

A photograph of a worker in a black protective suit and a yellow hard hat, positioned on a red extension ladder. The worker is leaning against a large, grey concrete wall, possibly performing maintenance or inspection. The ladder is extended vertically, and the worker's hands are near the top. The background is a textured concrete surface with visible joints and some staining.

Hydro FY 2018 Proposed Budget

Contents

- Assumptions
- FY2018 Proposed Budget
- Trend, Routine O&M with Labor
- FY2018 Proposed Projects
 - Overview and Cost Breakdown
 - O&M Projects
 - General and Plant Projects
 - Maintenance Reserve / Capital Development Reserve Projects
 - Description and Justification of Each Proposed Project
- 10-Year Project Forecast
 - Schedule and Cost
 - Trend, Project Expenditures Including Capital Development Reserve Projects



Hydro FY2018 Proposed Budget

	FY 2016 Budget	FY 2016 Actual	Proposed FY 2017 Budget	Proposed FY 2018 Budget	Increase/ (Decrease)
Routine O&M Costs					
Fixed	\$1,533,035	\$1,190,666	\$1,350,035	\$1,397,000	\$46,965
Water for Power	275,000	411,862	542,000	430,000	(112,000)
Administration	203,700	140,745	196,100	188,600	(7,500)
Mandatory Costs	1,753,000	1,220,497	1,630,000	1,539,500	(90,500)
Transmission O & M	255,000	165,888	259,000	259,000	0
Routine O&M Costs w/o Labor	4,019,735	3,129,658	3,977,135	3,814,100	(163,035)
Labor	4,051,806	3,896,196	4,391,625	4,651,237	259,612
Total Routine O&M Costs	8,071,541	7,025,854	8,368,760	8,465,337	96,577
Other Costs					
CA ISO Charges (variable)	222,355	1,675,871	236,910	1,680,181	1,443,271
Debt Service	37,934,653	37,267,735	38,252,575	38,258,150	5,575
Other Costs	1,122,450	809,558	958,812	1,041,403	82,591
Generation Services Shared	351,252	203,526	305,833	320,241	14,408
Administrative & General	1,441,427	1,229,160	1,596,576	1,731,832	135,256
Total O&M Costs	49,143,678	48,211,704	49,719,466	51,497,144	1,777,678
Projects					
Operations & Maintenance	660,000	602,438	940,000	1,235,000	295,000
General & Plant	210,000	210,225	70,000	55,000	(15,000)
Capital Development Reserve	1,125,000	1,125,000	1,125,000	1,075,000	(50,000)
Total Projects Costs	1,995,000	1,937,663	2,135,000	2,365,000	230,000
Annual Budget Cost	51,138,678	50,149,367	51,854,466	53,862,144	2,007,678

