



651 Commerce Drive  
Roseville, California 95678  
(916) 781-3636  
[www.ncpa.com](http://www.ncpa.com)

# BUSINESS PROGRESS REPORT

FEBRUARY 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 .....	13
Human Resources.....	14
Annual Budget FY to Date .....	15
Budget vs. Actual by Major Area .....	16
Generation Resources Analysis by Source .....	17
Management Services Analysis by Source .....	18
Third Party Revenue Analysis by Source .....	20
Generation Detail Analysis by Plant .....	21

# Generation Costs & Reliability

## Combustion Turbine Project

### Availability/Production for January

Unit	Availability		Production		Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	45.9	CAISO / CAISO
	26.72%	26.72%	Unit 2	46.9	
Curtailments & Outages			08-Jan-17 7:00 10:11 Transmission induced outage 09Jan-30Jan 0:00 23:59 Annual maintenance 31-Jan-17 0:00 14:01 Annual maintenance / 08-Jan-17 7:00 10:11 Transmission induced outage 09Jan-30Jan 0:00 23:59 Annual maintenance 31-Jan-17 0:00 14:01 Annual maintenance		
CT1 Lodi	98.25%		64.6 MWhr		CAISO
Curtailments & Outages			22-Jan-17 8:13 8:44 High EGT spread 22-Jan-17 11:32 23:59 High EGT spread/emissions limitation		
CT2 STIG	100.00%		0.0 MWhr		CAISO
Curtailments & Outages			None.		
LEC	100.00%		0.0 MWhr		None.
Curtailments & Outages			None.		

**Maintenance Summary – Specific per asset above.**

## Geothermal Facilities

### Availability/Production for January

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
<b>Unit 1</b>	100 %	19,767 MWh	Unit 1 had no outages for the month of January.
<b>Unit 2</b>	100 %	19,854 MWh	Unit 2 had no outages for the month of January.
<b>Unit 3</b>	N/A %	N/A	Unit 3 remains out of service for the month of January.
<b>Unit 4</b>	100 %	31,717 MWh	Unit 4 had no outages for the month of January.
<b>Southeast Geysers Effluent Pipeline</b>	100 %	232.9 mgallons	Average flow rate: 5,361 gpm
<b>Southeast Solar Plant</b>	N/A	42,888 KWh	Year-to-date KWh: 42,888
<b>Bear Canyon Pump Station Zero Solar</b>	N/A	78,814 KWh	Year-to-date KWh: 78,814

## Hydroelectric Project

### Availability/Production for January

Units	Availability	Net Electricity Generated	Out-of-Service
<b>Collierville Unit 1</b>	95.47 %	53,404 MWh	CV #1 unit was out of service on 01/08/17 at 1124 through 01/09/17 at 1741 due to high tail water level. CV #1 unit was out of service on 01/10/17 at 0956 through 1015 due to high tail water cutback testing. CV #1 unit was out of service on 01/10/17 at 1021 through 1036 due to high tail water cutback testing. CV #1 unit was out of service on 01/11/17 at 2314 through 01/12/17 at 0202 due to high wheel pit level.
<b>Collierville Unit 2</b>	95.85 %	55,455 MWh	CV #2 unit was out of service on 01/08/17 at 1155 through 01/09/17 at 1848 due to high tail water level.
<b>Spicer Unit 1</b>	85.82 %	992 MWh	NSM #1 unit was out of service on 01/04/17 at 0903 through 1134 due to transfer trip comm. trouble. NSM #1 unit was out of service on 01/10/17 at 2134 through 01/13/17 at 1144 due to transfer trip comm. trouble. NSM #1 unit was out of service on 01/22/17 at 1920 through 01/24/17 at 1211 due to PG&E line trouble.
<b>Spicer Unit 2</b>	85.85 %	935 MWh	NSM #2 unit was out of service on 01/04/17 at 0903 through 1130 due to transfer trip comm. trouble. NSM #2 unit was out of service on 01/10/17 at 2134 through 01/13/17 at 1144 due to transfer trip comm. trouble. NSM #2 unit was out of service on 01/22/17 at 1920 through 01/24/17 at 1202 due to PG&E line trouble.
<b>Spicer Unit 3</b>	82.31 %	230 MWh	NSM #3 unit was out of service on 01/04/17 at 0903 through 01/05/17 at 1205 due to transfer trip comm. trouble. NSM #3 unit was out of service on 01/10/17 at 2134 through 01/13/17 at 1357 due to transfer trip comm. trouble. NSM #3 unit was out of service on 01/22/17 at 1920 through 01/24/17 at 1132 due to PG&E line trouble.

#### Operations & Maintenance Activities:

- Monthly CMMS work orders
- Beaver Creek Sluicing Operation
- Collierville/Bellota 230kv transmission line communication circuit upgrade to wireless
- Collierville high tail water cutback control upgrade

## Environmental, Health & Safety (EH&S) Projects

### Incident Reports

- There was one vehicle accident that occurred on January 10, 2017, one lost time incident that occurred on January 24, 2017, and one recordable incident that occurred on January 8, 2017.  
**Note:** Since this report reflects results posted through pay period ending January 21, 2017 and the lost time accident occurred on January 24, the incident will be reported on next month's incident report.
- 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 January 21, 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.

### January Generation Services Safety Report

	Hydro	GEO	CT Group *	NCPA HQ **
CalOSHA Recordable (this month)	0	1	0	0
CalOSHA Recordable (calendar year)	0	1	0	0
Days since Recordable	766	13	656	5,724
Work Hours Since Last Recordable	64,998	2,305	96,637	2,058,699
LTA's (this month)	0	1	0	0
LTA's (calendar year)	0	1	0	0
Days without LTA	3,382	2,963	4,510	4,653
Work Hours without LTA	310,563	677,591	538,001	1,680,719
Vehicle Incident (month)	0	0	1	0
Vehicle Incident (calendar year)	0	0	1	0

\* 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 January 21, 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:

### **Current Year 2017 Data**

	<b>January 2017</b>		<b>Calendar Year 2017</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	351.61 1/18 @1800	205,674	351.61 1/18 @1800	205,674
SVP	448.66 1/10 @1800	300,958	448.66 1/10 @1800	300,958
MSSA	788.11 1/10 @ 1800	506,632	788.11 1/10 @ 1800	506,632

### **Last Year 2016 Data\***

	<b>January 2016</b>		<b>Calendar Year 2016</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	339.45 1/6 @1900	199,166	449.75 7/27 @1700	199,166
SVP	437.66 1/29 @ 1400	289,203	534.21 9/26 @ 1700	289,203
MSSA	762.2 1/14 @ 1800	488,369	968.73 7/27 @ 1600	488,369

\*Last year's data added for comparison purposes only

### **System Peak Data**

	<b>All Time Peak Demand</b>	<b>2017 Peak Demand</b>
NCPA Pool	517.83 MW on 7/24/2006 @ 1500	351.61 1/18 @1800
SVP	534.21 MW on 9/26/16 @ 1700	448.66 1/10 @1800
MSSA	988.56 MW on 7/08/2008 @ 1500	788.11 1/10 @ 1800

- 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.

<b>NCPA Deviation Band Performance</b>		
	<b>January 2017</b>	<b>Calendar Year 2017</b>
MSSA % Within the Band	99.40%	99.40%

- January 8 @ 0300 – January 12 @ 1100, McKay's spilled due to high natural flows.
- Peak spill exceeded 16,000cfs on January 8 about 2030.
- Spicer Meadows:
  - January 4 and 10 – 14, Units off line due to transfer trip comm trouble.
  - January 22 – 24, Units off line due to PG&E line trouble.
- Geothermal Units:
  - January 3 @ 0046 – 0137 Unit 4 off line due to vacuum pump trip.
- Lodi Energy Center:
  - No curtailments.
- Alameda CTs:
  - January 8 @ 0700 – 1011 Unit 1 and 2 o/s due to PG&E line work.
  - January 9 – 31 Unit 1 and 2 o/s for annual maintenance.
- Lodi CT:
  - January 22 @ 0813 – 0844 Unit trip on high EGT spread. Unit restarted and tripped again at 1132, forced o/s due to 2 starts/day limitation.
- Collierville Units:
  - January 8 – 12 Units 1 & 2 derated varying amounts due to issues associated with high tail water levels and spill conditions.
  - January 18 @ 1400 – 1500 and January 29 @ 1200 – 1400 Units 1 & 2 derated for intake trash rack cleaning (tunnel burp).
- STIG:
  - No curtailments.

