





## BUSINESS PROGRESS REPORT

April 2017

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## **Generation Costs & Reliability**

## **Combustion Turbine Project**

## **Availability/Production for March**

Unit	Availa	bility	Pro	oduction	1	Reason for Run	
CT1	Unit 1	Unit 2	Unit 1	0.0	MWHr	CAISO / CAISO	
Alameda	100.00%	87.85%	Unit 2	90.4	1010 01 11	<i>5/1188 / 6/1188</i>	
Cu	rtailments &	Outages	None. / 3/1 temperatu			ameda Unit2 exhaust gas	
	T						
CT1 Lodi	65.3	2%		0.0	MWHr	No Runs.	
Cu	rtailments &	Outages	3/6/17 - 3/17/17 Maintenance Outage.				
	T		T				
CT2 STIG	100.0	00%		791.5	MWHr	CAISO	
Cu	rtailments &	Outages	None.				
LEC	-	7,085.7	MWHr	CAISO			
Cu	rtailments &	Outages	3/11/17 - Inlet Guide Vane Actuator Failure. 3/31/17 - Forced out due to White Slough Waste Water outage.				

Maintenance Summary – Specific per asset above.

## **Geothermal Facilities**

## Availability/Production for March

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors				
Unit 1	91.70 %	19,107 MWh	Unit 1 had one outage for the month. The unit was removed from service for a scheduled outage on 2/27 at 0400 for a PG&E line outage, Stretford System cleaning, electrical trip test and other misc. work. The unit was returned to service 3/3/17 at 1345				
Unit 2	91.63 %	19,158 MWh	Unit 2 had one outage for the month. The unit was removed from service for a scheduled outage on 2/27 at 0400 for a PG&E line outage, Stretford System cleaning, electrical trip test and other misc. work. The unit was returned to service 3/3/17 at 1345				
Unit 3	N/A %	N/A	Unit 3 remains out of service for the month of February.				
Unit 4	67.74 %	17,883 MWh	Unit 4 had four outages for the month.  • The unit tripped on 3/6 at 0730 due to a temp loss of power to the overspeed protection device. Power was confirmed to the device and the unit was returned to service the same day at 1420.  • The unit was removed from service on 3/7 at 0400 for a PG&E line outage and was returned to service on 3/8 at 2100.  • The unit was forced from service on 3/9 at 1100 to trouble shoot the number 2 turbine bearing. The unit was returned to service from its last outage with an elevated vibration reading. The unit was returned to service the same day at 1400.  The vibration issue remains and the unit will be scheduled out of service for repairs along with the scheduled steam line replacement job that was planned for the near future.  • The unit was removed from service 3/20 at 0400 for a turbine replacement, Stretford and main condenser cleaning, trip testing, main steam line replacement and other misc. work. The unit was returned to service 3/30 at 2300.				
Southeast Geysers Effluent Pipeline	99.6 %	248.1 mgallons	Average flow rate: 5,665.1 gpm				
Southeast Solar Plant	N/A	84,751 KWh	Year-to-date KWh: 174,469				
Bear Canyon Pump Station Zero Solar	N/A	159,392 KWh	Year-to-date KWh: 319,666				

## **Hydroelectric Project**

## **Availability/Production for February**

Units	Availability	Net Electricity Generated	Out-of-Service		
Collierville Unit 1	100.00 %	80,388 MWh	CV #1 unit no reportable outages.		
Collierville Unit 2	100.00 %	80,380 MWh	CV #2 unit no reportable outages.		
Spicer Unit 1	100.00 %	1,840 MWh	NSM #1 unit no reportable outages.		
Spicer Unit 2	100.00 %	1,816 MWh	NSM #2 unit no reportable outages.		
Spicer Unit 3	100.00 %	324 MWh	NSM #3 unit no reportable outages.		

## Operations & Maintenance Activities:

- Monthly CMMS work orders
- USFS/NCPA annual Project Meeting
- Adit 4 Slide Pre-Bid Walk Down and Bid Acceptance
- Beaver Creek Road USFS approval for Bypass Construction
- Emergency Response Plan Drill and Training (Ebbetts Pass Fire Dept)

## 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 March 18, 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.

March
Generation Services Safety Report

Generation Services Safety Report									
	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	822	69	712	5,780					
Work Hours Since Last Recordable	69,575	13,693	104,674	2,078,988					
LTA's (this month)	0	0	0	0					
LTA's (calendar year)	0	1	0	0					
Days without LTA	3,438	53	8,616	4,709					
Work Hours without LTA	315,140	10,788	546,038	1,701,008					
Vehicle Incident (month)	0	0	0	0					
Vehicle Incident (calendar year)	0	0	1	0					

<sup>\*</sup> CT Group: Combines CT-1, CT-2 and LEC Operations

Data originates from OSHA logs, HR records and payroll information. Days and Hours are calculated through pay period ended March 18, 2017.