-4.1% Decrease in Routine O&M

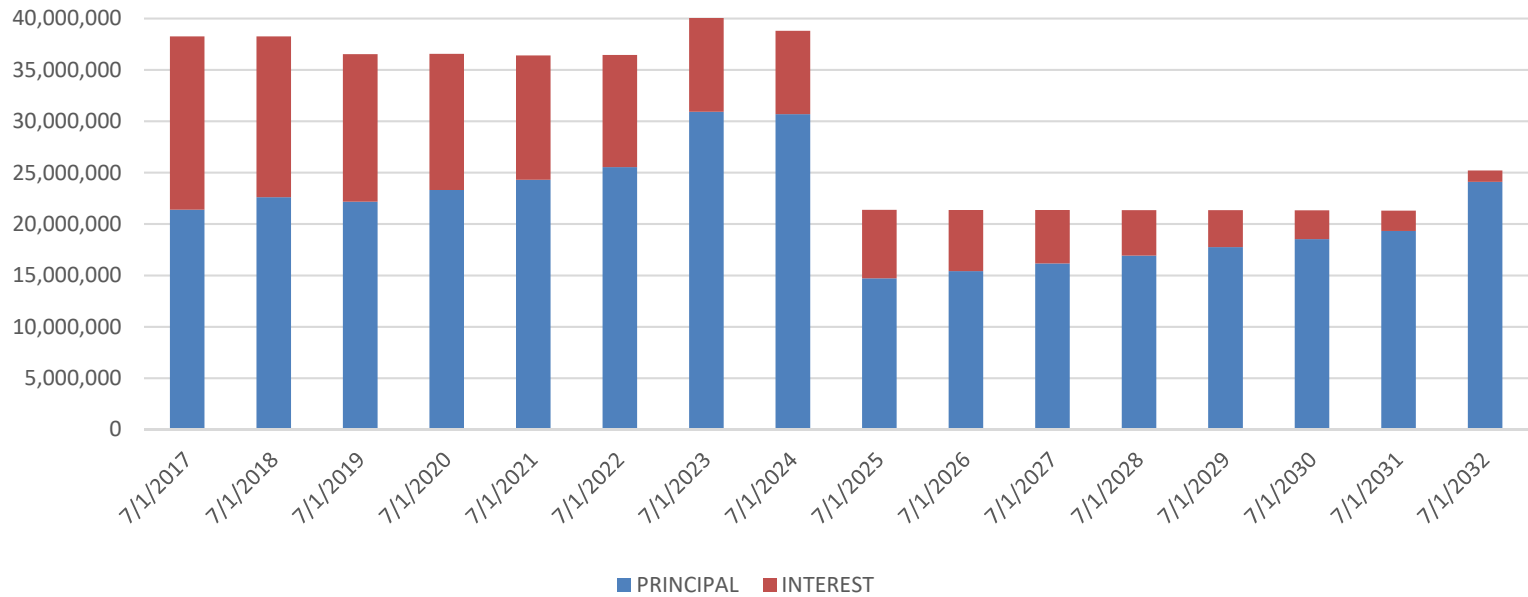
+1.15% Increase in Routine O&M + Labor

Adit 4



Hydro Debt

Debt Service Requirements 10 Year Forecast

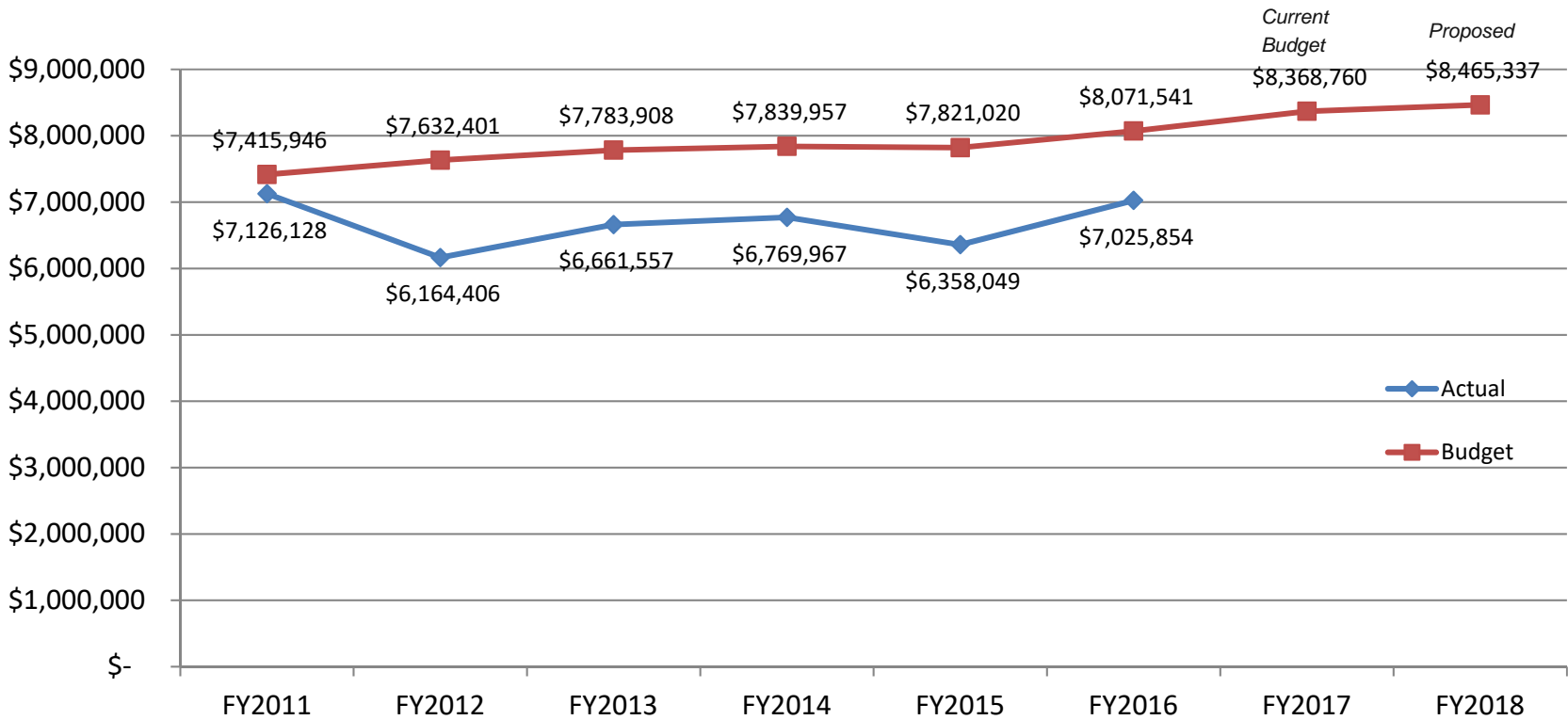


PERIOD ENDING	PRINCIPAL	INTEREST	TOTAL	PERIOD ENDING	PRINCIPAL	INTEREST	TOTAL
7/1/2017	21,385,000	16,867,575	38,252,575	7/1/2026	15,415,000	5,946,462	21,361,462
7/1/2018	22,610,000	15,648,150	38,258,150	7/1/2027	16,155,000	5,200,950	21,355,950
7/1/2019	22,165,000	14,358,085	36,523,085	7/1/2028	16,930,000	4,419,458	21,349,458
7/1/2020	23,305,000	13,257,162	36,562,162	7/1/2029	17,745,000	3,600,344	21,345,344
7/1/2021	24,300,000	12,106,263	36,406,263	7/1/2030	18,525,000	2,806,246	21,331,246
7/1/2022	25,540,000	10,907,137	36,447,137	7/1/2031	19,325,000	1,976,618	21,301,618
7/1/2023	30,925,000	9,646,752	40,571,752	7/1/2032	24,100,000	1,110,932	25,210,932
7/1/2024	30,685,000	8,118,812	38,803,812		343,825,000	132,628,881	476,453,881
7/1/2025	14,715,000	6,657,935	21,372,935				

Hydro Debt – Variable Component (2008 A&B)

Fiscal Year	Average Interest Rate	2008A&B Amount (Over)/Under Budget
2010	0.28%	\$571,943
2011	0.49%	\$374,201
2012	0.57%	\$188,588
2013	0.15%	\$547,110
2014	0.06%	\$587,820
2015	0.04%	\$671,021
2016	0.12%	\$666,918

Routine O&M With Labor



Routine O&M with Labor (Zero Based Budget Approach)