### **Pooling & Portfolio Planning & Forecasting**

- Actual NCPA Pool load of 205.7 GWh in January equaled 102% of the pre-month forecast of 202.5 GWh as weather was volatile.
- Pool load, at 77.0 GWh through the 12<sup>th</sup> is on pace to total 179.5 GWh in February, very close to the forecast of 179.9 GWh. Loads at forecast for the month comes despite recent slightly warmer (and wetter) February weather.
- The Lodi Energy Center (LEC) generated 7.0 of the forecasted 9.7 GWh in January for the pool as power values in the CAISO markets remained low while gas prices are relatively high. Strong renewable generation continues.
- For the month of January, 27.05 inches of rain was recorded at Big Trees gage. The January average Big Trees precipitation is 9.87 inches.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been reduced to \$10/MWh from \$30/MWh.

- NSMR storage as of January 31 was at 122,172 acre feet. The historical average NSMR storage at the end of January is 78,975 acre feet. As of February 12, NSMR storage is 133,358 acre feet. The NCPA Pool share of NSMR storage is 69,797 acre feet.
- Combined Calaveras Project generation for the Pool in January totaled 51.0 GWh, up from 21.5 GWh in November. The Pool's 51.0 GWh in January was more than the pre-month forecast of 18.8 GWh. Through February 12<sup>th</sup>, Calaveras generation for the Pool (21.7 GWh) is running near the month's forecast of 53.3 GWh.
- Western Base Resource (BR) Pool delivery Pool in January was 72.6 GWh compared to the forecast of 9.9 GWh. Through February 12<sup>th</sup>, BR pool allocations at 41.9 GWh are already over half of the February forecast of 71.4 GWh.
- PG&E City-Gate gas index most recently traded at \$3.325/MMBtu for February 13<sup>th</sup> delivery - compared to an average of \$3.62/MMBtu with a high of \$4.035/MMBtu for the month of January. Prices rose sharply during December and now seem to be tapering back. While the PG&E Bidweek price for February gas averaged \$3.71, daily Platt's prices have been progressively lower as spring is within sight.
- Day-ahead HLH (on-peak) NP15 electricity remains relatively low on average with spikes occurring on days with highest load. The HLH and LLH day-ahead average LMPs for February 13<sup>th</sup> delivery were \$36.96 and \$29.00/MWh, respectively.

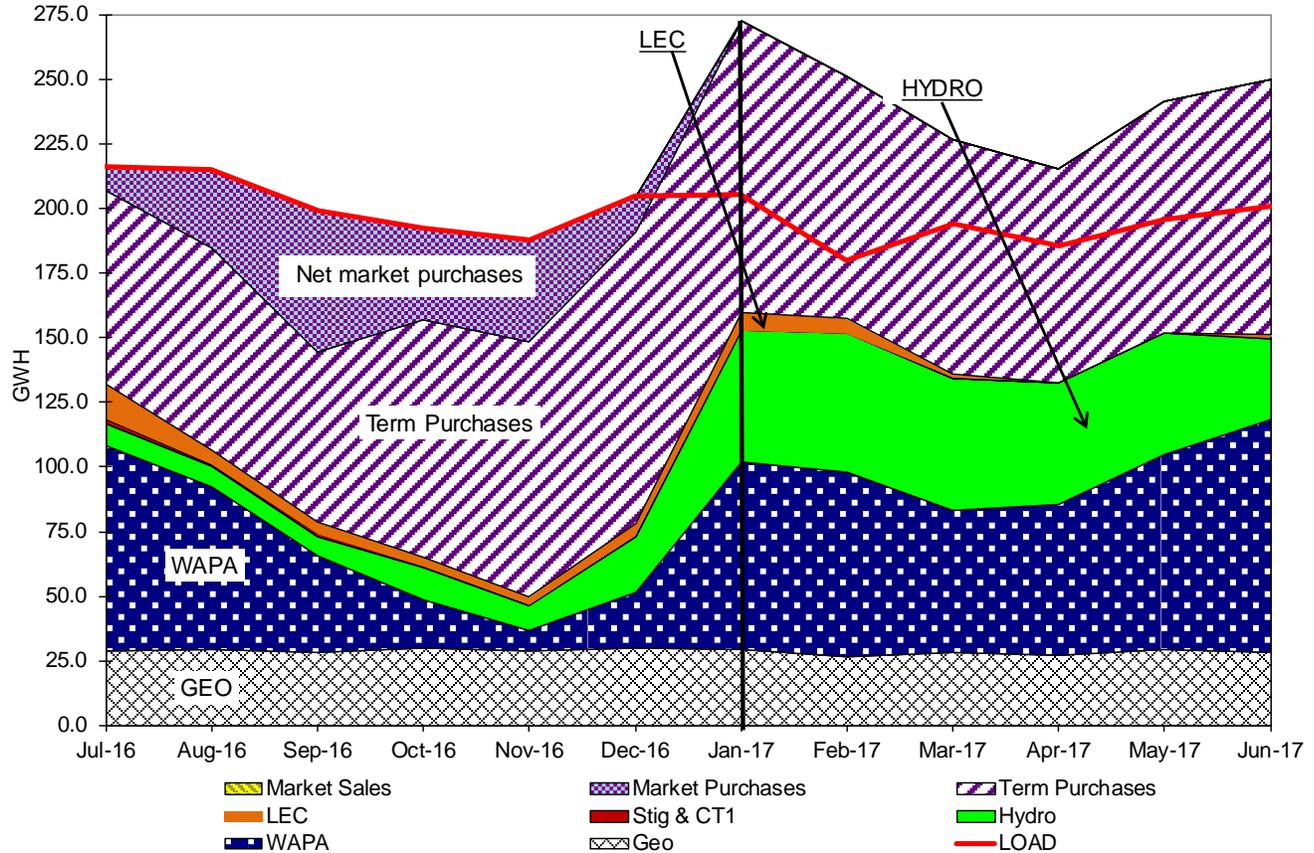
NCPA Pool Loads & Resources Value Summary								
Peak and Energy Summary January 2017					Estimated Production Costs		Cost of Serving Demand	
	Coincident Peak (MW) Jan-18-17 Hour 18	Total MWh	Forecast Values	Avg. MW	NCPA Pool		Totals	Avg (\$/MWh)
					Cost/Revenue (Estimate)	Variable Cost (\$/MWh)		
Demand	351.6	205,674	202,513	276.4	N/A	N/A		
WAPA	121.0	72,578	9,889	97.6	\$ 953,194	\$ 13.13	\$ 7,523,159	\$ 36.58
Geothermal	38.9	29,238	29,567	39.3	\$ 555,525	\$ 19.00		
Hydro	111.0	50,951	19,597	71.0	\$ 305,706	\$ 6.00		
Stig & CTs	-	92	-	0.1	\$ 7,315	\$ 79.90		
LEC	-	6,998	9,730	9.4	\$ 291,191	\$ 41.61		
Contracts	151.1	112,536	86,419	159.5	\$ 5,560,811	\$ 49.41	\$ 5,794,167	\$ 28.17
Market - Net (Net Sales = Negative)	(70.4)	(66,719)	47,311	(100.4)	\$ (2,440,573)	\$ 36.58		
<b>Net Total</b>	<b>351.6</b>	<b>205,674</b>	<b>202,513</b>	<b>276.4</b>	<b>\$ 5,233,169</b>	<b>\$ 28.17</b>		

