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BUSINESS PROGRESS REPORT

MAY 2017

Table of Contents

Generation Costs & Reliability	1
Environmental, Health & Safety Projects	4
Power Management/NCPA Market Results	5
Debt & Financial Management	11
Schedule Coordination Goals	11
NCPA Bills & Settlements	12
Political Arena State/Federal/Western Programs	14
Human Resources	15
Annual Budget FY to Date	16
Budget vs. Actual by Major Area	17
Generation Resources Analysis by Source	18
Management Services Analysis by Source	19
Third Party Revenue Analysis by Source	21
Generation Detail Analysis by Plant	22

Generation Costs & Reliability

Combustion Turbine Project

Availability/Production for April

Unit	Availa	ability	Pr	oducti	on	Reason for Run			
CT1 Alameda	Unit 1 97.50%	Unit 2 91.04%	Unit 1 Unit 2	18.0 64.5	MWHr	CAISO / CAISO			
Cu	irtailments &	& Outages	4/26, 27 - (18hrs) Transformer pressure switch. / 4/4, 5, 6 - (39Hr) EGT Trouble; 4/10 - (3.5Hrs) Maintenance; 4/26, 27 - (22hrs) Transformer pressure switch.						
CT1 Lodi	100.	00%		51.6	MWHr	CAISO			
Cu	irtailments &	& Outages	None.						
	1								
CT2 STIG	78.3	33%		0.0	MWHr	No Runs.			
Cı	Irtailments &	& Outages	4/1, 2, 3, 4, 5, 6, 7 - (156Hrs) White Slough Water curtailment forces outage.						
LEC	78.3	33%		0.0	MWHr	No Run.			
Cu	irtailments &	& Outages	4/1, 2, 3, 4 curtailmer			s) White Slough Water			

Maintenance Summary – Specific per asset above.

Geothermal Facilities

Availability/Production for April

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors		
Unit 1	100 %	19,357 MWh	Unit 1 had no outages for the month.		
Unit 2	100 %	19,057 MWh	Unit 2 had no outages for the month.		
Unit 3	N/A %	N/A	Unit 3 remains out of service for the month April.		
Unit 4	97.92 %	29,783 MWh	Unit 4 had one outage for the month. The unit tripped on 4/15 at 2030 due to failed thrust bearing probe. The unit is equipped with redundant indication. The failed probe was disconnected and verified secured in place. The unit was returned back to service 4/16 at 1120. The unit was off line for 15 hours		
Southeast Geysers Effluent Pipeline	100 %	237.4 mgallons	Average flow rate: 5,593 gpm		
Southeast Solar Plant	N/A	99,117 KWh	Year-to-date KWh: 273,586		
Bear Canyon Pump Station Zero Solar	N/A	184,331 KWh	Year-to-date KWh: 503,997		

Hydroelectric Project

Availability/Production for April

Units Availability		Net Electricity Generated	Out-of-Service	
Collierville Unit 1	100.00 %	74,824 MWh	CV #1 unit no reportable outages.	
Collierville Unit 2	100.00 %	74,773 MWh	CV #2 unit no reportable outages.	
Spicer Unit 1	100.00 %	1,815 MWh	NSM #1 unit no reportable outages.	
Spicer Unit 2	100.00 %	1,822 MWh	NSM #2 unit no reportable outages.	
Spicer Unit 3	100.00 %	332 MWh	NSM #3 unit no reportable outages.	

Operations & Maintenance Activities:

- Monthly CMMS work orders
- NCPA/Big Trees State Park Coordination Meeting
- Adit 4 Slide repair contract awarded
- Beaver Creek Road Bypass complete
- Collierville/Bellota 230 kv transmission line patrol and vegetation removal

Environmental, Health & Safety (EH&S) Projects

Incident Reports

- There were no vehicle accidents, no recordable incidents, and no lost time accidents that occurred in March.
- Find below a Safety Report that highlights the following areas: recordable incidents and lost time accidents (LTAs) reported this period and this calendar year; the number of days since last recordable or LTA; the number of work hours since last recordable or LTA; and vehicle accidents reported this month and this calendar year. In September of 2012, Generation Services completed an internal audit of its records with the results reflected in this report and as updated through the payroll period ended April 29, 2017.
- The "CT Group" column reflects the combined safety numbers of all CT employees. Beginning with the November 2009 report, the CT Group Column also includes Lodi Energy Center staff.

	Hydro	GEO	CT Group *	NCPA HQ **
CalOSHA Recordable (this month)	0	0	0	0
CalOSHA Recordable (calendar year)	0	1	0	0
Days since Recordable	864	111	754	5,822
Work Hours Since Last Recordable	73,015	22,048	110,581	2,094,634
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	1	0	0
Days without LTA	3,480	95	8,658	4,751
Work Hours without LTA	318,580	19,143	551,945	1,716,654
Vehicle Incident (month)	0	0	0	0
Vehicle Incident (calendar year)	0	0	1	0

April Generation Services Safety Report

* CT Group: Combines CT-1, CT-2 and LEC Operations

** NCPA HQ: Roseville employees at the Main Office

Data originates from OSHA logs, HR records and payroll information. Days and Hours are calculated through pay period ended April 29, 2017.

Power Management/NCPA Market Results

Dispatch and Schedule Coordination

- NCPA Dispatch and Schedule Coordination Center safely, reliably, and economically schedules, monitors, and manages NCPA and NCPA member power resources and loads 24 hours per day, 7 days per week on a continuous basis. This process includes balancing MSSA loads and resources on a 5-minute basis, optimizing NCPA resources and minimizing ISO costs.
- NCPA MSSA Load Data:

	April 2017		Calendar Year 2017			
	Peak MW	MWh	Peak MW	MWh		
NCPA Pool	299.31 4/11 @1200	179,284	351.61 1/18 @1800	756,025		
SVP	469.35 4/5 @1400	295,550	478.77 3/14 @ 1600	1,176,142		
MSSA	764.79 4/5 @ 1400	474,834	792.42 3/14 @ 1600	1,932,167		

Current Year 2017 Data

Last Year 2016 Data*

	April 2016		Calendar Year 2016			
	Peak MW	MWh	Peak MW	MWh		
NCPA Pool	341 4/18 @1600	181,528	449.75 7/27 @ 1700	748,653		
SVP	486.75 4/18 @ 1600	285,736	534.21 9/26 @ 1700	1,141,756		
MSSA	827.75 4/18 @ 1600	467,264	968.73 7/27 @ 1600	1,890,409		