<sup>\*\*</sup> NCPA HQ: Roseville employees at the Main Office

## **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:

#### **Current Year 2017 Data**

	March 2017		Calendar Year 2017			
	Peak MW	MWh	Peak MW	MWh		
NCPA Pool	322.03 3/6 @ 1900	192,418	351.61 1/18 @1800	576,741		
SVP	478.77 3/14 @ 1600	304,575	478.77 3/14 @ 1600	880,592		
MSSA	792.42 3/14 @ 1600	496,993	792.42 3/14 @ 1600	1,457,333		

## Last Year 2016 Data\*

	March 2016		Calendar Year 2016			
	Peak MW	MWh	Peak MW	MWh		
NCPA Pool	314.31 3/8 @1900	188,186	449.75 7/27 @ 1700	567,124		
SVP	450.13 3/2 @ 1400	293,056	534.21 9/26 @ 1700	856,020		
MSSA	745.69 3/17 @ 1700	481,242	968.73 7/27 @ 1600	1,423,144		

<sup>\*</sup>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									
	March 2017	Calendar Year 2017							
MSSA % Within the Band	91.62%	96.69%							

- McKay's spilled intermittently throughout the month of March due to a combination of maximizing Spicer releases for Spicer storage management, and varying Collierville energy and A/S market awards/instructions.
- Peak spill approximately 2,000cfs on March 21 due to a storm event.
- Spicer Meadows:
  - No curtailments
- Geothermal Units:
  - February 27 @ 0400 March 3 @ 1343, Unit 1 and 2 off line for PG&E Geysers 9 – Lakeville 230kV line outage & annual maintenance. Annual maintenance was rescheduled from later in March to coincide with the PG&E outage.
  - March 6 @ 0741 1422 Unit 4 off line due to control system trouble
  - March 7 @ 0359 March 8 @ 2110 Unit 4 off line for PG&E Geysers 12 Fulton 230kV line outage
  - March 9 @ 1100 1359 Unit 4 off line due to turbine vibration troubleshooting
  - March 20 @ 0400 March 30 @ 2321 Unit 4 off line for turbine replacement due to vibration and annual maintenance. Annual maintenance rescheduled from April due to turbine vibration issue.
- Lodi Energy Center:
  - March 11 @ 0000 1347 plant o/s to replace IGV actuator
- Alameda CTs:
  - March 16 March 19 Unit 2 failed to start for market awarded run on 3 occasions.
  - March 19 @ 1855 March 22 @ 1519 Unit 2 o/s for replacement of atomizing air blower.
- Lodi CT:
  - March 6 March 16 Unit o/s for annual maintenance
- Collierville Units:
  - March 9 @ 1200 1300, Units 1 & 2 derated for intake trash rack cleaning (tunnel burp)
- STIG:
  - No curtailments

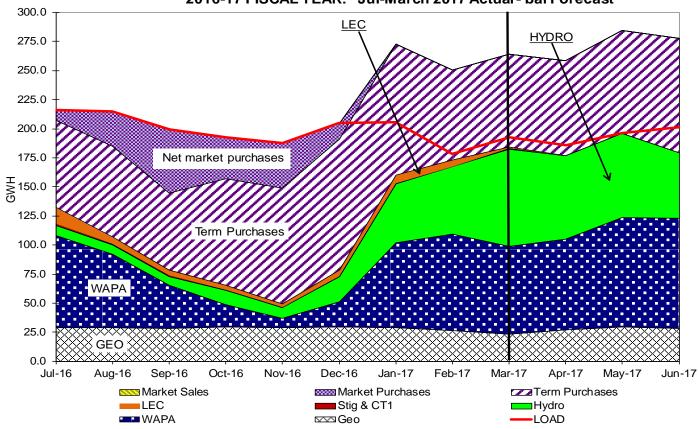
## Pooling & Portfolio Planning & Forecasting

- Actual NCPA Pool load of 192.4 GWh in March equaled 99.1% of the pre-month forecast of 194.2 GWh as weather dried and warmed over February.
- Pool load, at 53 GWh through the 9<sup>th</sup> is on pace to total 182.6 GWh in April, close to the forecast of 185.5 GWh though loads the month cover too brief a period to be truly representative of the entire month.
- The Lodi Energy Center (LEC) generated 1.3 of the forecasted 2.5 GWh in March for the pool as power values in the CAISO markets remained low while gas prices remained relatively high. Strong hydro and renewable generation continue.
- For the month of March, 5.26 inches of rain was recorded at Big Trees gage. The March average Big Trees precipitation is 8.16 inches.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been reduced to \$0/MWh (seeking net positive value between energy and A/S revenues) from \$10/MWh.
- NSMR storage as of March 31 was at 115,898 acre feet. The historical average NSMR storage at the end of March is 759,167 acre feet. As of April 10, NSMR storage is 119,241 acre feet. The NCPA Pool share of NSMR storage is 63,086 acre feet.
- Combined Calaveras Project generation for the Pool in March totaled 83.7 GWh, up from 58.0 GWh in February and more than the pre-month forecast of 73.2 GWh. Through April 10<sup>th</sup>, Calaveras generation for the Pool (23.8 GWh) indicates it will likely end near the month's forecast of 71.6 GWh.
- Western Base Resource (BR) Pool delivery Pool in March was 75.4 GWh compared to the forecast of 60.5 GWh. Through April 9, BR pool allocations at 23.3 GWh, well on the way to beating the latest April forecast of 62.9 GWh.
- PG&E City-Gate gas index most recently traded at \$3.39/MMBtu for April 6<sup>th</sup> delivery compared to an average of \$3.141/MMBtu with a high of \$3.26/MMBtu for the month of March. Gas prices rose 15% during March as production lags and large lateseason storage withdrawals have the market worried over summer demand.
- Day-ahead HLH (on-peak) NP15 electricity prices remain 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 April 10 delivery were \$29.37 and \$22.78/MWh respectively.