Monthly Market Summary						
	Pool Energy (MWh)	HLH Avg (\$/MWh)	MCP (\$/MWh)	Avg Variable Cost of Pool Generation (\$/MWh)	Forward Prices (EOX NP15 HLH Ask Prices)	
					NP15 1/3/2017 (\$/MWh)	2/10/2017 (\$/MWh)
Jul-16	216,062	\$ 36.40	\$ 38.15		Feb-17 \$ 35.30	\$ 34.84
Aug-16	215,007	\$ 37.71	\$ 41.27		Mar-17 \$ 32.95	\$ 28.20
Sep-16	199,228	\$ 36.67	\$ 45.69		Apr-17 \$ 31.23	\$ 27.17
Oct-16	192,514	\$ 35.69	\$ 39.08		Q2 2017 \$ 31.37	\$ 28.17
Nov-16	187,997	\$ 31.67	\$ 39.08		Q3 2017 \$ 40.36	\$ 37.73
Dec-16	204,678	\$ 38.29	\$ 39.08		Q4 2017 \$ 39.98	\$ 39.43
Jan-17	205,674	\$ 36.58	\$ 28.17		CY2018 \$ 36.27	\$ 35.24
Feb-17					CY2019 \$ 37.53	\$ 35.85
Mar-17					CY2020 \$ 39.80	\$ 38.18
Apr-17					CY2021 \$ 41.64	\$ 40.13
May-17					CY2022 \$ 42.19	\$ 40.75
Jun-17					CY2023 \$ 43.83	\$ 42.37

NOTES TO SUMMARY TABLE:

- Peak and Energy Summary:**  
 \* Monthly generation summary of Coincidental Peak (hour in which pool demand peaked), total MWh for the month, and pre-month forecasted values for report period.  
 \* Generation totals are for POOL SHARE of the projects.  
 \* Hydro totals include Collierville and Spicer generation.
- Estimated Production Costs:**  
 \* Fixed project costs not included except for WAPA, where total month's project costs are used to calculate the average unit cost.  
 \* STIG and CT costs include forward natural gas and basis hedge transactions.  
 \* STIG & CT costs reflect \$2.60 and \$1.62/MWh variable O&M costs per 6-12-06 GSCA.
- Cost of Serving Demand:**  
 Compares price of meeting total monthly demand with (1) Hourly pool market clearing price; (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-Jan.17 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 April 2017:
  - Monthly System Resource Adequacy Demonstration (filed February 15, 2017)
  - Monthly Supply Plan (filed February 15, 2017)

**Industry Restructuring**

NCPA is actively participating on behalf of the members in the following CAISO stakeholder initiatives:

**Commitment Costs and Bidding Enhancements**

- This CAISO stakeholder initiative is focused on refining the method used to calculate minimum load and start-up costs (otherwise known as “Commitment Costs”) that are incorporated into a generating facilities Bid. The outcome of this stakeholder initiative will impact how NCPA manages the member resources; therefore, NCPA has a strong interest in this process.

## Reliability Services 2

- Through the Reliability Services Initiative 2, CAISO is exploring certain enhancements to the current Resource Adequacy program, including, but not limited to, defining substitution requirements for flexible capacity on planned outages, address RAAIM exemptions, separate local and system RA for purposes of forced outage substitution, and clarify LRA interactions and process alignment. In this initiative NCPA will focus on limiting the applicability of new Resource Adequacy requirements to the NCPA members. NCPA is actively participating in this stakeholder process and market simulation.

## FRAC MOO 2

- CAISO has initiated the second phase of the Flexible Resource Adequacy Capacity and Must Offer Obligation initiative (otherwise known as “FRAC MOO 2”). In the FRAC MOO 2 initiative CAISO is planning to address the following issues: (i) assess the need to create a separate downward flexible capacity attribute, (ii) determine eligibility of 15-minute dispatchable intertie resources to provide flexible RA; (iii) access flexible capacity eligibility from storage resources who do not fit within the NGR model, (iv) flexible capacity impacts of uncontracted/merchant Variable Energy Resources, and (v) review of the need to develop a ‘regulation based’ and ‘load-following based’ flexible capacity product. NCPA will actively participate in this effort and will represent the members’ interests as they may appear.

## 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. Transmission costs are a major component of the members’ costs; therefore NCPA will closely monitor the development of this initiative.

## 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.

## Western

### Western Base Resource Tracking (NCPA Pool)

Western Base Resource Tracking - NCPA Pool							
	Actual			Costs & Rates			
	BR Forecast <sup>1</sup> (MWh)	BR Delivered (MWh)	Difference (MWh)	Base Resource & Restoration Fund (\$)	Monthly Cost of BR <sup>2</sup> (\$/MWh)	CAISO LMP Differential <sup>3</sup> (\$/MWh)	12-Mo Rolling Avg. Cost of BR <sup>4</sup> (\$/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	-	(13,801)	\$1,135,901	\$ 82.30	\$ -	\$ 40.31
Mar-17	47,259	-	(47,259)	\$1,135,901	\$ 24.04	\$ -	\$ 38.78
Apr-17	52,011	-	(52,011)	\$2,279,529	\$ 43.83	\$ -	\$ 37.85
May-17	76,515	-	(76,515)	\$2,279,529	\$ 29.79	\$ -	\$ 36.81
Jun-17	76,360	-	(76,360)	\$2,279,529	\$ 29.85	\$ -	\$ 36.34
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) producing a savings of approximately \$7,500 for the Pool in January 2017. The displacement program was not active during this reporting period.
- Reclamation announced that Power customers will be refunded approximately \$7.8 million due to over collections from previous years. WAPA has started issuing refunds via bill credits on Restoration Funding invoices. NCPA Pool will receive approximately \$1.45 million in credits on its Restoration Fund invoices in Jan-Mar 2017.

## **Debt and Financial Management**

- The Fed increased key interest rates by 25 bps at their meeting in December. Treasury and MMD rates continue to be volatile, resulting in some large basis points swings during the month of January. While rates have increased twice over the last year, they are still well below historical averages. Analysts are projecting 2-3 additional rate increases during 2017.
- The yield curve has shifted higher as both short term and long-term rates have increased, the curve remains flat resulting in a projected shift of funds from the municipal bond market during the near term with projected inflow increases later in the year.

## **Schedule Coordination Goals**

### **Software Development**

- After a successful deployment of the Scheduling Software Suite for BART's BRT1 SCID (Scheduling Coordinator ID), IS staff is working on the configuration of the software suite to support the new MEID SCID for new customer Merced Irrigation District, as well as Santa Clara's 'SNCL' SCID for its non-MSS (Metered SubSystem) portfolio. The MEID SCID implementation is scheduled to take effect as early as April 2017, while SVP's may start as early as March 2017. 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 researching utilization of Business Intelligence software technology to provide better data analysis capabilities to both internal staff and members.