*Last year's data added for comparison purposes only

System Peak Data

	All Time Peak Demand	2017 Peak Demand
NCPA Pool	517.83 MW on 7/24/2006 @ 1500	351.61 1/18 @1800
SVP	534.21 MW on 9/26/16 @ 1700	478.77 3/14 @ 1600
MSSA	988.56 MW on 7/08/2008 @ 1500	792.42 3/14 @ 1600

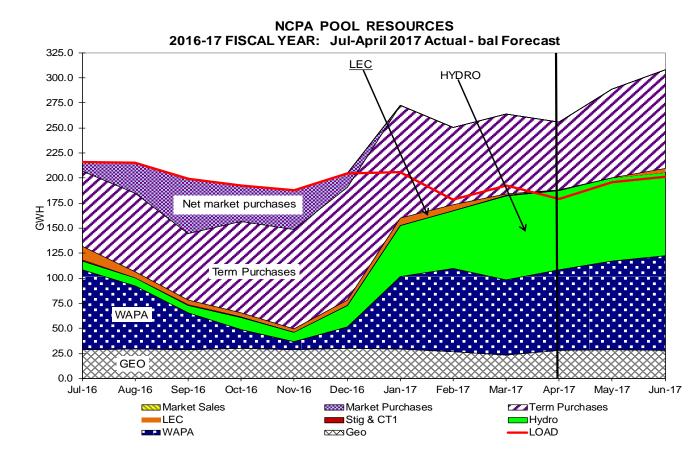
 NCPA MSSA has a Deviation Band with the CAISO, which is used as a performance measure by the CAISO. The ability to stay within this Deviation Band is a measure of NCPA Dispatch's ability to balance the MSSA Loads and Resources on a 5-minute basis. The following NCPA Deviation Band Performance table includes all deviations, including deviations from unit forced outages, metering and load outages, COTP, Western, and WECC curtailments.

NCPA Deviation Band Performance									
April 2017 Calendar Year 20									
MSSA % Within the Band	96.23%	96.57%							

- McKay's spilled intermittently throughout the month of April due to a combination of maximizing Spicer releases for Spicer storage management, and increasing natural flows due to spring runoff. Beaver Creek continues to spill continuously due to diversion out of service, and North Fork spilled on occasion as naturals exceeded tunnel and/or trash rack capacity.
- Peak McKay's spill approximately 2,660cfs on April 18.
- Spicer Meadows:
 - No curtailments
- Geothermal Units:
 - April 15 @ 2033 April 16 @ 1122 Unit 4 off line due to failed thrust bearing vibration probe.
- Lodi Energy Center:
 - April 1 7, LEC was available for limited hours/day due to interruption of makeup water supply, due to water treatment issues at White Slough waste water treatment facility.
- Alameda CTs:
 - April 4 @ 1915 2200 Unit 2 o/s due to high EGT spread.
 - April 5 @ 1400 April 6 @ 1450 Unit 2 o/s for replacement for fuel nozzles.
 - April 10 @ 1000 1310 Unit 2 o/s for replacement for fuel nozzles.
 - April 26 @ 1000 April 27 @ 1045 Unit 2 o/s for replacement for GSU pressure relief device.
- Lodi CT:
 - No curtailments
- Collierville Units:
 - April 7 @ 2300 2315, April 8 @ 0550 1500, and April 17 @ 2152 April 20
 @ 0800, Units 1 & 2 derated due to runner interference caused by high tailwater conditions.
- STIG:
 - April 1 7, Unit unavailable due to interruption of makeup water supply, due to water treatment issues at White Slough waste water treatment facility.

Pooling & Portfolio Planning & Forecasting

- Actual NCPA Pool load of 179.2 GWh in April equaled 96.6% of the pre-month forecast of 185.5 GWh as temperatures were often mild enough to require neither heating nor cooling load.
- Pool load, at 88.0 GWh through May 14th is on pace to total 194.9 GWh for the month, slightly under the forecast of 196.1 GWh. Loads below forecast for May stem from mild weather and are expected to increase toward month end.
- The Lodi Energy Center (LEC), as forecasted, did not generate in April as power values in the CAISO markets remained low while gas prices are extremely high. In addition, strong hydro and renewable generation continue.
- For the month of April, 9.32 inches of rain was recorded at Big Trees gage. The April average Big Trees precipitation is 4.61 inches.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) will remain \$0/MWh (seeking net positive value between energy and A/S revenues) from \$10/MWh.
- NSMR storage as of April 30 was at 131,100 acre feet. The historical average NSMR storage at the end of April is 100,673 acre feet. As of May 15, NSMR storage is 164,885 acre feet. The NCPA Pool share of NSMR storage is 86,152 acre feet.
- Combined Calaveras Project generation for the Pool in April totaled 79.0 GWh, down from 83.7 GWh in March. The Pool's 79.0 GWh in April was in line with the premonth forecast of 78.9 GWh. Through May 15th, Calaveras generation for the Pool (34.9 GWh) is running below the month's forecast of 85.0 GWh.
- Western Base Resource (BR) Pool delivery Pool in April was 80.5 GWh compared to the forecast of 55.0 GWh. Through May 14, BR pool allocations at 54.7 GWh were already well over half the month's forecast of 88.2 GWh.
- PG&E City-Gate gas index traded at \$3.51/MMBtu for May 15th delivery compared to an average of \$3.31/MMBtu with a high of \$3.39/MMBtu for the month of April. Prices have been rising due to slow production and rising demand. While the PG&E Bidweek price for May gas averaged \$3.27, daily Platt's prices have been running higher as summer demand season approaches.
- Day-ahead HLH (on-peak) NP15 electricity remains relatively low on average with spikes occurring on days with highest load and negative prices on weekends. The HLH and LLH day-ahead average LMPs for Monday, May 15th delivery were \$21.72 and \$18.60/MWh, respectively.