NCPA Pool Loads & Resources Value Summary										
	Pea	ak and Energ Mar-1			Estimated Pro	duction Costs	Cost of Serving Demand			
	Coincident Peak (MW)	Total MWh	Forecast Values	Avg. MW	NCPA	A Pool				
	Mar-06-17 Hour 19				Cost/Revenue (Estimate)			Avg (\$/MWh)		
Demand	322.0	192,408	194,169	259.0	N/A	N/A				
							at Market Clearing Price			
WAPA	157.0	75,363	60,455	101.4	\$ 953,194	\$ 12.65	\$ 4,495,615	\$ 23.37		
Geothermal	-	23,245	26,531	31.3	441,655	19.00				
Hydro	-	83,720	73,241	112.7	502,320	6.00				
Stig & CTs	-	705	-	0.9	37,155	52.73	at Variable Cost	of Pool Generation		
LEC	-	1,274	2,509	1.7	47,438	37.23				
Contracts	58.7	79,799	89,547	107.4	4,765,043	59.71	\$ 4,915,224	\$ 25.55		
Market - Net	106.3	(71,698)	(58,114)	(96.5)	•					
(Net Sales = Negative)						\				
Net Total	322.0	192,408	194,169	259.0	\$ 6,746,806	\$ 25.55				

	Monthly Market Summary  Avg Variable Forward Prices (EOX NP15 HLH Ask Prices)							NOTES TO SUMMARY TABLE:			
		Pool Energy (MWh)	н		С	cost of Pool Generation (\$/MWh)		NP15 3/1/2017 (\$/MWh)		4/10/2017 (\$/MWh)	Peak and Energy Summary:
	Jul-16	216,062	\$	36.40	\$	38.15	Apr-17	\$ 24.05	\$		
,	Aug-16	215,007	\$	37.71	\$	41.27	May-17	24.84		26.44	total MWH for the month, and pre-month forecasted values for report period.
	Sep-16	199,228	\$	36.67	\$	45.69	Jun-17	28.22		29.60	* Generation totals are for POOL SHARE of the projects.
	Oct-16	192,514	\$	35.69	\$	39.08	Q3 2017	\$ 35.10	4	37.31	* Hydro totals include Collierville and Spicer generation.
1	Nov-16	187,997	\$	31.67	\$	39.08	Q4 2017	37.60		39.16	Estimated Production Costs:
1	Dec-16	204,678	\$	38.29	\$	39.08	Q1 2018	38.09		38.33	* Fixed project costs not included except for WAPA, where total month's project costs
	Jan-17	205,675	\$	36.58	\$	23.70	CY2018	\$ 34.42	44	33.75	are used to calculate the average unit cost.
	Feb-17	178,642	\$	30.61	\$	24.41	CY2019	34.61		33.21	* STIG and CT costs include forward natural gas and basis hedge transactions.
	Mar-17	192,408	\$	23.37	\$	25.55	CY2020	36.83		35.46	* STIG & CT costs reflect \$2.60 and \$1.62/MWH variable O&M costs per 6-12-06 GSCA.
	Apr-17						CY2021	38.86		37.58	Cost of Serving Demand:
T T	Nay-17						CY2022	39.49		38.22	Compares price of meeting total monthly demand with (1) Hourly pool market clearing price;
	Jun-17						CY2023	41.12		39.85	(2) Variable cost of pool gen. Pool Gen is sum of estimated costs divided by sum of generation.
							,				

### NCPA POOL RESOURCES 2016-17 FISCAL YEAR: Jul-March 2017 Actual - bal Forecast



## **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 June 2017:
  - Monthly System Resource Adequacy Demonstration (filed April 13, 2017)
  - Monthly Supply Plan (filed April 13, 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

Western

• 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 Base Resource Tracking (NCPA Pool)

	Western Base Resource Tracking - NCPA Pool												
		Actual			Costs & Rates								
	BR			Base Resource &	Monthly Cost	CAISO LMP	12-Mo Rolling						
	Forecast <sup>1</sup>	BR Delivered	Difference	Restoration Fund	of BR <sup>2</sup>	Differential <sup>3</sup>	Avg. Cost of BR <sup>4</sup>						
	(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	-	(52,011)	\$2,279,529	\$ 43.83	\$ -	\$ 31.99						
May-17	76,515	-	(76,515)	\$2,279,529	\$ 29.79	\$ -	\$ 31.27						
Jun-17	76,360	-	(76,360)	\$2,279,529	\$ 29.85	\$ -	\$ 30.95						
1/	As forecasted	d in NCPA 16/1	7 Budget										

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

 MEEA pricing (market efficiency enhancement agreement) producing a savings of approximately \$1,930 for the Pool in March 2017. The displacement program was not active.

