



February 13, 2017



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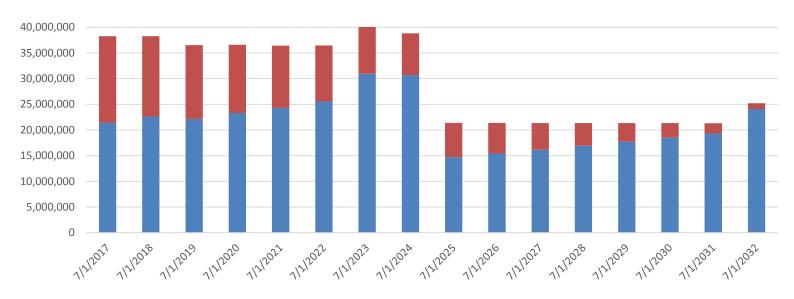
Hydro FY2018 Proposed Budget

_						
			Proposed	Proposed		
	FY 2016	FY 2016	FY 2017	FY 2018	Increase/	
	Budget	Actual	Budget	Budget	(Decrease)	
Routine O&M Costs						
Fixed	\$1,533,035	\$1,190,666	\$1,350,035	\$1,395,000	\$44,965	
Water for Power	275,000	411,862	542,000	430,000	(112,000)	
Administration	203,700	140,745	196,100	202,600	6,500	-1.9% Decre Routine C
Mandatory Costs	1,753,000	1,220,497	1,630,000	1,614,500	(15,500)	Roddine
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	3,901,100	(76,035)	
Labor	4,051,806	3,896,196	4,391,625	4,647,834	256,209	
Total Routine O&M Costs	8,071,541	7,025,854	8,368,760	8,548,934	180,174	+2.15% Incre Routine O
Other Costs						Labor
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	327,130	21,297	
Administrative & General	1,441,427	1,229,160	1,596,576	1,935,732	339,156	
Total O&M Costs	49,143,678	48,211,704	49,719,466	51,791,530	2,072,064	
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)	۸ -۱:۲
Capital Development Reserve	1,125,000	1,125,000	1,125,000	1,075,000	(50,000)	Adit
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	54,156,530	2,302,064	



Hydro Debt

Debt Service Requirements 10 Year Forecast



■ PRINCIPAL ■ INTEREST

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				4

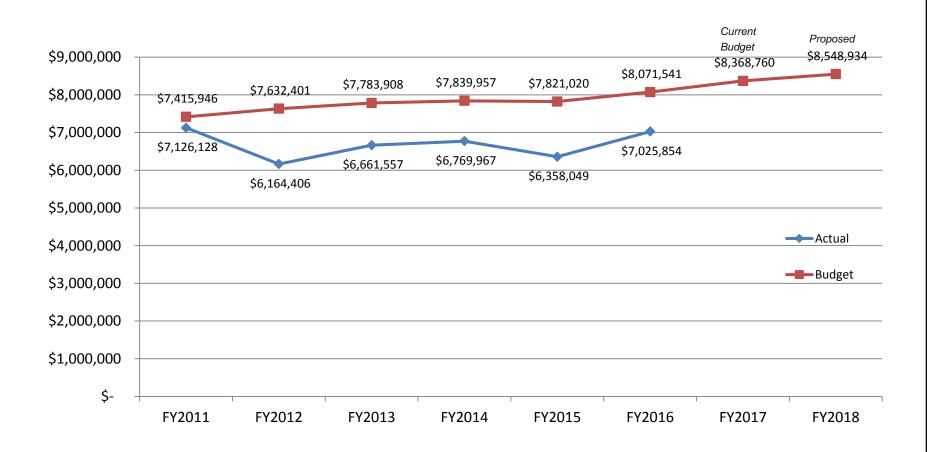


Hydro Debt – Variable Component (2008 A&B)

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
	\$ 8,563,283
FY2018 Routine O&M with Labor Budget	\$ 8,548,934



FERC Admin Fee



Notes:

- ~\$120K of FY2016 Admin Fee was paid from FY2015 encumbered funds
- Average Fee (last 7 years) = \$434K
- FY2018 Budget = \$450K



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

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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	54,156,530	2,302,064
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
	22,368,007	16,104,654	22,120,266	24,516,404	2,396,138
Net Annual Budget Cost to Participants	\$28,770,671	\$34,044,713	\$29,734,200	\$29,640,126	(\$94,074)