	NCPA Pool Loads & Resources Value Summary											
	Pea	ak and Energ Apr-1	• •		Estimated Pro	duction Costs	Cost of Serving Demand					
	Coincident Peak (MW)	Total MWh	Forecast Values	Avg. MW	NCPA	A Pool						
	Apr-11-17 Hour 12				Cost/Revenue Variable Cost (Estimate) (\$/MWh)		Totals	Avg (\$/MWh)				
Demand	299.3	179,239	185,518	248.9	N/A	N/A						
							at Market (Clearing Price				
WAPA	8.0	80,464	55,023	111.8	\$ 2,229,080	\$ 27.70	\$ 4,193,052	\$ 23.39				
Geothermal	-	28,231	25,580	39.2	536,390	19.00						
Hydro	-	79,000	71,568	109.7	474,000	6.00						
Stig & CTs	-	594	-	0.8	43,764	73.68	at Variable Cost	of Pool Generation				
LEC	-	-	-	-	-	38.52						
Contracts	28.7	67,364	80,567	93.6	4,765,043	70.74	\$ 5,642,668	\$ 31.48				
Market - Net	262.6	(76,414)	(47,220)	(106.1)								
(Net Sales = Negative)						1						
Net Total	299.3	179,239	185,518	248.9	\$ 8,048,278	\$ 31.48						

				Avg Varial Cost of P		Summary Forward Prices (EOX NP15 HLH Ask Prices)			NOTES TO SUMMARY TABLE:
	Pool Energy	HLF	I Avg MCP	Generati	on		NP15 4/3/2017	5/11/2017 (\$/MWh	/h)
	(MWh)	(\$/MWh)	(\$/MWh	1)		(\$/MWh)		Peak and Energy Summary:
Jul-16	216,062	\$	36.40	\$ 38	3.15	May-17	\$ 24.59	\$ 31.8	87 * Monthly generation summary of Coincidental Peak (hour in which pool demand peaked),
Aug-16	215,007	\$	37.71	\$ 41	.27	Jun-17	28.46	32.7	75 total MWH for the month, and pre-month forecasted values for report period.
Sep-16	199,228	\$	36.67	\$ 45	5.69	Jul-17	33.03	36.9	93 * Generation totals are for POOL SHARE of the projects.
Oct-16	192,514	\$	35.69	\$ 39	9.08	Q3 2017	\$ 35.71	\$ 38.4	45 * Hydro totals include Collierville and Spicer generation.
Nov-16	187,997	\$	31.67	\$ 39	9.08	Q4 2017	37.99	39.4	41 Estimated Production Costs:
Dec-16	204,678	\$	38.29	\$ 39	9.08	Q1 2018	37.32	38.3	35 * Fixed project costs not included except for WAPA, where total month's project costs
Jan-17	205,675	\$	36.58	\$ 23	3.70	CY2018	\$ 33.51	\$ 34.3	33 are used to calculate the average unit cost.
Feb-17	178,642	\$	30.61	\$ 24	1.41	CY2019	33.77	33.4	41 * STIG and CT costs include forward natural gas and basis hedge transactions.
Mar-17	192,408	\$	23.37	\$ 25	5.43	CY2020	35.57	35.9	92 * STIG & CT costs reflect \$2.60 and \$1.62/MWH variable O&M costs per 6-12-06 GSCA.
Apr-17	179,239	\$	23.39	\$ 31	.48	CY2021	37.66	37.9	91 Cost of Serving Demand:
May-17						CY2022	38.29	38.5	53 Compares price of meeting total monthly demand with (1) Hourly pool market clearing price;
Jun-17						CY2023	39.92	40.2	20 (2) Variable cost of pool gen. Pool Gen is sum of estimated costs divided by sum of generation

Industry Restructuring, Contracts and Interconnection Affairs

Resource Adequacy Compliance Filings

- NCPA made the following Resource Adequacy compliance filings with the CAISO for the compliance period July 2017:
 - Monthly System Resource Adequacy Demonstration (filed May 17, 2017)
 - Monthly Supply Plan (filed May 17, 2017)

Industry Restructuring

NCPA is actively participating in a number of CAISO stakeholder initiatives on behalf of the members. The follow is a brief description of the current active initiatives:

Commitment Costs and Bidding Enhancements

• Through this initiative the CAISO will evaluate the following two topics: (1) if commitment proxy costs, generated bids, and default energy bids allow scheduling coordinators to accurately reflect and recover their generators' unit-specific costs; and (2) if changes to the economic bidding of commitment costs and associated market power mitigation methodology could increase market benefits when bidding under competitive market dynamics.

Transmission Access Charge Options

 The current CAISO transmission access charge is a two-part rate for each megawatt hour of internal load and exports and is used to recover transmission revenue requirements. Revenue requirements for facilities rated 200 kV and above are recovered through a system-wide rate, while requirements for facilities rated below 200 kV are recovered via specific rates for each participating transmission owner. This initiative will determine if the same structure would be appropriate should a transmission owner with a load service territory join the CAISO as a new participating transmission owner.

Regional Resource Adequacy

 This initiative will evaluate resource adequacy tariff provisions appropriate for use in a regional ISO balancing authority area that encompasses multiple states. NCPA's main objective in this initiative will be to preserve the members' local control and unique treatment as a load-following MSS.

Bid Cost Recovery Enhancements

 In this initiative CAISO is evaluating changes to the way IFM and Real-Time Market Bid Cost Recovery (BCR) costs are allocated to market participants. More specifically, CAISO is evaluating if the Self-Scheduling offset currently incorporated into the IFM BCR should be removed, and if Real-Time Market BCR costs should be allocated using a two (2) tier mechanism. As a market participant who is exposed to BCR costs, NCPA has an interest in this stakeholder process; therefore, NCPA will closely monitor the development of this initiative.

Review of TAC Structure

 As described in the CAISO 2017 Stakeholder Initiative Catalog, during calendar year 2017 the CAISO will conduct a stakeholder initiative process to consider possible changes to the structure of the Transmission Access Charge (TAC). The CAISO currently charges the TAC to each MWh of metered internal end-use load (i.e., Gross Load) and exports, to recover participating transmission owners' costs of owning, operating and maintaining transmission facilities under CAISO operational control. Included in the initiative scope will be questions such as: (1) whether the current purely volumetric TAC rate structure should be retained, or should be changed to include other factors such as peak demand; and (2) whether the billing determinant for internal load should be modified to account for the load that is offset by the energy output of Distributed Energy Resources (DER).