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

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

## **Debt and Financial Management**

- The Federal Reserve (Fed) raised its benchmark for short-term rates in March as expected. The new target for Fed funds was increased by 0.25% to a range of 0.75% to 1%. In their accompanying statement, the Federal Open Market Committee (FOMC) indicated that "the labor market has continued to strengthen and that economic activity has continued to expand at a moderate pace."
- The Fed rate hike effected shorter U.S. Treasury maturities, but the rest of the curve ended the month largely unchanged from February. As investors interpreted communications issued by the Fed as signaling by the Fed as signaling a gradual path of tightening, intermediate-and longer-term yields reversed their early 2017 gains.
- Municipal new issuance declined in March with a 29.9% drop in long-term bond sales to \$29.8 billion from \$42.5 billion the same month last year. This was due largely to a significant decrease in refundings which were down 57.5% to \$7.5 billion from \$17.7 billion the same month last year. Year-to-date (YTD) long-term sales are down 12.1% to \$87.9 billion from \$100 billion in the same period last year, according to the Municipal Market Monitor (TM3) data.

## **Schedule Coordination Goals**

## **Software Development**

- After a successful deployment of the Scheduling Software Suite for BART's BRT1 SCID (Scheduling Coordinator ID), the MEID SCID scheduling was successfully implemented beginning with the 03/24/2017 operating date in the Real-Time Market and with the 03/25/2017 operating date in the Day-Ahead Market. IS staff has also deployed, in the test environment, the new Santa Clara's 'SNCL' SCID for its non-MSS (Metered Sub-System) portfolio. 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.

### **Network**

 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. Ops and Support are working with vendors to extract old mail and import into a new archiving solution. Plan 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 is currently recruiting for a Cyber Security student intern position to help with enhancing and executing a cyber-incident response procedure for the Agency and its members. Work is expected to begin this summer.
- Work continued throughout March 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.

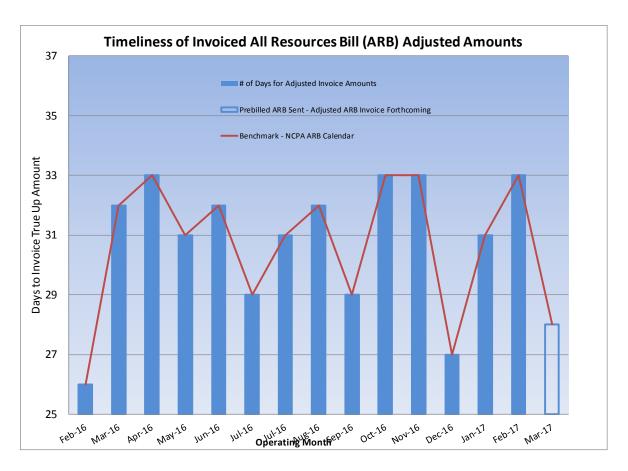
## **NCPA Bills & Settlements**

## **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 (2<sup>nd</sup> Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
- November 2016 (3<sup>rd</sup> Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- May 2016 (4<sup>th</sup> Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
- July 2015 (5<sup>th</sup> 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 is working closely with the California Air Resources Board (CARB) and the Joint Utility Group to ensure that greenhouse gas allowances continue to be freely provided to electric utilities in a post-2020 cap-and-trade program. In response to several months of negotiations, CARB has agreed to modify its cap-and-trade regulations amendment package so that NCPA members would receive nearly 17 million freely allocated allowances between 2021 and 2030. Even if the carbon price remains at minimum levels, these allowances would provide at least \$365 million in allowance value to NCPA member utilities during that time period. CARB expects to incorporate these changes to the cap-and-trade regulations within the next month, with CARB Board consideration scheduled for June.
- 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 2<sup>nd</sup>. Major legislative issues include the future of the Cap and Trade Program, a 100% Renewables Portfolio Standard, energy storage incentives, a clean peak energy standard, programs focused on multi-unit housing, and intervener compensation. Issues that have not materialized in bills, but NCPA is monitoring, are regionalization and net energy metering expansion.

## **Human Resources**

Hires:

None

## **Intern Hires:**

Annette Zamudio joined NCPA on March 13, 2017, as a Student Assistant I for the City of Lompoc. Annette is pursuing an Engineering degree at Allan Hancock College in Lompoc, CA.