### **Network**

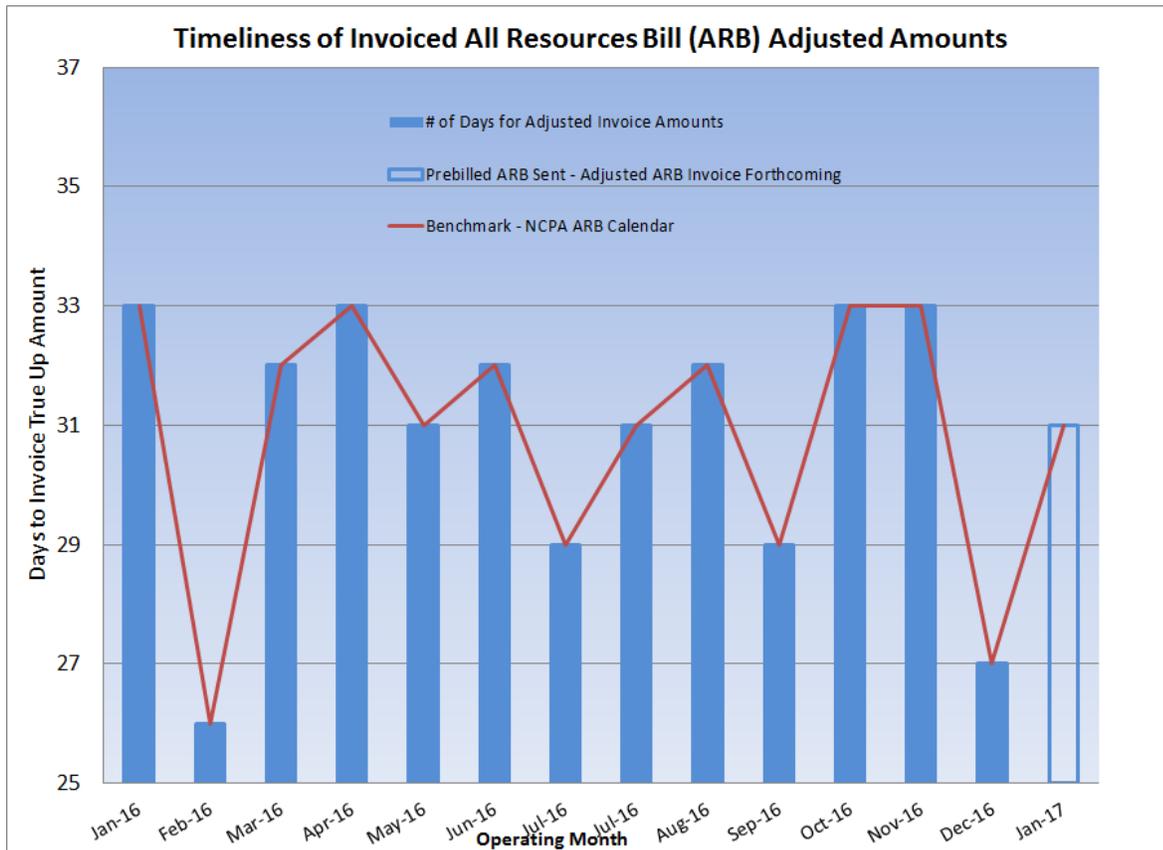
- Work continues on preparing to migrate e-mail from on-premise to Office 365. Ops and Support are working with vendors to strategize a plan for extracting old legacy archive mail. Plan to be completed with the migration in the coming months.
- "NCPA Connect" Extranet went live on January 23<sup>rd</sup>. This is the first phase of the new site that includes both public and member documents. Information Services will be focusing on the second phase as we prepare to enable collaboration workspaces to allow both members and NCPA staff to work together on common documents.
- About 95% of the Agency has been upgraded from Office 2010 to Office 2016 in the month of December. The additional 5% will be completed by the end of February 2017.
- Information Services continues to be involved with the ongoing CIP version 6 compliance efforts and recently participated in a security assessment of both the HQ and DRC control centers with Utility Services. Currently, we have a draft of the assessment and are working through the preliminary observations and recommendations.

- The Operation and Support group has been working with the Generation Services department to further expand wireless capability at both the Hydro and CT plants. Equipment was purchased and configured to expand wireless coverage at Alameda and Lodi CTs. Anticipated install date will be in February 2017.
- NCPA Information Services and other NCPA staff from Generation Services attended a two-day APPA cyber-security workshop to assess the Agency's overall security posture based on the Electric Sector - Cyber-Security Capability Maturity Model referred to as ES-C2M2. The C2M2 is a model developed by the Department of Energy specific to the electric sector to measure cybersecurity effectiveness across ten industry domains.

## **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 February 2017 NCPA All Resources Bill (ARB) monthly invoice sent to members on January 24, 2017 contains:
  - February 2017 monthly pre-billed budget/forecast amounts;
  - December 2016 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
  - November 2016 (2nd Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
  - September 2016 (3rd Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
  - March 2016 (4th Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
  - May 2015 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
  - December 2013 (6th Adjustment) T+35 month CAISO settlement true-up



## Legislative & Regulatory

### Political Arena State/Federal/Western Programs

- NCPA held its Capitol Day program on January 30<sup>th</sup>. The program included a breakfast briefing by NCPA staff and guest speaker Kip Lipper from the Senate pro Tem's office; meetings with legislators and key energy staff in the Legislature and at the Air Resources Board; and a dinner event with legislators. For this program, NCPA developed issue papers on cap and trade, net energy metering, regionalization, our power plants, workforce development, and energy storage.
- NCPA is working closely with the Joint Utility Group to ensure that free greenhouse gas allowances continue to be provided to electric utilities by the California Air Resources Board (CARB) assuming the cap-and-trade program extends beyond 2020. In continuing discussions with CARB senior staff/executive management, specific points articulated in written comments by NCPA and various electric utilities, and a separate letter from the Joint Utility Group to CARB's Executive Office, NCPA and others stressed the value that free allowance distribution provides to local communities. The estimated value of these allowances to NCPA members from 2021 – 2030 exceeds \$250 million. CARB expects to incorporate changes to the cap-and-trade regulations later this year.
- NCPA participated with other members of the Transmission Access Policy Study Group (TAPS) in advocacy visits on Capitol Hill to begin to shape the issues of importance to public power in the new 115th Congress. In addition, NCPA reached out to new members in the NCPA congressional delegation. The meetings afforded the

opportunity to inform them about NCPA, its mission, and policy objectives. The visits laid important groundwork in advance of APPA's Winter Legislative Rally in March, and our annual federal policy conference in April.

## **Human Resources**

### Hires:

Mark Heaton joined NCPA on January 17, 2017 as a Computer Technology Analyst III at our Headquarters office in Roseville, CA. Mark brings with him over 5 years of computer information systems experience having previously worked for Tesco Controls Inc., as a SCADA Engineer. In addition, Mark is a CSU Stanislaus graduate with a Bachelor's Degree in Computer Information Systems.