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

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Assumptions for Project Justification

- NCPA (Power Management) 20-Year price forecast (HLH & LLH)
- Average Year Hydro conditions
 - 424 GWh HLH Collierville Generation
 - 139 GWh LLH Collierville Generation
 - 21 GWh New Spicer Meadow Generation
- 5% Discount Rate



FY 2018 – Adit 4 Stockpile Stabilization

			Total Cost to	FY 2017 Current	FY 2018	FY 2019	FY2020
	Project	Notes	Complete	Budget			
Adit 4	l Stabilization	М	4,150,000	500,000	3,650,000	0	0
Notes	:						
D	Discretionary						
М	Mandatory Annual deposit to the Capital			Einanaid	al Evaluat	ioni	
CR	Annual deposit to the Capital Development Reserve			Financia	ai Evaluat	ion:	
				Mandato	ory		

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





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

			FY 2017 Current	FY 2018	FY 2019 F	Y2020
	Project	Notes	Budget			
Notes D	Discretionary	D	100,000 Financi	50,000 al Evaluat	0 ion:	0
M CR	Mandatory Annual deposit to the Capital Development Reserve		IRR: Payback NPV @	ife (Years): ((years): 5%: nual Benefits	20 12.3% 9.8 \$ 614,586 \$ 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

		FY 2017 FY 2018 FY 2019 FY 2020 Current	
Project	Notes	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

		Total Cost to	FY 2017 FY 2018 FY 2019 FY 2 Current	2020
Project	Notes	Complete	Budget	
McKays Reservoir Betterment Notes: D Discretionary	M, CR	\$20.5M+	750,000 750,000 750,000 750,000 Financial Evaluation:	00
M Mandatory Annual deposit to the Capital CR Development Reserve			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



FY 2018 – CV Generator Rewind Collection

		Total	FY 2017	FY 2018	FY 2019	FY 2020
		Cost to	Current			
Project	Notes	Complete	Budget			
CV Generator Rewind	M, CR	6,000,000	250,000	200,000	200,000	200,000
Notes: D Discretionary M Mandatory			Financ	ial Evalu	ation:	
M Mandatory Annual deposit to the Capital			Useful	Life (Years)): 20	
CR Development Reserve			IRR: 14.9%		%	
			Paybac	ck (years):	7.8	
			NPV @	5%:	\$ 4,428	3,329
			Est. An	nual Benef	its: \$ 51 <i>t</i>	5,826

- 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





FY 2018 – Beaver Creek Dredging

		Total	FY 2017	FY 2018	FY 2019	FY 2020
		Cost to	Current			
Project	Notes	Complete	Budget			
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



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



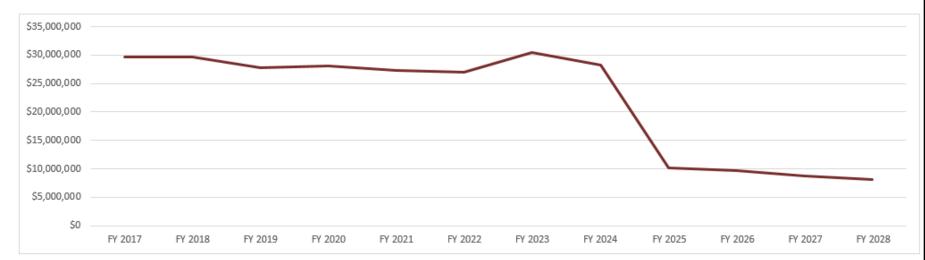
HYDRO – Project 10 year Forecast

D&M PROJECTS	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
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 TOTAL O&M PROJECTS	940,000	1,235,000	750,000 1,070,000	300,000 1,050,000	750,000 1,000,000	850,000 975,000	1,000,000 1,000,000	1,000,000 1,000,000	750,000 925,000	1,000,000 1,450,000	1,000,000 1,000,000	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	-	-	-	-	150000	-	-	-	-	-	-	-
Spicer Snow Cat Building		-	-	200,000	-	-	-	-	-	-	-	-
Microwave Radio Replacement	-	-	-	500,000	-	-	-	-	-	-	-	-
Unidentified Projects TOTAL CAPITAL PROJECTS	70,000	55,000	500,000 555,000	250,000 1,010,000	750,000 960,000	850,000 910,000	750,000 810,000	750,000 820,000	750,000 820,000	750,000 820,000	750,000 820,000	750,000 820,000
30.1.2 5.1.11.2 1.1.0025.5	. 0,000			.,0.0,000		0.0,000	0.0,000	020,000	0_0,000	525,555	0_0,000	0_0,000
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 FERC Relicensing	125,000	125,000	125,000	125,000	125,000	125,000 TBD	125,000 TBD	125,000 TBD	125,000 TBD	125,000 TBD	125,000 TBD	125,000 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	
PROJECTEDIRESERVE, 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	2	0
OTAL 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