## Promotions/Position Changes:

None

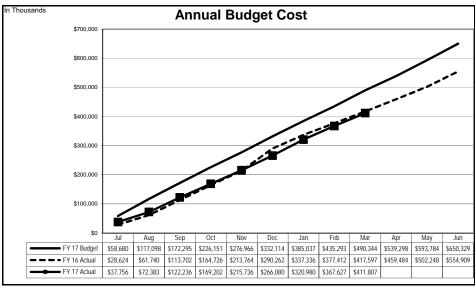
## Separations:

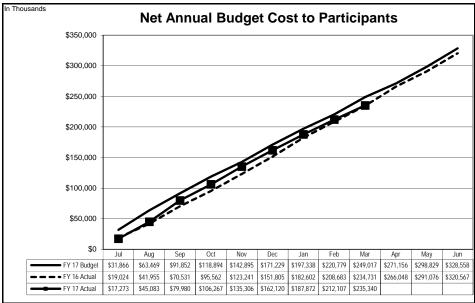
John Koos, Environmental Health & Safety Specialist, resigned from his position at the Geothermal Facilities. John, who had worked at NCPA since December 2009, left for another employment opportunity.

Vinnie Venethongkham, Engineer III, resigned from his position at the Lodi Energy Center. Vinnie, who had worked at NCPA since November 2009, left for another employment opportunity in the power industry.

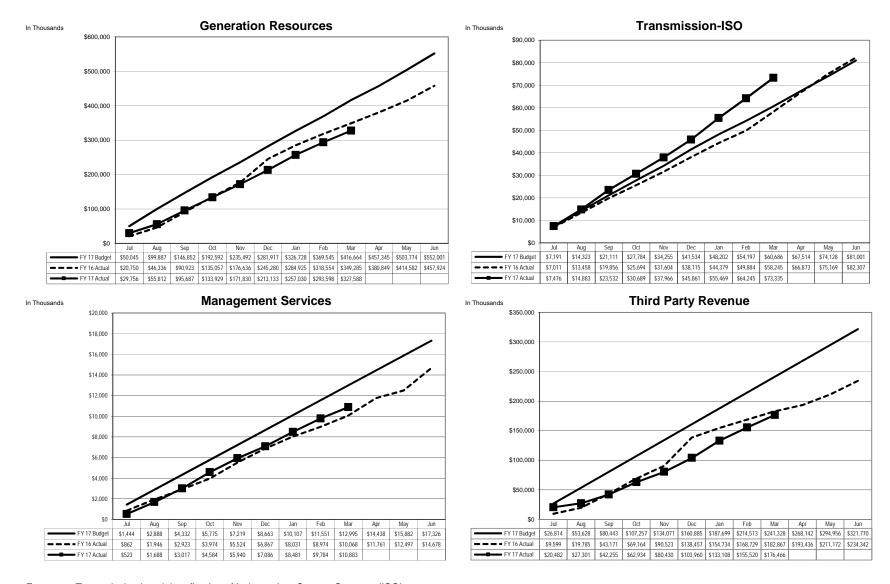
## Annual Budget 2016-2017 Fiscal Year To Date As of March 31, 2017

In Thousands	Program						
	Annual		Under(Ovr)	YTD %			
GENERATION RESOURCES	Budget	Actual	Budget	Remaining			
NCPA Plants							
Hydroelectric	51,854	38,444	\$ 13,410	26%			
Geothermal Plant	33,145	22,039	11,106	34%			
Combustion Turbine No. 1	2,648	2,601	48	2%			
Combustion Turbine No. 2 (STIG)	8,587	6,113	2,474	29%			
Lodi Energy Center	92,991	41,570	51,421	55%			
	189,227	110,767	78,459	41%			
Member Resources - Energy	45,638	34,010	11,627	25%			
Member Resources - Natural Gas	4,878	4,071	806	17%			
Western Resource	30,288	17,967	12,321	41%			
Market Power Purchases	39,302	25,206	14,096	36%			
Load Aggregation Costs - ISO	240,129	134,963	105,166	44%			
Net GHG Obligations	2,540	603	1,937	76%			
	552,001	327,588	224,413	41%			
TRANSMISSION		,					
Independent System Operator	81,001	73,335	7,666	9%			
MANAGEMENT SERVICES							
Legislative & Regulatory							
Legislative Representation	1,897	1,177	720	38%			
Regulatory Representation	794	583	212	27%			
Western Representation	817	408	408	50%			
Member Services	432	273	159	37%			
	3.940	2,441	1,499	38%			
Judicial Action	625	546	79	13%			
Power Management	020	0.0		1070			
System Control & Load Dispatch	5,622	3,683	1.939	34%			
Forecasting & Prescheduling	2,555	1,563	991	39%			
Industry Restructuring	414	219	195	47%			
Contract Admin, Interconnection Svcs & Ext. Affairs	1.137	617	520	46%			
Green Power Project	18	1	16	92%			
Gas Purchase Program	87	45	42	48%			
Market Purchase Project	128	59	69	54%			
Warker aronase riojest	9.960	6.188	3,772	38%			
Energy Risk Management	-,	-,	- ,	40%			
Settlements	212	127	85				
Integrated System Support	862	363 83	498 227	58%			
Participant Pass Through Costs	311			73%			
Support Services	1,417	1,034	383	27%			
Support Services	47.220	103	(103)	270/			
	17,326	10,885	6,441	37%			
TOTAL ANNUAL BUDGET COST	650,328	411,808	238,520	37%			
LESS: THIRD PARTY REVENUE							
Plant ISO Energy Sales	118,943	51,618	67,325	57%			
Load Aggregation Energy Sales	184,117	92,520	91,597	50%			
Ancillary Services Sales	3,790	2,820	970	26%			
Other ISO Revenue	-	12,189	(12,189)				
Transmission Sales	110	83	28	25%			
Western Credits, Interest & Other Income	14,811	17,236	(2,425)	-16%			
	321,770	176,466	145,304	45%			
	1						
NET ANNUAL BUDGET COST TO PARTICIPANTS	328,558	235,342	\$ 93,216	28%			