### Intern Hires:

None

### Promotions/Position Changes:

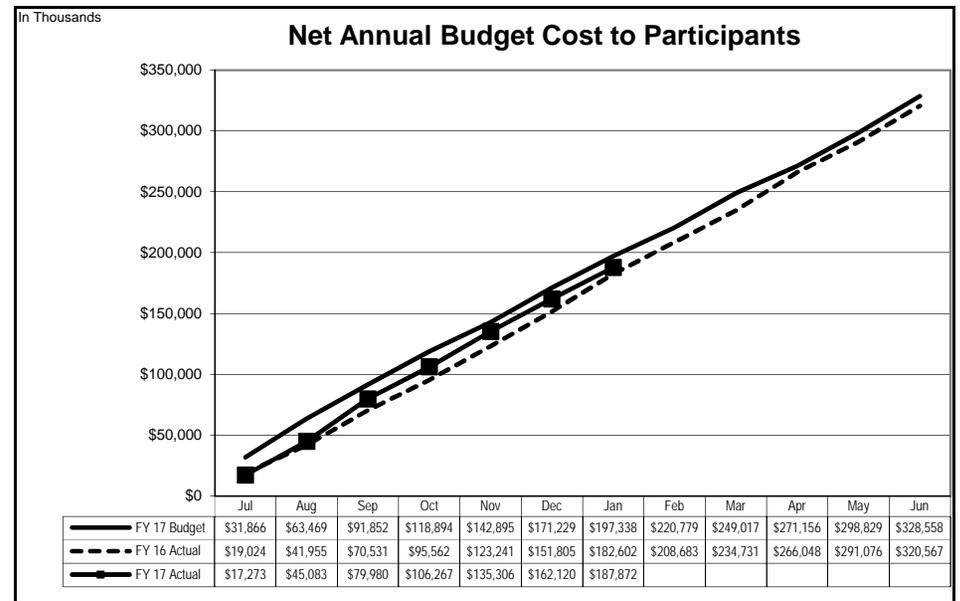
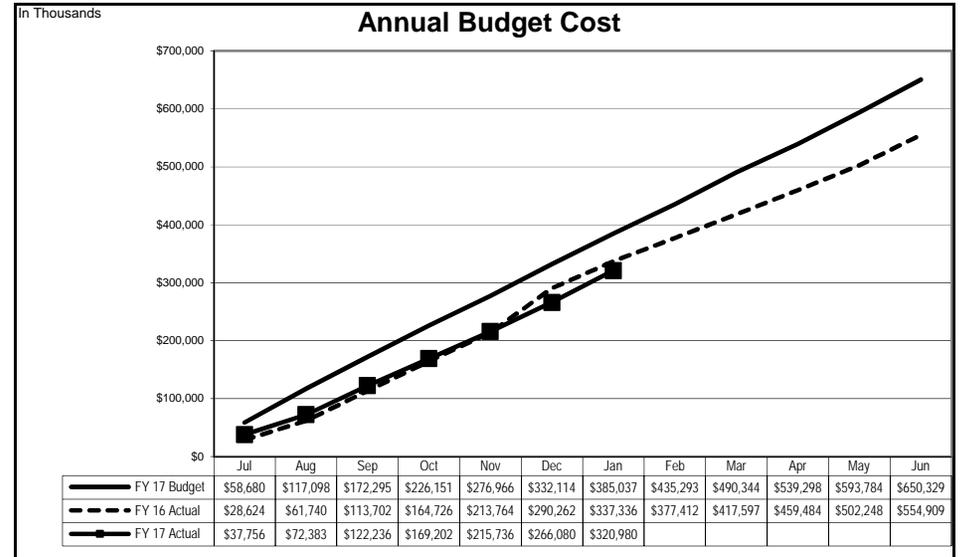
None

### Terminations:

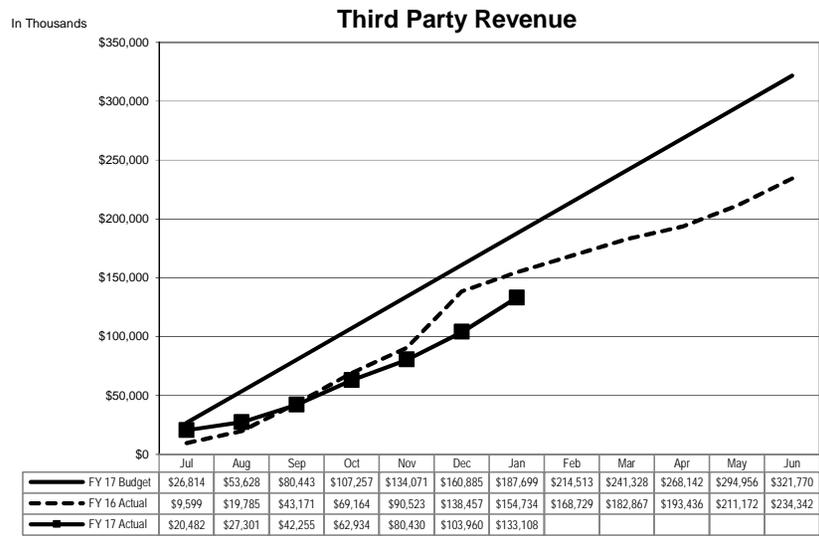
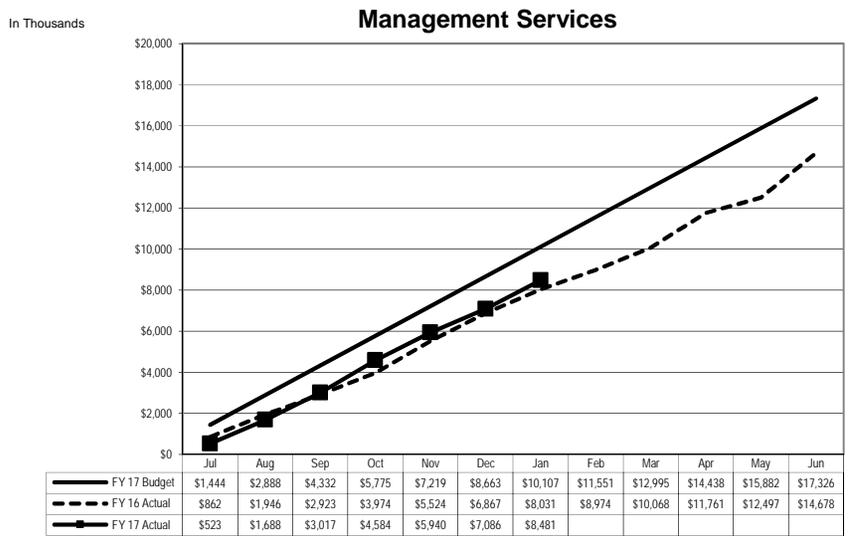
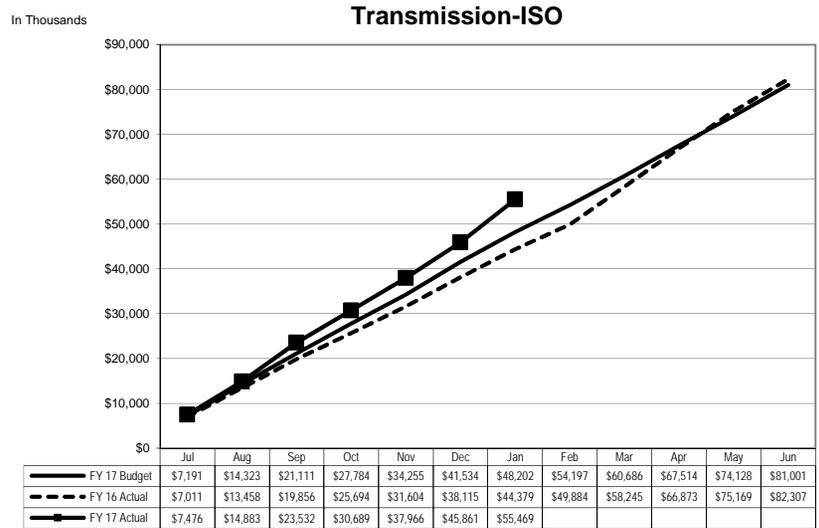
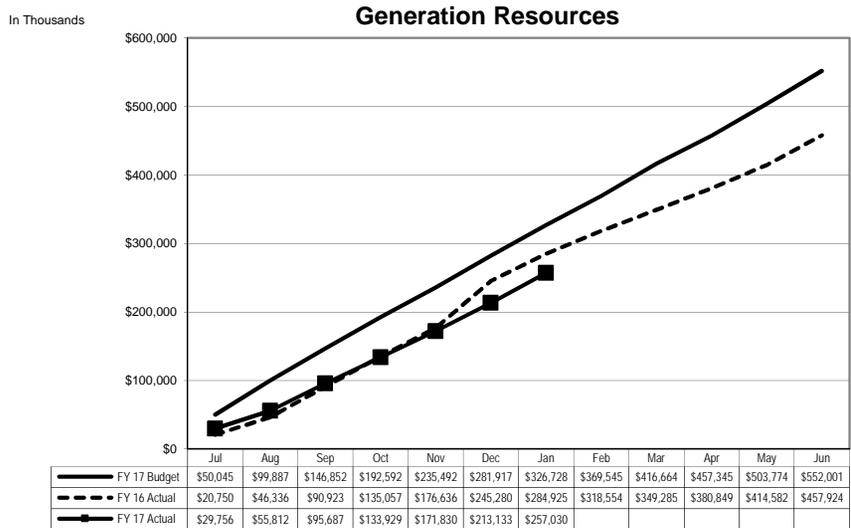
Weston Groves, Energy Resources Analyst IV, resigned from his position at our Roseville Headquarters. Weston left to pursue other opportunities.