Western

	Western Base Resource Tracking - NCPA Pool										
	Actual Costs & Rates										
	BR			Base Resource &	Monthly Cost	CAISO LMP	12-Mo Rolling				
	Forecast ¹	BR Delivered	Difference	Restoration Fund	of BR ²	Differential ³	Avg. Cost of BR ⁴				
	(MWh)	(MWh)	(MWh)	(\$)	(\$/MWh)	(\$/MWh)	(\$/MWh)				
Jul-16	59,229	79,774	20,545	\$2,185,609	\$ 27.40	\$ 1.60	\$ 52.56				
Aug-16	45,311	62,933	17,622	\$2,185,609	\$ 34.73	\$ 0.74	\$ 50.43				
Sep-16	26,431	37,235	10,804	\$2,125,890	\$ 57.09	\$ 0.22	\$ 50.14				
Oct-16	19,823	19,056	(767)	\$1,135,901	\$ 59.61	\$ 0.19	\$ 50.53				
Nov-16	13,184	8,026	(5,158)	\$1,135,901	\$ 141.53	\$ 0.33	\$ 50.58				
Dec-16	16,048	21,742	5,694	\$1,135,901	\$ 52.24	\$ 0.12	\$ 48.62				
Jan-17	-	72,578	72,578	\$1,135,901	\$ 15.65	\$ 0.10	\$ 41.38				
Feb-17	13,801	82,955	69,154	\$1,135,901	\$ 13.69	\$ 0.14	\$ 35.46				
Mar-17	47,259	75,363	28,104	\$1,135,901	\$ 15.07	\$ 0.03	\$ 32.62				
Apr-17	52,011	80,464	28,453	\$2,279,529	\$ 28.33	\$ 1.11	\$ 30.68				
May-17	76,515	-	(76,515)	\$2,279,529	\$ 29.79	\$-	\$ 30.03				
Jun-17	76,360	-	(76,360)	\$2,279,529	\$ 29.85	\$-	\$ 29.74				

Western Base Resource Tracking (NCPA Pool)

1/ As forecasted in NCPA 16/17 Budget

2/ = (Western Cost + Restoration Fund)/BR Delivered, for Pool Participants only.

3/ = (MEEA LMP - PG&E LAP LMP) using public market information (i.e. not settlement quality).

4/ Based on BR Delivered (Actual) when available and BR Forecast in all other cases. Includes CAISO LMP impact.

• MEEA pricing (market efficiency enhancement agreement) saved Pool members approximately \$77,500 in April 2017. In addition, the displacement program saved Pool members approximately \$55,400, for a total savings of about \$132,900 combined for the two programs.

Debt and Financial Management

- While the Fed kept rates unchanged at its May 3 meeting, the accompanying statement characterized the first quarter slowdown at "likely to be transitory" and pointed in the direction of rate increases later in the year. June seems the most likely timeframe.
- The two-year Treasury yield ended the month unchanged at 1.26%, while the yield on the 10-year Treasury fell 11 basis points (bps) to 1.83%, the largest monthly decline since June 2016. Treasury benchmarks posted their best monthly returns since June, when the U.K. Brexit vote triggered a strong bond market rally.
- Municipal new issuance declined in April with an 18.1% drop in long-term bond sales to \$29.1 billion from \$35.5 billion the same month last year. Year-to-date (YTD) longterm sales are down 11.8% to \$119.5 billion in the same period last year, according to Municipal Market Monitor (TM3) data.
- On May 10th, Moody's Investor Services downgraded six Canadian Banks reflecting Moody's expectation of a more challenging operating environment for banks in Canada for the remainder of 2017 and beyond. One of the banks affected is the Bank of Montreal (BOM) who acts as the Letter of Credit provider for the 2008 Hydro bonds series A and B. Moody's downgraded the bank from Aa3 to A1. The bonds are not subject to Rule 15c2-12 and there is no requirement relating to disclosure of the downgrade of BMO by NCPA or its participants. The weekly rates reset today (5/17) and the bonds experienced little to no impact from the downgrade. The Hydro bonds are still trading better than the Securities Industry and Financial Markets Association (SIFMA) Index.
- The SIFMA Municipal Swap index is a 7-day high-grade market index comprised of tax-exempt, variable rate demand obligations (VRDOs) reset rates that are reported to the Municipal Securities Rule Making Board's (MSRB's) reporting system. The bonds going into the index are selected from all eligible bonds reporting data through the reporting system that meet the index criteria as set forth by SIFMA.

Schedule Coordination Goals

Software Development

- Testing of the Scheduling Software Suite for Santa Clara's 'SNCL' SCID for its non-MSS (Metered Sub-System) portfolio is underway. The Scheduling Software Suite includes MARS (Member and Resource System) database, Deal Manager application, Prescheduler application, PAGES (Power Agency Grid Energy Scheduler) application and TABS (Trading and Bidding System) application.
- IS Staff continues to perform research and development on the utilization of Business Intelligence software technology to provide better data analysis capabilities to both internal staff and members. Prototypes are being developed to demonstrate the capabilities and the usefulness of the technology.

• IS staff has initiated the restructuring of the Meter data model to streamline its design. A major milestone was achieved when a new database model was developed and currently being tested. This project will last several months to complete the migration of the existing data and to redirect the applications to use the new model. The target is to finish by the end of 2017.

<u>Network</u>

- Work continues on preparing to migrate e-mail from on-premise to Office 365. A few early adopters in the Information Services group have moved their mailboxes and are testing out the functionality. Old mail has been extracted from legacy archive system and imported into a new archive service. The plan is to be completed with the migration in the coming months.
- Additional collaboration sites are being created to expand the functionality of the Agency's new extranet, "NCPA Connect. This will provide further capabilities to share and edit documents for specific working groups and committees.
- Information Services has offered positions for both the Cyber Security and Business Analyst student intern positions. Both have accepted the offers and are planning to start May 31st.
- Work continued throughout April in preparation for onboarding the Merced Irrigation District MEID scheduling coordination portfolio into the Agency's bidding, scheduling, and metering systems. Network communications have been configured and currently working with MEID staff to receive the correct set points that will be used in dispatch operations. Successfully deployed MID's Merced Falls hydro resource into the new MEID scheduling coordination portfolio effective on March 24, 2017, with operational SCADA telemetry and metering.