FY2016 Actual Routine O&M with Labor Cost	\$	7,025,854
+ Labor Increase	\$	751,638
+ “Average Water Year” Expenses	\$	276,792
+ Uplift for Average Year FERC Admin Fee	\$	244,259
+ Mandatory Regulatory Fee Increases	\$	139,554
+ Inflation & Cost Escalation (2 Years)	\$	125,186
	\$	<u>8,563,283</u>
FY2018 Routine O&M with Labor Budget	\$	8,465,337

Revenue Assumptions

- NCPA (Power Management) forward price forecast (HLH & LLH)

- Calaveras Generation Projection – Average Hydrology
(11/2016 update by Phil Mensonides)
 - 474 GWh HLH Collierville Generation
 - 22 GWh LLH Collierville Generation
 - 23 GWh New Spicer Meadow Generation

- Historical Ancillary Services Revenues



Hydro FY2018 - Budget Revenue Assumptions

	FY 2016 Budget	FY 2016 Actual	Proposed FY 2017 Budget	Proposed FY 2018 Budget	Increase/ (Decrease)
Annual Budget Cost	51,138,678	50,149,367	51,854,466	53,862,144	2,007,678
Less: Third Party Revenues					
ISO Energy Sales	19,870,570	13,424,089	19,542,204	22,049,878	2,507,674
Ancillary Services Sales	2,406,578	2,353,945	2,487,203	2,222,123	(265,080)
Interest Income	90,859	303,553	90,859	244,403	153,544
Other Revenues	0	23,067	0	0	0
	<u>22,368,007</u>	<u>16,104,654</u>	<u>22,120,266</u>	<u>24,516,404</u>	<u>2,396,138</u>
Net Annual Budget Cost to Participants	\$28,770,671	\$34,044,713	\$29,734,200	\$29,345,740	(\$388,460)