**Annual Budget  
2016-2017 Fiscal Year To Date  
As of January 31, 2017**

In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
<b>GENERATION RESOURCES</b>				
<b>NCPA Plants</b>				
Hydroelectric	51,854	29,494	\$ 22,361	43%
Geothermal Plant	33,145	16,763	16,382	49%
Combustion Turbine No. 1	2,648	1,969	679	26%
Combustion Turbine No. 2 (STIG)	8,587	4,781	3,806	44%
Lodi Energy Center	92,991	33,932	59,059	64%
	189,227	86,939	102,288	54%
<b>Member Resources - Energy</b>	45,638	26,527	19,111	42%
<b>Member Resources - Natural Gas</b>	4,878	3,219	1,658	34%
<b>Western Resource</b>	30,288	13,889	16,399	54%
<b>Market Power Purchases</b>	39,302	19,707	19,595	50%
<b>Load Aggregation Costs - ISO</b>	240,129	106,215	133,914	56%
<b>Net GHG Obligations</b>	2,540	535	2,005	79%
	552,001	257,030	294,971	53%
<b>TRANSMISSION</b>				
Independent System Operator	81,001	55,469	25,532	32%
<b>MANAGEMENT SERVICES</b>				
<b>Legislative &amp; Regulatory</b>				
Legislative Representation	1,897	838	1,058	56%
Regulatory Representation	794	471	324	41%
Western Representation	817	320	497	61%
Member Services	432	220	212	49%
	3,940	1,849	2,091	53%
<b>Judicial Action</b>	625	347	278	44%
<b>Power Management</b>				
System Control & Load Dispatch	5,622	2,893	2,729	49%
Forecasting & Prescheduling	2,555	1,235	1,320	52%
Industry Restructuring	414	169	245	59%
Contract Admin, Interconnection Svcs & Ext. Affairs	1,137	487	650	57%
Green Power Project	18	1	17	94%
Gas Purchase Program	87	35	51	59%
Market Purchase Project	128	46	82	64%
	9,960	4,866	5,094	51%
<b>Energy Risk Management</b>	212	64	148	70%
<b>Settlements</b>	862	295	567	66%
<b>Integrated System Support</b>	311	79	232	75%
<b>Participant Pass Through Costs</b>	1,417	887	530	37%
<b>Support Services</b>	-	94	(94)	
	17,326	8,481	8,845	51%
<b>TOTAL ANNUAL BUDGET COST</b>	650,328	320,980	329,348	51%
<b>LESS: THIRD PARTY REVENUE</b>				
Plant ISO Energy Sales	118,943	39,360	79,583	67%
Load Aggregation Energy Sales	184,117	69,017	115,100	63%
Ancillary Services Sales	3,790	2,403	1,387	37%
Other ISO Revenue	-	8,031	(8,031)	
Transmission Sales	110	64	46	42%
Western Credits, Interest & Other Income	14,811	14,234	577	4%
	321,770	133,108	188,662	59%
<b>NET ANNUAL BUDGET COST TO PARTICIPANTS</b>	328,558	187,872	\$ 140,686	43%

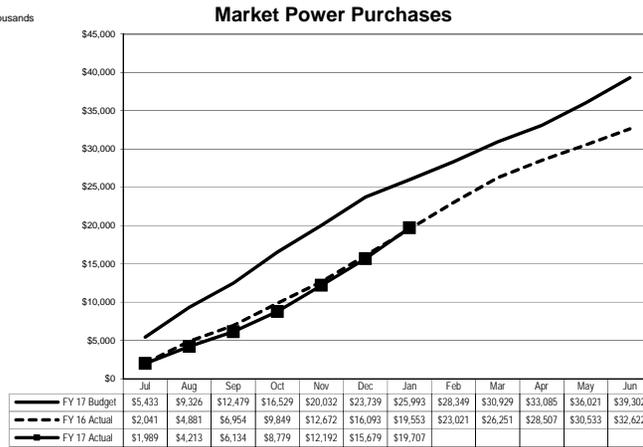
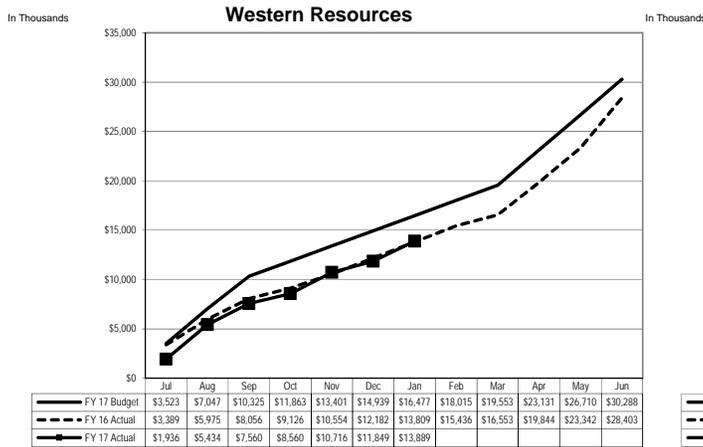
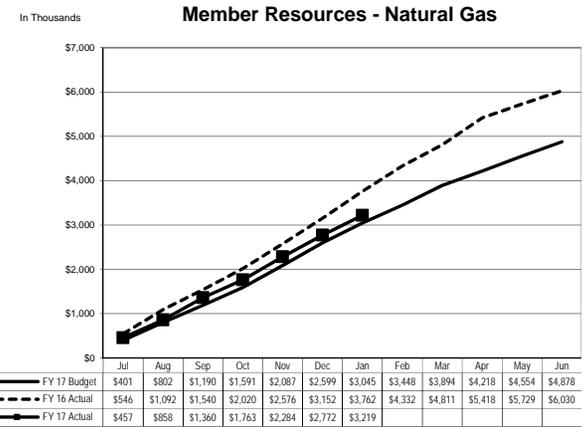
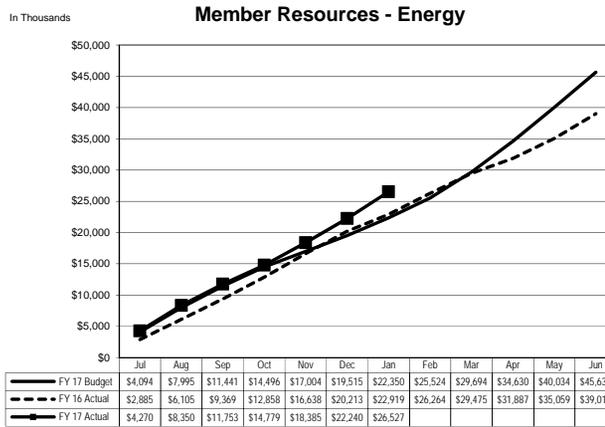
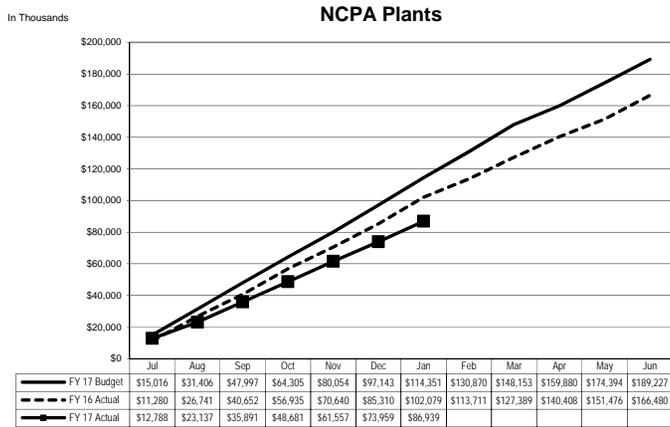