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
8,368,760	8,548,934	8,762,657	8,981,724	9,206,267	9,436,424	9,672,334	9,914,142	10,161,996	10,416,046	10,676,447	10,943,358
3,098,131	4,984,446	5,109,057	5,236,784	5,367,703	5,501,896	5,639,443	5,780,429	5,924,940	6,073,063	6,224,890	6,380,512
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
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
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
				1							
29,734,200	29,640,126	27,809,164	28,048,109	27,362,629	26,958,180	30,423,792	28,316,087	10,236,363	9,722,853	8,804,383	8,071,944
	8,368,760 3,098,131 38,252,575 2,135,000 22,120,266	8,368,760 8,548,934 3,098,131 4,984,446 38,252,575 38,258,150 2,135,000 2,365,000 22,120,266 24,516,404	8,368,760 8,548,934 8,762,657 3,098,131 4,984,446 5,109,057 38,252,575 38,258,150 36,523,085 2,135,000 2,365,000 2,700,000 22,120,266 24,516,404 25,285,636	8,368,760 8,548,934 8,762,657 8,981,724 3,098,131 4,984,446 5,109,057 5,236,784 38,252,575 38,258,150 36,523,085 36,562,162 2,135,000 2,365,000 2,700,000 3,135,000 22,120,266 24,516,404 25,285,636 25,867,560	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 38,252,575 38,258,150 36,523,085 36,562,162 36,406,263 2,135,000 2,365,000 2,700,000 3,135,000 3,035,000 22,120,266 24,516,404 25,285,636 25,867,560 26,652,604	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 38,252,575 38,258,150 36,523,085 36,562,162 36,406,263 36,447,137 2,135,000 2,365,000 2,700,000 3,135,000 3,035,000 2,960,000 22,120,266 24,516,404 25,285,636 25,867,560 26,652,604 27,387,276	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 9,672,334 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 5,639,443 38,252,575 38,258,150 36,523,085 36,562,162 36,406,263 36,447,137 40,571,752 2,135,000 2,365,000 2,700,000 3,135,000 3,035,000 2,960,000 2,685,000 22,120,266 24,516,404 25,285,636 25,867,560 26,652,604 27,387,276 28,144,737	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 9,672,334 9,914,142 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 5,639,443 5,780,429 38,252,575 38,258,150 36,523,085 36,562,162 36,406,263 36,447,137 40,571,752 38,803,812 2,135,000 2,365,000 2,700,000 3,135,000 3,035,000 2,960,000 2,685,000 2,695,000 22,120,266 24,516,404 25,285,636 25,867,560 26,652,604 27,387,276 28,144,737 28,877,297	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 9,672,334 9,914,142 10,161,996 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 5,639,443 5,780,429 5,924,940 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 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 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	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 9,672,334 9,914,142 10,161,996 10,416,046 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 5,639,443 5,780,429 5,924,940 6,073,063 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 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 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	8,368,760 8,548,934 8,762,657 8,981,724 9,206,267 9,436,424 9,672,334 9,914,142 10,161,996 10,416,046 10,676,447 3,098,131 4,984,446 5,109,057 5,236,784 5,367,703 5,501,896 5,639,443 5,780,429 5,924,940 6,073,063 6,224,890 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 2,135,000 2,365,000 2,695,000 2,695,000 2,695,000 2,395,000 1,945,000





Hydro FY2018 Proposed Budget

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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	327,130	21,297	
Administrative & General	1,441,427	1,229,160	1,596,576	1,935,732	339,156	
Total O&M Costs	49,143,678	48,211,704	49,719,466	51,791,530	2,072,064	
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)	A -1:4
Capital Development Reserve	1,125,000	1,125,000	1,125,000	1,075,000	(50,000)	Adit
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	54,156,530	2,302,064	23