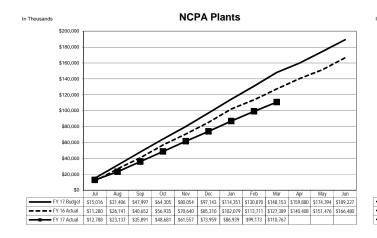


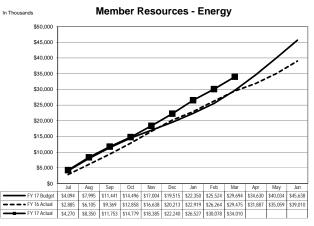
## Annual Budget Budget vs. Actual By Major Area 2016-2017 Fiscal Year To Date As of March 31, 2017

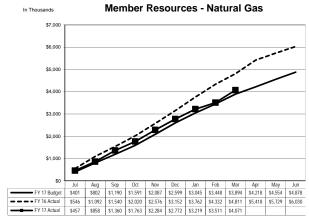


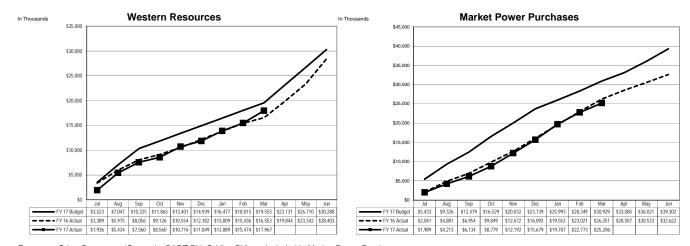
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

#### Annual Budget Cost Generation Resources Analysis By Source 2016-2017 Fiscal Year To Date As of March 31, 2017



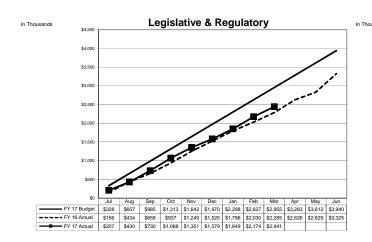


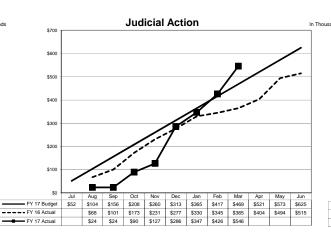


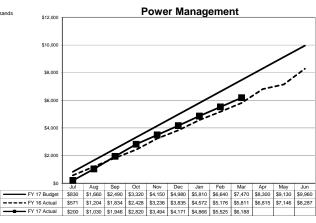


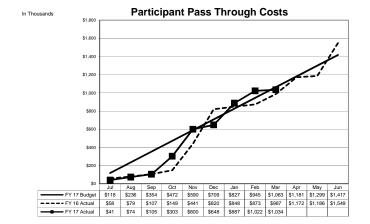
Footnote: Other Resources (Graeagle, BART PV, Gridley PV) are included in Market Power Purchases