NCPA Bills & Settlements

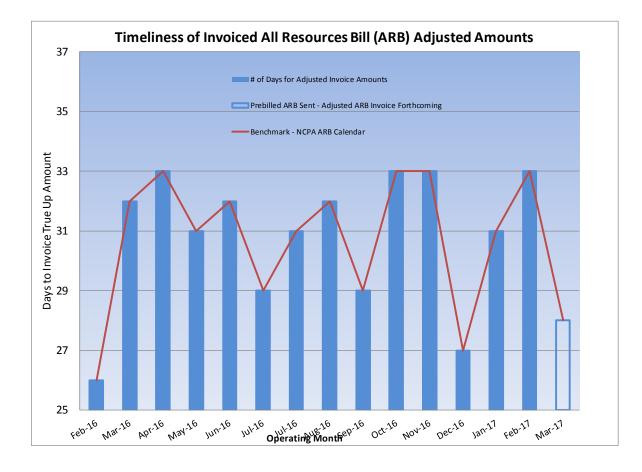
Progress Against the Strategic Plan

Adjusted Power bills, which include CAISO transactions, invoiced to members the following month subsequent to the monthly pre-billed ARB month. Timely ARB settlements adjustments help improve members' cash flow and reconciliation of their budget performance.

The April 2017 NCPA All Resources Bill (ARB) monthly invoice sent to members on March 24, 2017 contains:

- April 2017 monthly pre-billed budget/forecast amounts;
- February 2017 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- January 2017 (2nd Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
- November 2016 (3rd Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;

- May 2016 (4th Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
- July 2015 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- February 2014 (6th Adjustment) T+35 month CAISO settlement true-up



Legislative & Regulatory

Political Arena State/Federal/Western Programs

- NCPA conducted its 15th annual Federal Policy Conference in Washington, D.C., April 24 27. This year's program was again held in tandem with our partners at the Northwest Public Power Association. The week began with a policy program that included the Federal Energy Regulatory Commission's Acting Chair Cheryl LaFleur, and experts on municipal tax-exempt financing and cybersecurity. As well, a panel of senior legislative staff from the House and Senate energy committees reviewed the priorities for the current Congress, and unveiled plans for upcoming hearings on hydropower reform legislation and the federal power marketing agencies. Participants in the conference also learned about the complexities surrounding the Administration's efforts to roll-back the Clean Power Plan and other regulations. For the remainder of the week, elected officials and staff from NCPA member utilities met with every member of the NCPA congressional delegation, FERC Commissioners and staff, key congressional committee staff, and others to advance NCPA policy priorities. Thank you to all those who participated in this important annual grassroots advocacy event.
- NCPA General Manager Randy Howard testified before the House Natural Resources Subcommittee on Water, Power and Oceans hearing on hydro relicensing and operational challenges related to federal agencies. Howard reviewed the challenging interactions NCPA has had with the U.S. Forest Service (USFS) in the effort to remove sediment and debris from behind NCPA's hydropower projects and emphasized the need for programmatic permitting for recurring maintenance activities.
- NCPA members and staff participated in the Northwest Public Power Association's annual meeting, held in Sunriver, Oregon. The program's theme, "Inspiration, Innovation, and Information" featured keynote speakers and panel discussions including Michelle Bertolino, Electric Director of Roseville, in a CEO panel that discussed workforce development, commercial and residential solar, and the legislative and regulatory climate. At the annual NWPPA Awards Luncheon, Silicon Valley Power (SVP) received the Paul J. Raver Award, a community service award to utilities that have shown "superior leadership in the betterment of cities." SVP was recognized for keeping its rates low, and doing so with a portfolio that exceeds the state's Renewable Portfolio Standard.
- NCPA has been developing positions, negotiating amendments, and testifying on several energy-related bills in the State Legislature. Since mid-March, both the Senate and the Assembly have been holding policy committee hearings on bills in the house of origin. The deadline for a bill to pass the house of origin is June 2nd. Major legislative issues include the future of the Cap and Trade Program, a 100% Clean Energy Standard (CES), energy storage subsidies, small cell permit streamlining, and intervener compensation at transmission-related proceedings. Among NCPA's legislative accomplishments during this period are amendments to the intervener compensation bill that exempts POUs, as well as the defeat of a bill that would have required ratepayers to pay for customer-sited energy storage subsidies. NCPA is

currently developing principles and legislative strategies on the various cap-and-trade proposals and SB 100, which would establish a 100% CES by 2045.

Human Resources

<u>Hires:</u>

Jane Luckhardt joined NCPA on May 1, 2017, as General Counsel and is based at our Headquarters office in Roseville, CA. Jane brings over 28 years of experience advising energy industry clients and was most recently with the law firm Day, Carter and Murphy. In addition, Jane has a bachelor's degree in Construction Management from California Polytechnic State University, San Luis Obispo and a Doctor of Jurisprudence degree from Stanford.

Intern Hires:

None.

Promotions/Position Changes:

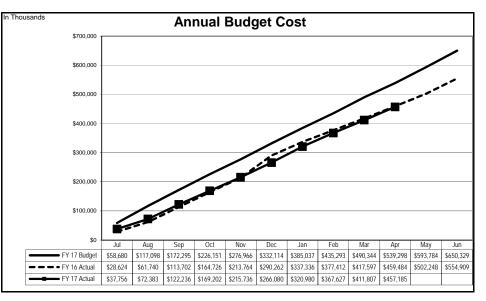
None.

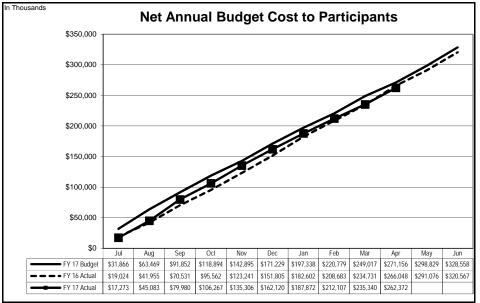
Separations:

None.