HYDRO - FY 2018 Proposed Projects

O&M Projects	Notes	\$ 3,700,000
Adit 4 Stabilization	M	3,650,000
CV Needle Actuator Rebuild	D	50,000
General & Plant Projects	Notes	\$ 55,000
Vehicle Replacement	D	55,000
Capital Development Reserve Projects	Notes	\$ 1,075,000
McKays Reservoir & Dam Betterment (Clean Out)	M, CR	750,000
CV Generator Rewind	M, CR	200,000
Beaver Creek Dredging	M, CR	125,000

FY 2018 – Adit 4 Stockpile Stabilization

Project	Notes	Total Cost to Complete	FY 2017 Current Budget	FY 2018	FY 2019	FY2020
Adit 4 Stabilization	M	4,150,000	500,000	3,650,000	0	0

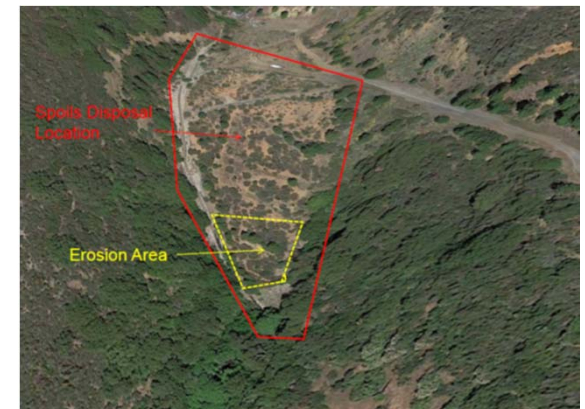
Notes:

- D Discretionary
- M Mandatory
- Annual deposit to the Capital
- CR Development Reserve

Financial Evaluation:

Mandatory

- Eroding Tunnel Spoils Stockpile (200,000+ cubic yards).
- 1 mile above Collierville.
- BLM land. Steep terrain. Drainage.



March 12, 2017

FY 2018 – Adit 4 Funding Options

1. Budget \$3,650,000 in FY 2018
2. Budget \$2,650,000 & “borrow” \$1,000,000 from Capital Development Reserve until settlement of Insurance Claim.
3. Budget \$1,185,000 & borrow \$2,465,000 from Capital Development Reserve, to be refunded by Insurance Claim and/or FY2019 Hydro Budget **(recommended)**.
4. Borrow \$3,650,000 from Capital Development Reserve (requires liquidating investments & giving up ~\$76,000 in interest payments), to be refunded by Insurance Claim and/or FY2019 Hydro Budget.

FY 2018 – CV Needle Valve Actuator Rebuild

Project	Notes	FY 2017	FY 2018	FY 2019	FY2020
		Current Budget			
CV Needle Actuator Rebuild	D	100,000	50,000	0	0

Notes:

- D Discretionary
- M Mandatory
- Annual deposit to the Capital
- CR Development Reserve

Financial Evaluation:

Useful Life (Years):	20
IRR:	12.3%
Payback (years):	9.8
NPV @ 5%:	\$ 614,586
Est. Annual Benefits:	\$ 79,192

- Project initiated in 2008 based on failure of similar plant in Alaska.
- Eleven (11) rebuilt to date. One (1) to go.
- Plan to rebuild two per year.



FY 2018 – Vehicle Replacement

Project	Notes	FY 2017	FY 2018	FY 2019	FY 2020
		Current Budget			
Vehicle Replacement	D	70,000	55,000	55,000	60,000

Notes:

- D Discretionary
- M Mandatory
- Annual deposit to the Capital
- CR Development Reserve

- Routine vehicle replacement for high mileage, high maintenance, or unsafe vehicles.
- Hydro Fleet: 18 trucks collectively logging 200,000+ miles annually.
- Vehicle to be replaced: 2008 Ford Utility Truck with 271,000 miles

FY 2018 – McKays Reservoir Clean Out Reserve

Project	Notes	Total Cost to Complete	FY 2017 Current Budget	FY 2018	FY 2019	FY 2020
McKays Reservoir Betterment	M, CR	\$20.5M+	750,000	750,000	750,000	750,000

Notes:

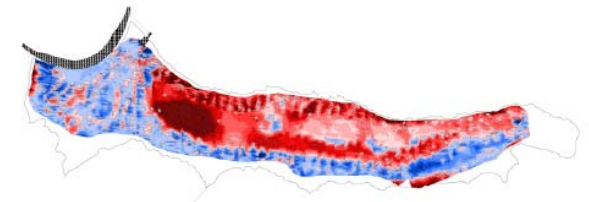
- D Discretionary
- M Mandatory
- Annual deposit to the Capital Development Reserve
- CR Development Reserve

Financial Evaluation:

Useful Life (Years):	20
IRR:	2.9%
Payback (years):	17.3
NPV @ 5%:	\$ (1,875,528)
Est. Annual Benefits:	\$ 223,998

- Ongoing collection for Capital Development Reserve
- Mandatory for Dam Safety & Operational Flexibility
- ~\$14.5 M will have been collected by end of FY 2017

March 12, 2017



FY 2018 – CV Generator Rewind Collection

Project	Notes	Total Cost to Complete	FY 2017 Current Budget	FY 2018	FY 2019	FY 2020
CV Generator Rewind	M, CR	6,000,000	250,000	200,000	200,000	200,000

Notes:

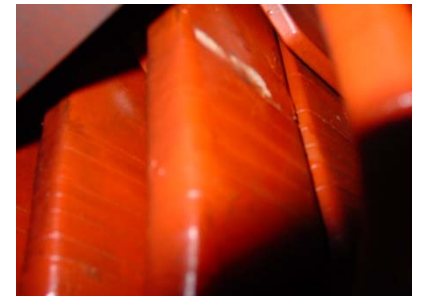
- D Discretionary
- M Mandatory
- Annual deposit to the Capital
- CR Development Reserve

Financial Evaluation:

Useful Life (Years):	20
IRR:	14.9%
Payback (years):	7.8
NPV @ 5%:	\$ 4,428,329
Est. Annual Benefits:	\$ 515,826

- CV2 rewind tentatively planned to coincide with outage for McKays sediment removal project
- ~\$5M will have been collected by end of FY 2017
- Total Cost ~ \$5M - \$6.5M
 - Materials ~ \$1.5M - \$1.75 M per unit
 - Labor ~ \$1M - \$1.5M per unit

March 12, 2017



FY 2018 – Beaver Creek Dredging

Project	Notes	Total Cost to Complete	FY 2017 Current Budget	FY 2018	FY 2019	FY 2020
Beaver Creek Dredging	M, CR	\$600,000	125,000	125,000	125,000	125,000

Notes:

- D Discretionary
- M Mandatory
- Annual deposit to the Capital
- CR Development Reserve

Financial Evaluation:

Useful Life (Years):	5
IRR:	182%
Payback (years):	1.4
NPV @ 5%:	\$ 962,585
Est. Annual Benefits:	\$ 218,250

- Recurring maintenance to remove sediment & debris
(1997, 2006, 2008)
- Removal of ~ 5,000 cubic yards of debris
- Annual generation of ~66,000 MWh

March 12, 2017



9/29/2008



HYDRO - FY 2018 Proposed Projects

O&M Projects	Notes	\$ 3,700,000
Adit 4 Stabilization	M	3,650,000
CV Needle Actuator Rebuild	D	50,000
General & Plant Projects	Notes	\$ 55,000
Vehicle Replacement	D	55,000
Capital Development Reserve Projects	Notes	\$ 1,075,000
McKays Reservoir & Dam Betterment (Clean Out)	M, CR	750,000
CV Unit 1 Generator Rewind	M, CR	200,000
Beaver Creek Dredging	M, CR	125,000