## Annual Budget Cost Management Services Analysis By Source 2016-2017 Fiscal Year To Date As of March 31, 2017

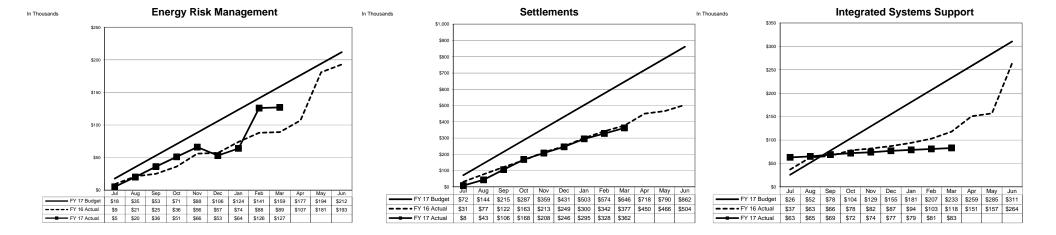




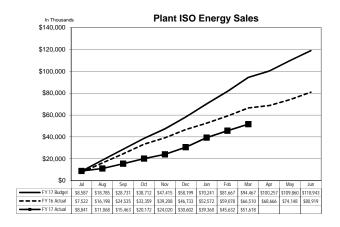


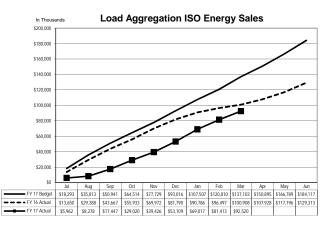


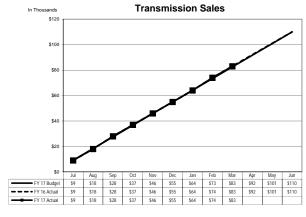
## Annual Budget Cost Management Services Analysis By Source 2016-2017 Fiscal Year To Date As of March 31, 2017

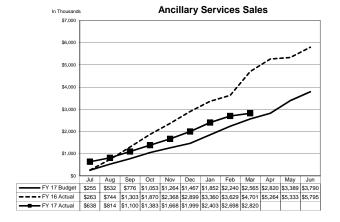


## Annual Budget Cost Third Party Revenue Analysis By Source 2016-2017 Fiscal Year To Date As of March 31, 2017











# Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of March 31, 2017

#### **Generation Cost Analysis**

#### \$ in thousands

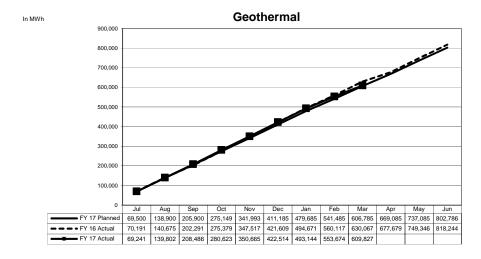
			Geothe	rmal			
			\$/MV	/h	Un	der(Ovr)	YTD %
	Budget	Actual	Actu	al		Budget	Remaining
Routine O & M	\$ 17,159	\$ 11,684	\$	19.16	\$	5,474	32%
Capital Assets/Spare Parts Inventories	2,575	1,124		1.84		1,451	56%
Other Costs	7,994	5,100		8.36		2,894	36%
CA ISO Charges	308	499		0.82		(191)	-62%
Debt Service	5,110	3,632		5.96		1,478	29%
nnual Budget	33,145	22,039		36.14		11,106	34%
ess: Third Party Revenue							
Interest Income	32	140		0.23		(108)	-331%
ISO Energy Sales	30,113	20,291		33.27		9,821	33%
Ancillary Services Sales	-	1		0.00		(1)	
Effluent Revenues	700	400		0.66		300	43%
Misc	110	851		1.40		(741)	
	30,955	21,683		35.56		9,273	30%
let Annual Budget Cost to Participants	\$ 2,190	\$ 356	\$	0.58	\$	1,834	84%
let GenerationMWh @ Meter	802,786	609,827					
/MWh (A)	\$ (3.64)	\$ (5.37)					

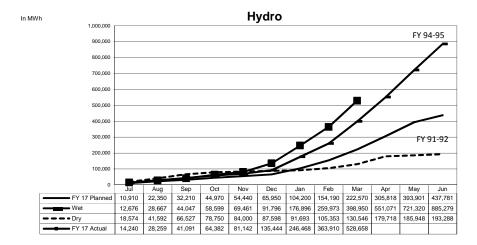
	Hydroelectric									
				Ť	\$/MWh	_	Jnder(Ovr)	YTD %		
	Budget		Actual		Actual		Budget	Remaining		
Routine O & M	\$ 8,369	\$	4,993	\$	9.45	\$	3,375	40%		
Capital Assets/Spare Parts Inventories	2,135		1,372		2.59		763	36%		
Other Costs	2,861		1,693		3.20		1,168	41%		
CA ISO Charges	237		1,697		3.21		(1,460)	-616%		
Debt Service	38,253		28,689		54.27		9,563	25%		
Annual Budget	51,854		38,444		72.72		13,410	26%		
Less: Third Party Revenue										
Interest Income	91		235		0.44		(144)	-159%		
ISO Energy Sales	19,542		18,489		34.97		1,053	5%		
Ancillary Services Sales	2,487		1,956		3.70		531	21%		
Misc			27		0.05		(27)			
	22,120		20,707		39.17		1,413	6%		
Net Annual Budget Cost to Participants	\$ 29,734	\$	17,737	\$	33.55	\$	11,997	40%		
Net GenerationMWh @ Meter	437,781		528,658							
\$/MWh (A)	\$ (19.46)	\$	(20.72)							