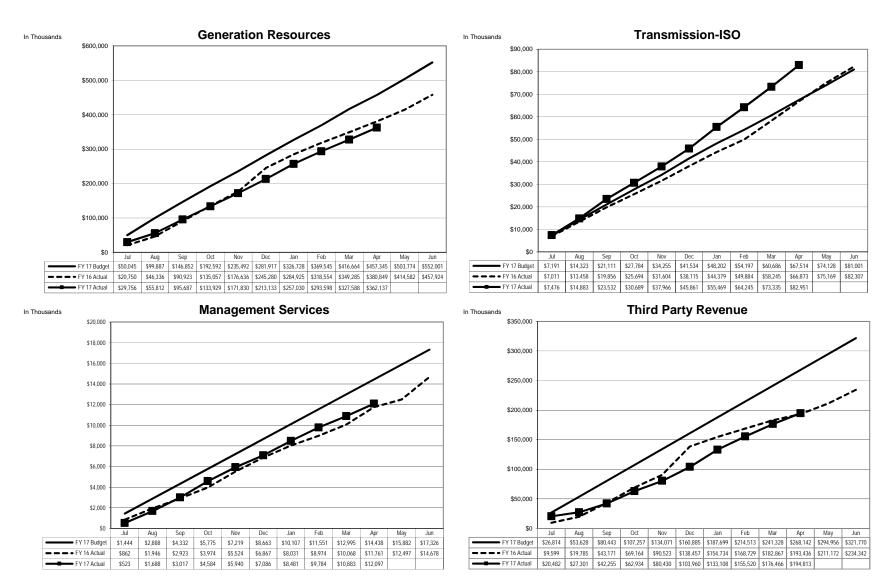
Annual Budget 2016-2017 Fiscal Year To Date As of April 30, 2017

In Thousands		Progra	m	
	Annual		Under(Ovr)	YTD %
GENERATION RESOURCES	Budget	Actual	Budget	Remaining
NCPA Plants				
Hydroelectric	51,854	42,987	\$ 8,868	17%
Geothermal Plant	33,145	24,454	8,692	26%
Combustion Turbine No. 1	2,648	2,843	(194)	-7%
Combustion Turbine No. 2 (STIG)	8,587	6,818	1,769	21%
Lodi Energy Center	92,991	45,295	47,696	51%
	189,227	122,396	66,831	35%
Member Resources - Energy	45,638	37,966	7,671	17%
Member Resources - Natural Gas	4,878	4,284	593	12%
Western Resource	30,288	21,604	8,684	29%
Market Power Purchases	39,302	27,074	12,228	31%
Load Aggregation Costs - ISO Net GHG Obligations	240,129	148,210	91,919	38%
Net GHG Obligations	2,540	603	1,937	76%
TRANSMISSION	552,001	362,137	189,864	34%
Independent System Operator	81,001	82,951	(1,950)	-2%
MANAGEMENT SERVICES				
Legislative & Regulatory	I			
Legislative Representation	1.897	1.329	568	30%
Regulatory Representation	794	644	151	19%
Western Representation	817	458	358	44%
Member Services	432	299	133	31%
	3,940	2,730	1,211	31%
Judicial Action	625	546	79	13%
Power Management				
System Control & Load Dispatch	5,622	4,080	1,542	27%
Forecasting & Prescheduling	2,555	1,724	831	33%
Industry Restructuring	414	244	170	41%
Contract Admin, Interconnection Svcs & Ext. Affairs	1,137	681	455	40%
Green Power Project	18	2	16	91%
Gas Purchase Program	87	50	37	43%
Market Purchase Project	128	66	62	49%
	9,960	6,846	3,114	31%
Energy Risk Management	212	138	74	35%
Settlements	862	403	459	53%
Integrated System Support	311	102	209	67%
Participant Pass Through Costs	1,417	1,119	298	21%
Support Services	-	214	(214)	
	17,326	12,097	5,228	30%
TOTAL ANNUAL BUDGET COST	650,328	457,185	193,143	30%
LESS: THIRD PARTY REVENUE				
Plant ISO Energy Sales	118,943	57,538	61,405	52%
Load Aggregation Energy Sales	184,117	101,040	83,077	45%
Ancillary Services Sales	3,790	2,839	951	25%
Other ISO Revenue	-	13,939	(13,939)	
Transmission Sales	110	92	18	17%
Western Credits, Interest & Other Income	14,811	19,366	(4,555)	-31%
	321,770	194,813	126,957	39%
NET ANNUAL BUDGET COST TO PARTICIPANTS	328,558	262,372	\$ 66,186	20%
ANNOAL BUDGET COST TO FANTIOFANTS	520,550	202,372	ψ 00,100	20 /0



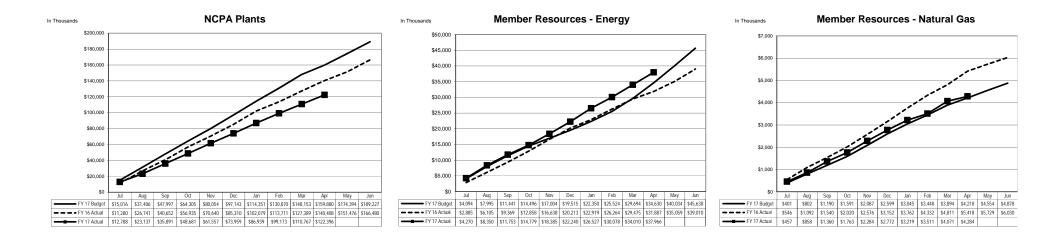


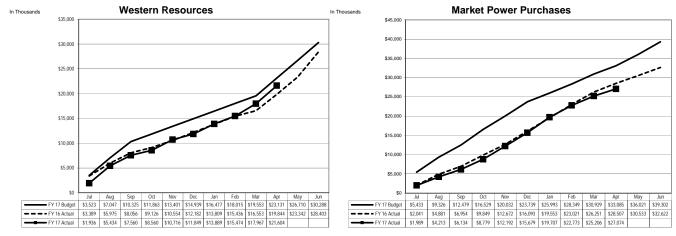
Annual Budget Budget vs. Actual By Major Area 2016-2017 Fiscal Year To Date As of April 30, 2017



Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

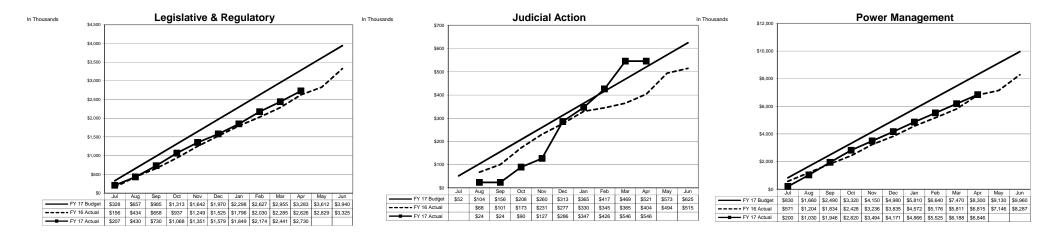
Annual Budget Cost Generation Resources Analysis By Source 2016-2017 Fiscal Year To Date As of April 30, 2017