HYDRO – Project 10 year Forecast

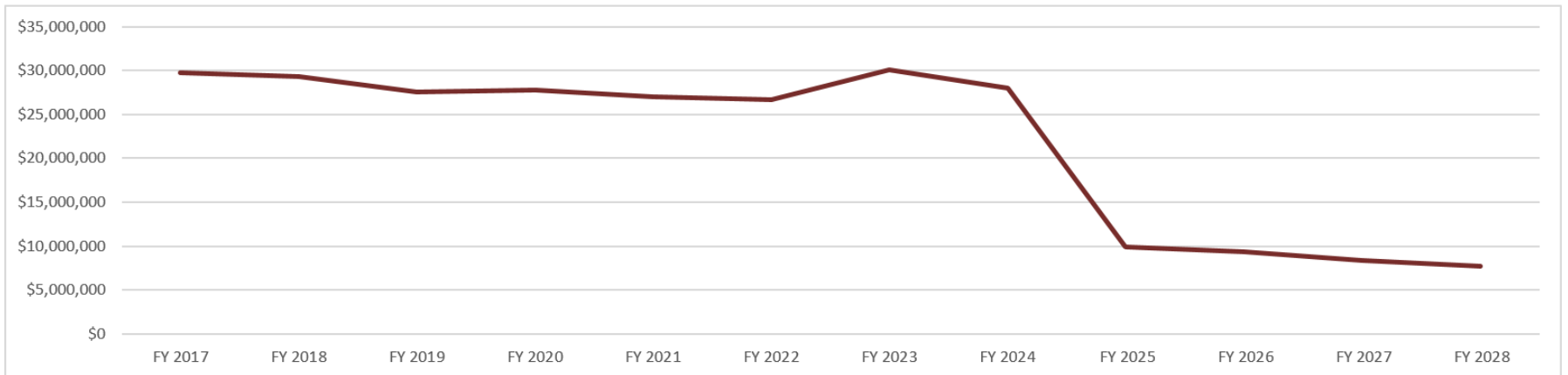
	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
O&M PROJECTS												
CV Needle Actuator Rebuild	100,000	50,000	-	-	-	-	-	-	-	-	-	-
Adit 4 Stabilization	500,000	1,185,000	-	-	-	-	-	-	-	-	-	-
11563 Part 12 Study	80,000	-	-	-	-	125,000	-	-	-	-	-	-
NFDD Tunnel Maintenance	200,000	-	-	-	-	-	-	-	-	-	-	-
Paint CV Crane & Bridge	-	-	-	-	-	-	-	-	-	250,000	-	-
CV Concrete Sealing	60,000	-	-	-	-	-	-	-	-	-	-	-
Paint MPDD Crane	-	-	100,000	-	-	-	-	-	-	200,000	-	-
Portable Generator	-	-	35,000	-	-	-	-	-	-	-	-	-
CV Tunnel Intake Transfer Trip	-	-	100,000	-	-	-	-	-	-	-	-	-
CV Units Generator Protection	-	-	35,000	-	-	-	-	-	-	-	-	-
CV Turbine Instrumentation Upgrade	-	-	50,000	-	-	-	-	-	-	-	-	-
CV Guide Bearing Conversion	-	-	-	250,000	250,000	-	-	-	-	-	-	-
2409 Part 12 Study	-	-	-	150,000	-	-	-	-	175,000	-	-	-
Union Slide Gate Replacement	-	-	-	350,000	-	-	-	-	-	-	-	-
Unidentified Projects	-	-	750,000	300,000	750,000	850,000	1,000,000	1,000,000	750,000	1,000,000	1,000,000	1,000,000
TOTAL O&M PROJECTS	940,000	1,235,000	1,070,000	1,050,000	1,000,000	975,000	1,000,000	1,000,000	925,000	1,450,000	1,000,000	1,000,000
CAPITAL PROJECTS												
Vehicle Replacement	70,000	55,000	55,000	60,000	60,000	60,000	60,000	70,000	70,000	70,000	70,000	70,000
Snow Cat	-	-	-	-	150,000	-	-	-	-	-	-	-
Spicer Snow Cat Building	-	-	-	200,000	-	-	-	-	-	-	-	-
Microwave Radio Replacement	-	-	-	500,000	-	-	-	-	-	-	-	-
Unidentified Projects	-	-	500,000	250,000	750,000	850,000	750,000	750,000	750,000	750,000	750,000	750,000
TOTAL CAPITAL PROJECTS	70,000	55,000	555,000	1,010,000	960,000	910,000	810,000	820,000	820,000	820,000	820,000	820,000
CAPITAL DEVELOPMENT RESERVE FUNDING												
McKay's Sediment Removal	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	-	-	-
CV Generator Rewind	250,000	200,000	200,000	200,000	200,000	200,000	-	-	-	-	-	-
Beaver Creek Dredging	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
FERC Relicensing	-	-	-	-	-	TBD	TBD	TBD	TBD	TBD	TBD	TBD
TOTAL RESERVE FUNDING	1,125,000	1,075,000	1,075,000	1,075,000	1,075,000	1,075,000	875,000	875,000	875,000	125,000	125,000	125,000
PROJECTED RESERVE DISBURSEMENTS	0	-149,700	-2,050,000	0	-3,000,000	-1,500,000	-15,300,000	-4,750,000	-516,667	-516,667	-575,000	0
PROJECTED RESERVE BALANCE	20,233,034	21,158,334	20,183,334	21,258,334	19,333,334	18,908,334	4,483,334	608,334	966,667	575,000	0	0
TOTAL PROJECT FUNDING	2,135,000	2,365,000	2,700,000	3,135,000	3,035,000	2,960,000	2,685,000	2,695,000	2,620,000	2,395,000	1,945,000	1,945,000