#### Footnotes:

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

#### **MWhs Generated**





# Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of March 31, 2017

### **Generation Cost Analysis**

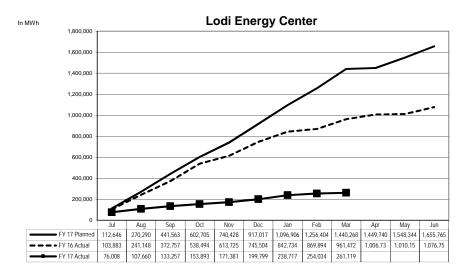
	Lodi Energy Center									
					\$/MWh		Jnder(Ovr)	YTD %		
	Budget		Actual		Actual		Budget	Remaining		
Routine O & M	\$ 14,041	\$	7,724	\$	29.58	\$	6,317	45%		
Fuel	44,101		7,943		30.42		36,157	82%		
AB 32 GHG Offset	-		-		-		-			
CA ISO Charges and Energy Purchases	2,374		2,700		10.34		(326)	-14%		
Capital Assets/Spare Parts Inventories	2,805		1,367		5.24		1,438	51%		
Other Costs	3,233		2,026		7.76		1,207	37%		
Debt Service	26,437		19,810		75.87		6,627	25%		
Annual Budget	92,991		41,570		159.20		51,421	55%		
Less: Third Party Revenue										
Interest Income	44		143		0.55		(98)	-221%		
ISO Energy Sales	68,846		12,191		46.69		56,655	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		17,257		66.09		52,940	75%		
Net Annual Budget Cost to Participants	\$ 22,795	\$	24,313	\$	93.11	\$	(1,519)	-7%		
Net GenerationMWh @ Meter	1,655,765		261,119							
S/MWh (A)	\$ (2.20)	\$	17.24							

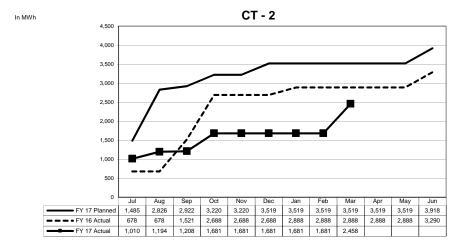
	Combustion Turbine No. 2 (STIG)										
					\$/MWh	Under(Ovr)		YTD %			
	Budget		Actual		Actual		Budget	Remaining			
Routine O & M	\$ 1,413	\$	940	\$	382.49	\$	473	33%			
Fuel and Pipeline Transport Charges	936		594		241.57		342	37%			
Capital Assets/Spare Parts Inventories	133		25		10.15		108	81%			
Other Costs	477		289		117.54		188	39%			
CA ISO Charges	2		46		18.78		(44)	-1917%			
Debt Service	5,626		4,219		1,716.20		1,406	25%			
Annual Budget	8,587		6,113		2,486.73		2,474	29%			
Less: Third Party Revenue											
Interest Income	19		42		16.90		(23)	-122%			
ISO Energy Sales	282		149		60.59		133	47%			
Ancillary Service Sales	-		0		0.01		(0)	0%			
Fuel and Pipeline Transport Credits	415		901		366.55		(486)	-117%			
Misc	-		-		-		-	0%			
	715		1,092		444.05		(376)	-53%			
Net Annual Budget Cost to Participants	\$ 7,872	\$	5,022	\$	2,042.68	\$	2,850	36%			
							•				
Net GenerationMWh @ Meter	3,918		2,458								
\$/MWh (A)	\$ 573.32	\$	326.48								

#### Footnotes:

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

#### **MWhs Generated**





# Annual Budget NCPA Generation Detail Analysis By Plant 2016-2017 Fiscal Year To Date As of March 31, 2017

### **Generation Cost Analysis**

	Combustion Turbine No. 1									
		Budget		Actual		\$/MWh Actual	U	nder(Ovr) Budget	YTD % Remaining	
Routine O & M	\$	1,459	\$	1,428	\$	259.82	\$	31	2%	
Fuel and Pipeline Transport Charges		174		349		63.57		(175)	-101%	
Capital Assets/Spare Parts Inventories		525		406		73.86		119	23%	
Other Costs		489		371		67.54		118	24%	
CA ISO Charges		1		46		8.39		(45)	-4377%	
Debt Service		-		-				-		
Annual Budget		2,648		2,601		473.18		48	2%	
Less: Third Party Revenue										
Interest Income		0		-				0		
ISO Energy Sales		160		498		90.58		(338)	0%	
Ancillary Services Sales		-		0		0.03		(0)	0%	
Misc		-		16		2.85		(16)	0%	
		161		514		93.46		(353)	-220%	
Net Annual Budget Cost to Participants	\$	2,488	\$	2,087	\$	379.72	\$	401	16%	
Net GenerationMWh @ Meter		2,000		5,496						
\$/MWh (A)	\$	1,243.89	\$	379.72						

#### Footnotes:

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

#### **MWhs Generated**