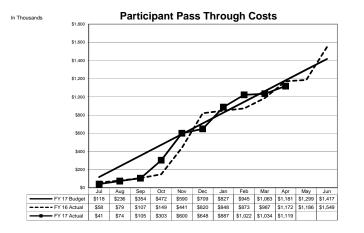




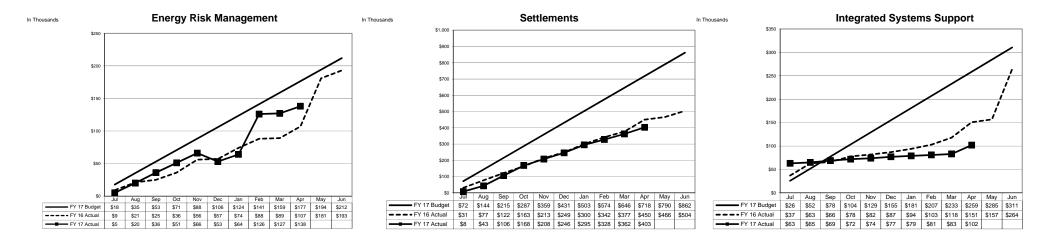
Footnote: Other Resources (Graeagle, BART PV, Gridley PV) are included in Market Power Purchases

Annual Budget Cost Management Services Analysis By Source 2016-2017 Fiscal Year To Date As of April 30, 2017

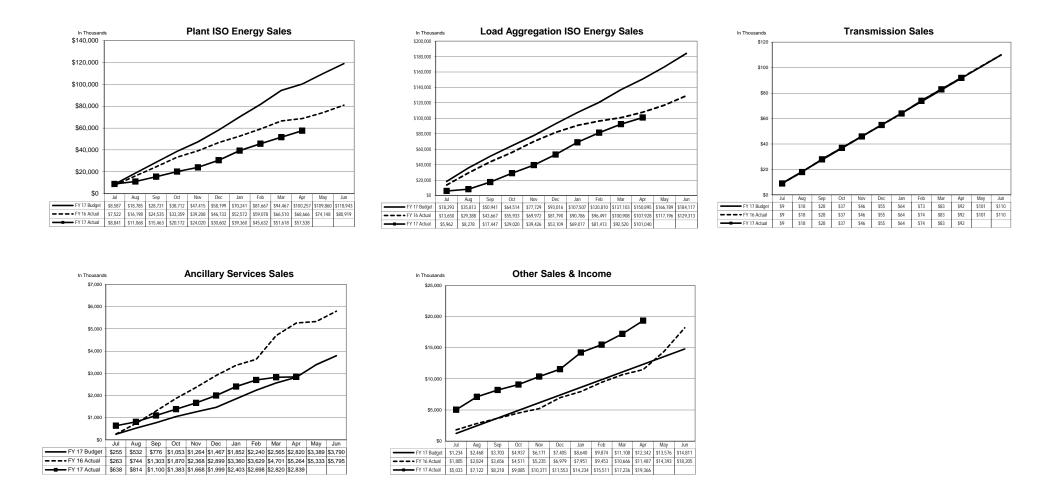




Annual Budget Cost Management Services Analysis By Source 2016-2017 Fiscal Year To Date As of April 30, 2017



Annual Budget Cost Third Party Revenue Analysis By Source 2016-2017 Fiscal Year To Date As of April 30, 2017



Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of April 30, 2017

Generation Cost Analysis

\$ in thousands

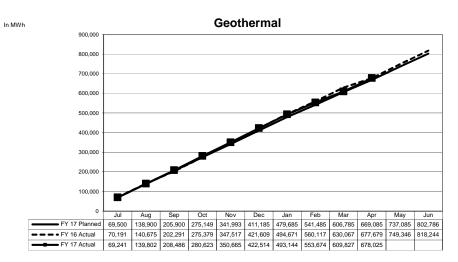
	Geothermal							
			\$/MWh	Under(Ovr)	YTD %			
	Budget	Actual	Actual	Budget	Remaining			
Routine O & M	\$ 17,159	\$ 12,862	\$ 18.97	\$ 4,297	25%			
Capital Assets/Spare Parts Inventories	2,575	1,277	1.88	1,298	50%			
Other Costs	7,994	5,671	8.36	2,323	29%			
CA ISO Charges	308	636	0.94	(328)	-106%			
Debt Service	5,110	4,007	5.91	1,102	22%			
Annual Budget	33,145	24,454	36.07	8,692	26%			
Less: Third Party Revenue								
Interest Income	32	171	0.25	(139)	-428%			
ISO Energy Sales	30,113	21,875	32.26	8,237	27%			
Ancillary Services Sales	-	1	0.00	(1)				
Effluent Revenues	700	412	0.61	288	41%			
Misc	110	862	1.27	(751)				
	30,955	23,321	34.40	7,634	25%			
Net Annual Budget Cost to Participants	\$ 2,190	\$ 1,133	\$ 1.67	\$ 1,057	48%			
Net GenerationMWh @ Meter	802,786	678,025						
\$/MWh (A)	\$ (3.64)	\$ (4.24)						

	Hydroelectric								
					\$/MWh	Und	er(Ovr)	YTD %	
	Budget		Actual		Actual	В	udget	Remaining	
Routine O & M	\$ 8,369	\$	5,378	\$	7.88	\$	2,991	36%	
Capital Assets/Spare Parts Inventories	2,135		1,685		2.47		450	21%	
Other Costs	2,861		1,866		2.74		995	35%	
CA ISO Charges	237		2,180		3.20		(1,943)	-820%	
Debt Service	38,253		31,877		46.73		6,375	17%	
Annual Budget	 51,854		42,987		63.01		8,868	17%	
Less: Third Party Revenue									
Interest Income	91		283		0.41		(192)	-211%	
ISO Energy Sales	19,542		22,617		33.15		(3,075)	-16%	
Ancillary Services Sales	2,487		1,961		2.87		526	21%	
Misc	-		27		0.04		(27)		
	22,120		24,889		36.48		(2,768)	-13%	
Net Annual Budget Cost to Participants	\$ 29,734	\$	18,098	\$	26.53	\$	11,636	39%	
Net GenerationMWh @ Meter	437,781		682,223						
\$/MWh (A)	\$ (19.46)	\$	(20.20)	1					

Footnotes:

(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

MWhs Generated



Hydro In MWh 1,000,000 FY 94-95 900,000 800,000 700.000 600.000 500.000 400.000 300,000 FY 91-92 200,000 100,000 Feb Mar May Dec Jan Jun Aua Sep Oct Nov Apr 437,781 FY 17 Planned 10.910 22.350 32.210 44,970 54,440 65,950 104,200 154.190 222.570 305,818 393,901 12,676 28,667 44,047 58,599 69,461 91,796 259,973 398,950 551,071 721,320 885,279 176,896 Wet **— — – –** Dry 18,574 41,592 66,527 78,750 84,000 87,598 91,693 105,353 130,546 179,718 185,948 193,288 FY 17 Actual 14,240 28,259 41,091 64,382 81,142 135,444 246,468 363,910 528,658 682,223

Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of April 30, 2017

Generation Cost Analysis

	Lodi Energy Center								
						\$/MWh	1	Under(Ovr)	YTD %
		Budget		Actual		Actual		Budget	Remaining
Routine O & M	\$	14,041	\$	8,769	\$	33.58	\$	5,272	38%
Fuel		44,101		7,945		30.43		36,155	82%
AB 32 GHG Offset		-		-		-		-	
CA ISO Charges and Energy Purchases		2,374		2,894		11.08		(520)	-22%
Capital Assets/Spare Parts Inventories		2,805		1,499		5.74		1,306	47%
Other Costs		3,233		2,175		8.33		1,059	33%
Debt Service		26,437		22,013		84.30		4,425	17%
Annual Budget		92,991		45,295		173.46		47,696	51%
Less: Third Party Revenue									
Interest Income		44		163		0.62		(118)	-265%
ISO Energy Sales		68,846		12,303		47.12		56,543	82%
Ancillary Services Sales		1,303		562		2.15		741	57%
Transfer Gas Credit		-		-		-		-	0%
Misc		3		4,361		16.70		(4,358)	0%
		70,197		17,388		66.59		52,808	75%
Net Annual Budget Cost to Participants	\$	22,795	\$	27,906	\$	106.87	\$	(5,112)	-22%
Net GenerationMWh @ Meter		1,655,765		261,119					
\$/MWh (A)	\$	(2.20)	\$	22.57	1				

	Combustion Turbine No. 2 (STIG)									
			\$/MWh	Under(Ovr)	YTD %					
	Budget	Actual	Actual	Budget	Remaining					
Routine O & M	\$ 1,413	\$ 1,052	\$ 427.82	\$ 361	26%					
Fuel and Pipeline Transport Charges	936	688	279.90	248	26%					
Capital Assets/Spare Parts Inventories	133	25	10.15	108	81%					
Other Costs	477	319	129.77	158	33%					
CA ISO Charges	2	46	18.78	(44)	-1917%					
Debt Service	5,626	4,688	1,906.89	938	17%					
Annual Budget	8,587	6,818	2,773.31	1,769	21%					
Less: Third Party Revenue										
Interest Income	19	49	19.76	(30)	-160%					
ISO Energy Sales	282	149	60.60	133	47%					
Ancillary Service Sales	-	0	0.01	(0)	0%					
Fuel and Pipeline Transport Credits	415	986	401.09	(571)	-138%					
Misc	-	-	-	-	0%					
	715	1,184	481.46	(468)	-65%					
Net Annual Budget Cost to Participants	\$ 7,872	\$ 5,634	\$ 2,291.85	\$ 2,238	28%					
Net GenerationMWh @ Meter	3,918	2,458								
\$/MWh (A)	\$ 573.32	\$ 384.96								

Footnotes:

(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

Lodi Energy Center In MWh 1,800,000 1,600,000 1,400,000 1,200,000 1,000,000 800,000 600,000 400,000 200,000 Oct Nov Jan Feb Mar Apr May Jun 1,256,404 1,440,268 1,449,740 1,548,344 1,655,765 Jul Sep Dec Aug 270,290 602,705 917,017 1,096,906 FY 17 Planned 112,646 441,563 740,428 613,725 961,472 1,006,73 1,010,15 1,076,75 - - - FY 16 Actual 103,883 241,148 372,757 538,494 745,504 842,734 869,894 107,660 133,257 153,893 171,381 199,799 238,717 254,034 261,119 261,119 FY 17 Actual 76,008

CT - 2 4,500 4,000 3,500 3,000 2,500 2,000 1,500 1,000 500 0 Jul Aug 2,826 Sep 2,922 Oct Nov Dec Jan Feb Mar Apr 3,519 May Jun 1,485 3,220 3,220 3,519 3,519 3,519 3,519 3,918 FY 17 Planned 3,519 678 678 1,521 2,688 2,688 2,688 2,888 2,888 2,888 2,888 2,888 3,290 FY 17 Actual 1,010 1,194 1,208 1,681 1,681 1,681 1,681 1,681 2,458 2,458

MWhs Generated

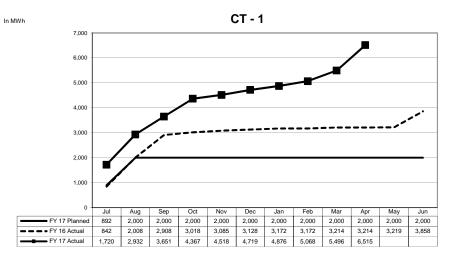
In MWh

Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of April 30, 2017

Generation Cost Analysis

	Combustion Turbine No. 1							
					\$/MWh	ι	Jnder(Ovr)	YTD %
	Budget		Actual		Actual		Budget	Remaining
Routine O & M	\$ 1,459	\$	1,544	\$	237.02	\$	(85)	-6%
Fuel and Pipeline Transport Charges	174		381		58.48		(207)	-119%
Capital Assets/Spare Parts Inventories	525		450		69.03		75	14%
Other Costs	489		373		57.29		116	24%
CA ISO Charges	1		94		14.50		(93)	-9074%
Debt Service	-		-				-	
Annual Budget	 2,648		2,843		436.33		(194)	-7%
Less: Third Party Revenue								
Interest Income	0		-				0	
ISO Energy Sales	160		593		91.08		(433)	0%
Ancillary Services Sales	-		0		0.02		(0)	0%
Misc	-		16		2.40		(16)	0%
	161		609		93.51		(449)	-279%
Net Annual Budget Cost to Participants	\$ 2,488	\$	2,233	\$	342.82	\$	254	10%
Net GenerationMWh @ Meter	2,000		6,515					
\$/MWh (A)	\$ 1,243.89	\$	342.82	1				

MWhs Generated



Footnotes:

(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)