March 12, 2017



10-Year Net Cost to Members

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Routine O&M Costs	8,368,760	8,465,337	8,676,970	8,893,895	9,116,242	9,344,148	9,577,752	9,817,196	10,062,625	10,314,191	10,572,046	10,836,347
Other Costs (exc. Debt)	3,098,131	4,773,657	4,892,998	5,015,323	5,140,706	5,269,224	5,400,955	5,535,979	5,674,378	5,816,238	5,961,643	6,110,685
Debt	38,252,575	38,258,150	36,523,085	36,562,162	36,406,263	36,447,137	40,571,752	38,803,812	21,372,935	21,361,462	21,355,950	21,349,458
Projects	2,135,000	2,365,000	2,700,000	3,135,000	3,035,000	2,960,000	2,685,000	2,695,000	2,620,000	2,395,000	1,945,000	1,945,000
Revenues	22,120,266	24,516,404	25,285,636	25,867,560	26,652,604	27,387,276	28,144,737	28,877,297	29,843,508	30,522,718	31,397,904	32,546,385
Net Cost to Members	29,734,200	29,345,740	27,507,418	27,738,820	27,045,607	26,633,233	30,090,722	27,974,690	9,886,431	9,364,173	8,436,735	7,695,105





Hydro FY2018 Proposed Budget

	FY 2016 Budget	FY 2016 Actual	Proposed FY 2017 Budget	Proposed FY 2018 Budget	Increase/ (Decrease)
Routine O&M Costs					
Fixed	\$1,533,035	\$1,190,666	\$1,350,035	\$1,397,000	\$46,965
Water for Power	275,000	411,862	542,000	430,000	(112,000)
Administration	203,700	140,745	196,100	188,600	(7,500)
Mandatory Costs	1,753,000	1,220,497	1,630,000	1,539,500	(90,500)
Transmission O & M	255,000	165,888	259,000	259,000	0
Routine O&M Costs w/o Labor	4,019,735	3,129,658	3,977,135	3,814,100	(163,035)
Labor	4,051,806	3,896,196	4,391,625	4,651,237	259,612
Total Routine O&M Costs	8,071,541	7,025,854	8,368,760	8,465,337	96,577
Other Costs					
CA ISO Charges (variable)	222,355	1,675,871	236,910	1,680,181	1,443,271
Debt Service	37,934,653	37,267,735	38,252,575	38,258,150	5,575
Other Costs	1,122,450	809,558	958,812	1,041,403	82,591
Generation Services Shared	351,252	203,526	305,833	320,241	14,408
Administrative & General	1,441,427	1,229,160	1,596,576	1,731,832	135,256
Total O&M Costs	49,143,678	48,211,704	49,719,466	51,497,144	1,777,678
Projects					
Operations & Maintenance	660,000	602,438	940,000	1,235,000	295,000
General & Plant	210,000	210,225	70,000	55,000	(15,000)
Capital Development Reserve	1,125,000	1,125,000	1,125,000	1,075,000	(50,000)
Total Projects Costs	1,995,000	1,937,663	2,135,000	2,365,000	230,000
Annual Budget Cost	51,138,678	50,149,367	51,854,466	53,862,144	2,007,678

-4.1% Decrease in Routine O&M

+1.15% Increase in Routine O&M + Labor

Adit 4

A photograph of a worker in a black protective suit and a yellow hard hat, climbing a red extension ladder against a large, grey concrete wall. The worker is positioned on the left side of the frame, facing right. The concrete wall has a grid-like pattern of joints. The background is a solid olive green color.

Hydro FY 2018 Proposed Budget