**Annual Budget  
Budget vs. Actual By Major Area  
2016-2017 Fiscal Year To Date  
As of January 31, 2017**



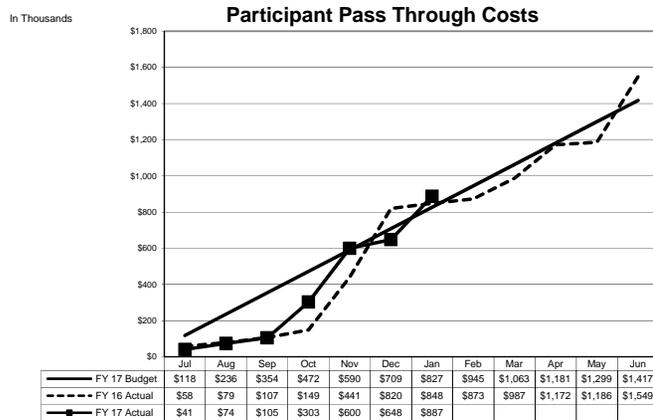
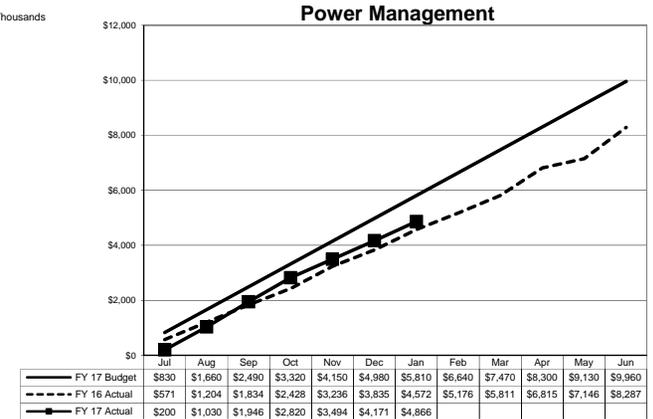
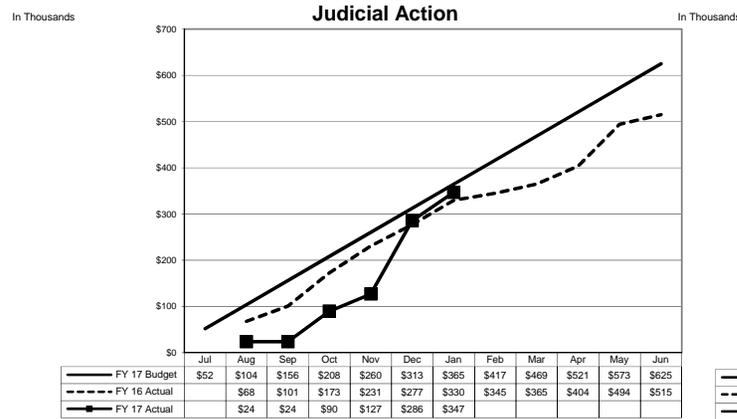
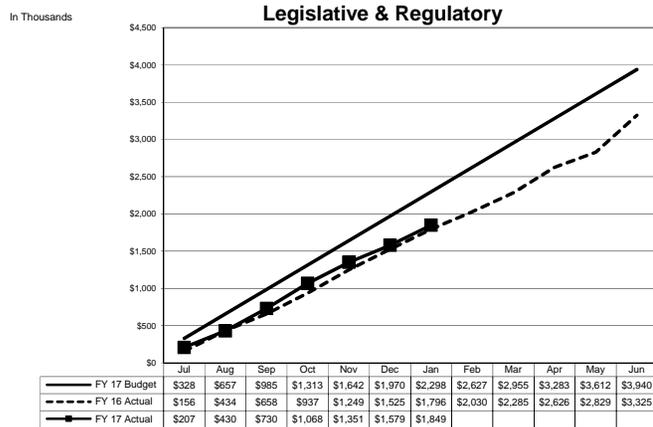
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

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



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

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



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

In Thousands

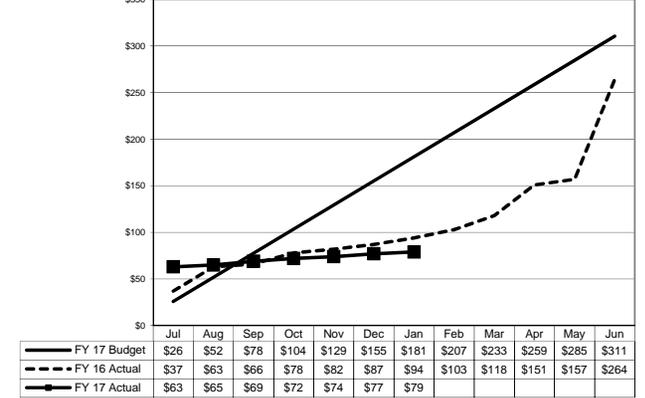
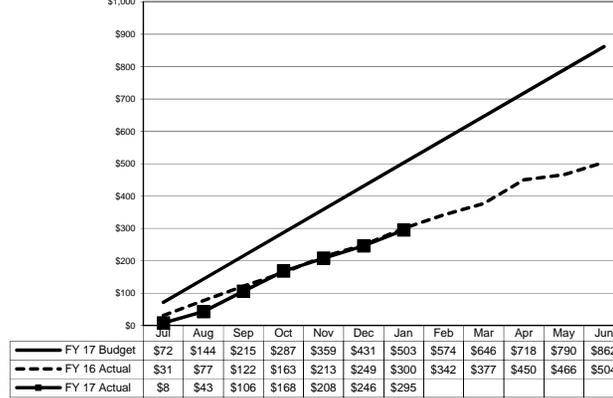
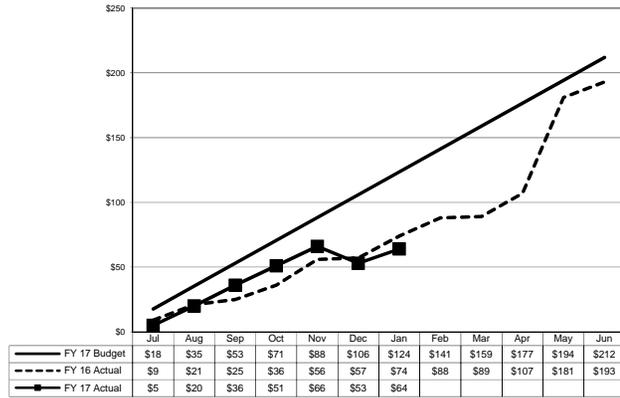
**Energy Risk Management**

