
15,000 cfs Pump Station @ CCFB; New Fish Screens @ Tracy; and Tracy/CCFB Interite	408.0	81.6	489.5	171.3	97.9	758.8	103.7	862.4	54.7	7.3	2.4	64.5
North Delta Improvements												
10,000 cfs Hood Diversion; Flooded McCormick Williamson; Setback Levees @New Hope, Staten/Tyler, and Boulden	454.9	91.0	545.9	191.1	109.2	846.2	115.6	961.8	61.0	8.2	2.7	71.9
Setback Levees @New Hope, Staten/Tyler, and Boulden	155.6	31.1	186.7	65.3	37.3	289.4	39.5	328.9	20.9	2.8	0.9	24.6
East Floodway; 10,000 cfs Hood Diversion; Flooded McCormick Williamson, Canal Ranch, Brack, and boulden; Setback Levees @New Hope, Terminous, and Staten	588.4	117.7	706.1	247.1	141.2	1,094.4	149.5	1,243.9	78.9	10.6	3.5	93.0
West Floodway; Wier Intake; Flooded McCormickson Williamson, Tyler, and Boulden Islands; East Delta Habitat on Canal Ranch and Brack	281.5	56.3	337.8	118.2	67.6	523.6	71.5	595.1	37.8	5.1	1.7	44.5

TABLE E

D-011272

D—011272

CALFED Facility Components

(Million of 1998 Dollars)

Facility Component	Base Construction Estimate	Contingency Cost	Construction Cost	Engineering Cost	Regulatory Cost	Subtotal Cost	Forgone Investment Adjustment	TOTAL CAPITAL COST	Annual Capital Cost	Annual O&M Cost	Annual Energy Cost	TOTAL ANNUAL COST
A	B	C	D	E	F	G	H	I	J	K	L	M
		0.2 x B	B + C	0.35 x D	0.2 x D	D + E + F		G + H	0.0634 x I	0.015 x D	0.005 x D	J + K + L
South Delta Improvements												
Dredging on Old River; one Operable Fish Barrier and three Flow Barriers	42.9	8.6	51.4	18.0	10.3	79.7	10.9	90.6	5.7	0.8	0.3	6.8
NO Dredging; one Operable Fish Barrier and three Flow Barriers	29.8	6.0	35.7	12.5	7.1	55.3	7.6	62.9	4.0	0.5	0.2	4.7
Setback Levees; one Operable Fish Barrier and South Delta habitat with setback levees from Franks Track to CCFB	146.8	29.4	176.1	61.7	35.2	273.0	37.3	310.3	19.7	2.6	0.9	23.2
One Operable Fish Barrier ONLY	9.2	1.8	11.0	3.9	2.2	17.1	2.3	19.4	1.2	0.2	0.1	1.5
Multiple Intakes												
Small version -- Three intakes; Northern (15,000 cfs), Western (15,000 cfs) and Eastern (5,000 cfs)	1,398.3	279.7	1,677.9	587.3	335.6	2,600.8	355.3	2,956.0	187.5	25.2	8.4	221.1
Extended version -- Four intakes; Northern (15,000 cfs), Western (15,000 cfs) and Eastern (5,000 cfs) - the Northern intake is extended to Hood with a new supplementary intake structure at Hood	2,025.7	405.1	2,430.9	850.8	486.2	3,767.8	514.7	4,282.5	271.7	36.5	12.2	320.3
Isolated Facility												
5,000 cfs Isolated open channel with a diversion at Hood	570.6	114.1	684.8	239.7	137.0	1,061.4	145.0	1,206.4	76.5	10.3	3.4	90.2
5,000 cfs Isolated pipeline with a diversion at Hood	2,057.4	411.5	2,468.9	864.1	493.8	3,826.8	522.7	4,349.6	276.0	37.0	12.3	325.3
10,000 cfs Isolated open channel with a diversion at Hood	749.8	150.0	899.7	314.9	179.9	1,394.5	190.5	1,585.0	100.6	13.5	4.5	118.6
15,000 cfs Isolated open channel with a diversion at Hood	799.3	159.9	959.2	335.7	191.8	1,486.8	203.1	1,689.9	107.2	14.4	4.8	126.4
5,000 cfs Deep Water Ship Channel and Western Tunnel	1,490.6	298.1	1,788.7	626.1	357.7	2,772.6	378.7	3,151.3	199.9	26.8	8.9	235.7
In Delta Storage												
Flooding of Victoria, Woodward, and Bacon Islands with siphons used to convey water through interior canals	558.6	111.7	670.4	234.6	134.1	1,039.1	141.9	1,181.0	74.9	10.1	3.4	88.3
Flooding of Victoria, Woodward, and Bacon Islands with interior canals cutoff to allow conveyance	526.0	105.2	631.2	220.9	126.2	978.4	133.6	1,112.0	70.6	9.5	3.2	83.2
Chain of Lakes -- Delta islands converted to water storage from Tyler Island to CCFB (with Siphons); Enlarged Delta Cross Channel	1,656.7	331.3	1,988.1	695.8	397.6	3,081.5	420.9	3,502.4	222.2	29.8	9.9	262.0
Chain of Lakes -- Delta islands converted to water storage from Tyler Island to CCFB (with Siphons and Pump); Enlarged Delta Cross Channel	1,660.4	332.1	1,992.5	697.4	398.5	3,088.4	421.9	3,510.3	222.7	29.9	10.0	262.6
Groundwater Storage												
North of Delta												
280 TAF Eastern Sutter Co. Project @$125/AF	36.2	7.2	43.4	15.2	8.7	67.2	2.0	69.3	4.4	0.7	0.2	5.3
250 TAF Sacramento Valley Projects	31.0	6.2	37.2	13.0	7.4	57.6	1.7	59.4	3.8	0.6	0.2	4.5
220 TAF Thomes Creek Fan Project @$128/AF	29.1	5.8	34.9	12.2	7.0	54.1	1.6	55.7	3.5	0.5	0.2	4.2
280 TAF Yuba Co. Project @$111/AF	32.1	6.4	38.5	13.5	7.7	59.7	1.8	61.5	3.9	0.6	0.2	4.7
South of Delta												
350 TAF Madera Ranch Project @$171/AF	61.8	12.4	74.2	26.0	14.8	115.0	3.4	118.4	7.5	1.1	0.4	9.0
500 TAF San Joaquin Valley Projects	74.9	15.0	89.9	31.5	18.0	139.3	4.2	143.5	9.1	1.3	0.4	10.9
740 TAF Folsom South Canal Area Project @$140/AF	107.0	21.4	128.4	44.9	25.7	199.1	6.0	205.0	13.0	1.9	0.6	15.6
930 TAF Kern River Fan Project @$134/AF	128.7	25.7	154.5	54.1	30.9	239.4	7.2	246.6	15.6	2.3	0.8	18.7

TABLE E

D-011273

D-011273