In Thousands

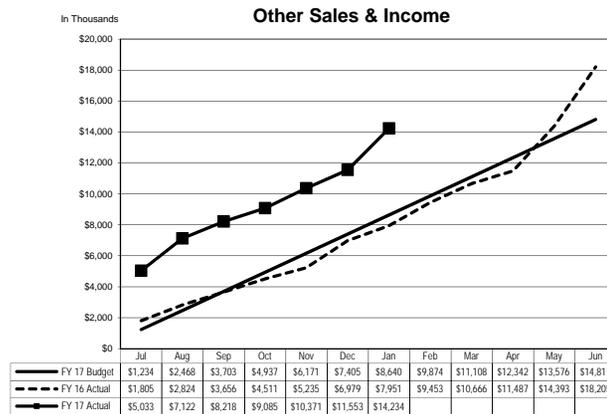
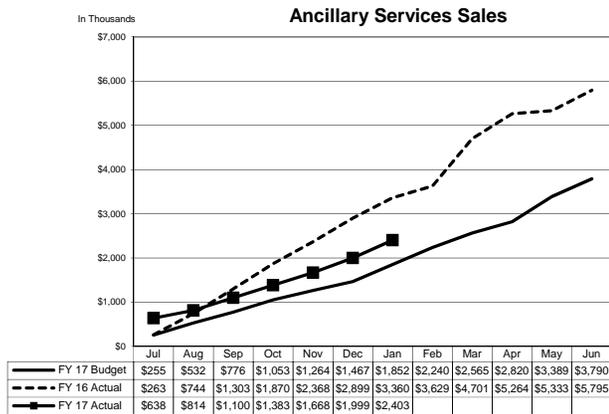
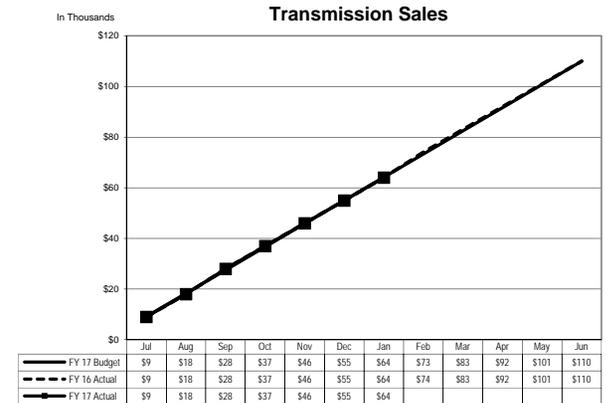
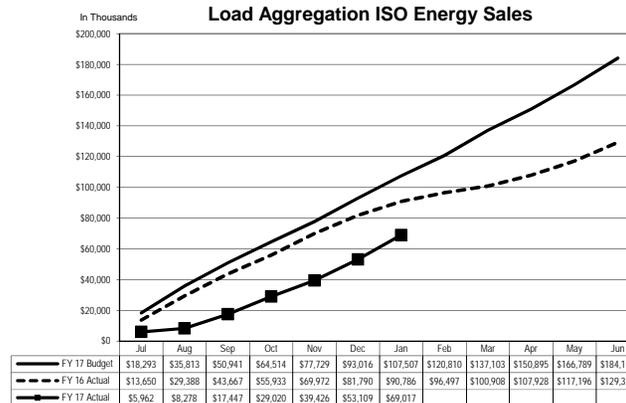
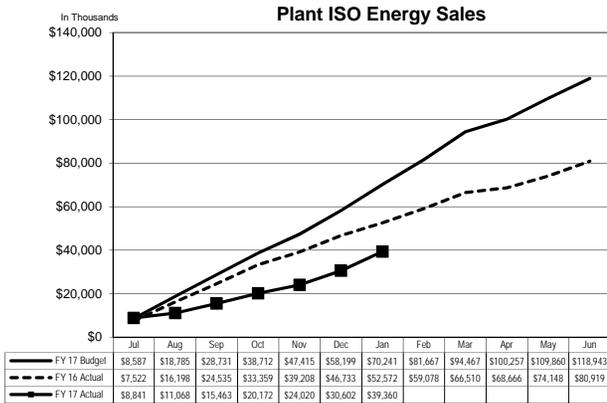
**Settlements**

In Thousands

**Integrated Systems Support**



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



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

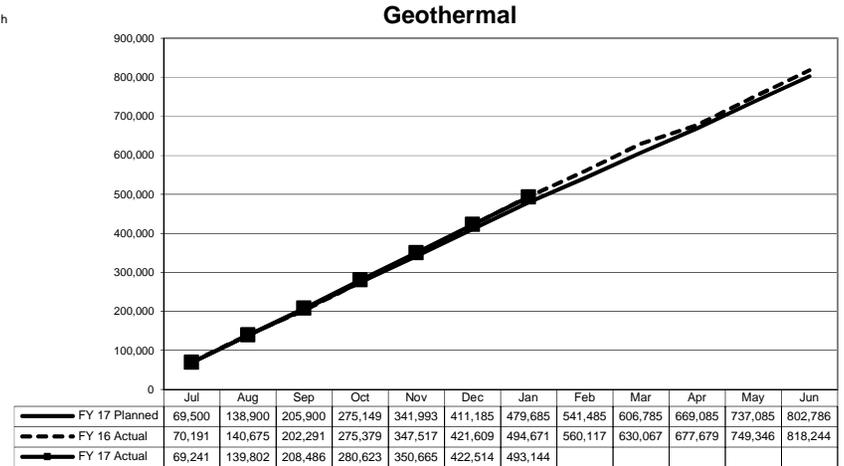
**Generation Cost Analysis**

\$ in thousands

	Geothermal				
	Budget	Actual	\$/MWh Actual	Under(Ovr) Budget	YTD % Remaining
	Routine O & M	\$ 17,159	\$ 9,050	\$ 18.35	\$ 8,109
Capital Assets/Spare Parts Inventories	2,575	582	1.18	1,993	77%
Other Costs	7,994	3,886	7.88	4,108	51%
CA ISO Charges	308	365	0.74	(57)	-19%
Debt Service	5,110	2,880	5.84	2,229	44%
Annual Budget	33,145	16,763	33.99	16,382	49%
Less: Third Party Revenue					
Interest Income	32	115	0.23	(83)	-256%
ISO Energy Sales	30,113	17,133	34.74	12,980	43%
Ancillary Services Sales	-	1	0.00	(1)	
Effluent Revenues	700	336	0.68	364	52%
Misc	110	727	1.47	(616)	
	30,955	18,312	37.13	12,643	41%
Net Annual Budget Cost to Participants	\$ 2,190	\$ (1,549)	\$ (3.14)	\$ 3,739	171%
Net Generation--MWh @ Meter	802,786	493,144			
\$/MWh (A)	\$ (3.64)	\$ (8.98)			

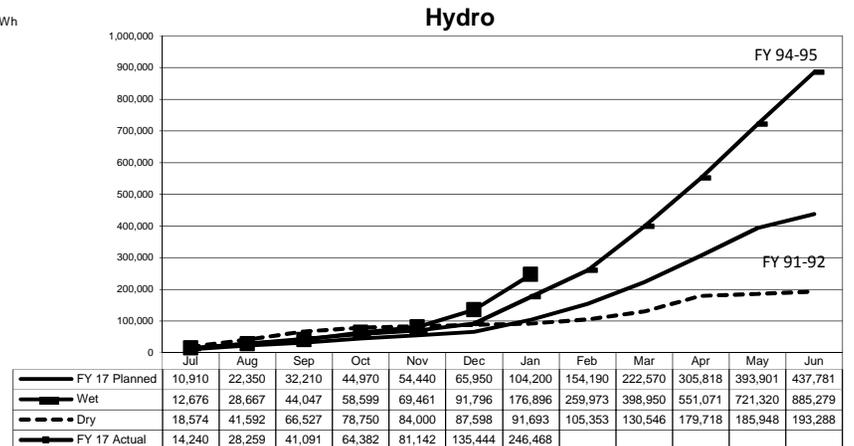
**MWhs Generated**

In MWh



	Hydroelectric				
	Budget	Actual	\$/MWh Actual	Under(Ovr) Budget	YTD % Remaining
	Routine O & M	\$ 8,369	\$ 3,950	\$ 16.02	\$ 4,419
Capital Assets/Spare Parts Inventories	2,135	1,130	4.59	1,005	47%
Other Costs	2,861	1,264	5.13	1,597	56%
CA ISO Charges	237	835	3.39	(598)	-253%
Debt Service	38,253	22,314	90.54	15,939	42%
Annual Budget	51,854	29,494	119.66	22,361	43%
Less: Third Party Revenue					
Interest Income	91	181	0.73	(90)	-99%
ISO Energy Sales	19,542	10,273	41.68	9,269	47%
Ancillary Services Sales	2,487	1,724	7.00	763	31%
Misc	-	27	0.11	(27)	
	22,120	12,205	49.52	9,915	45%
Net Annual Budget Cost to Participants	\$ 29,734	\$ 17,288	\$ 70.14	\$ 12,446	42%
Net Generation--MWh @ Meter	437,781	246,468			
\$/MWh (A)	\$ (19.46)	\$ (20.39)			

In MWh



Footnotes:

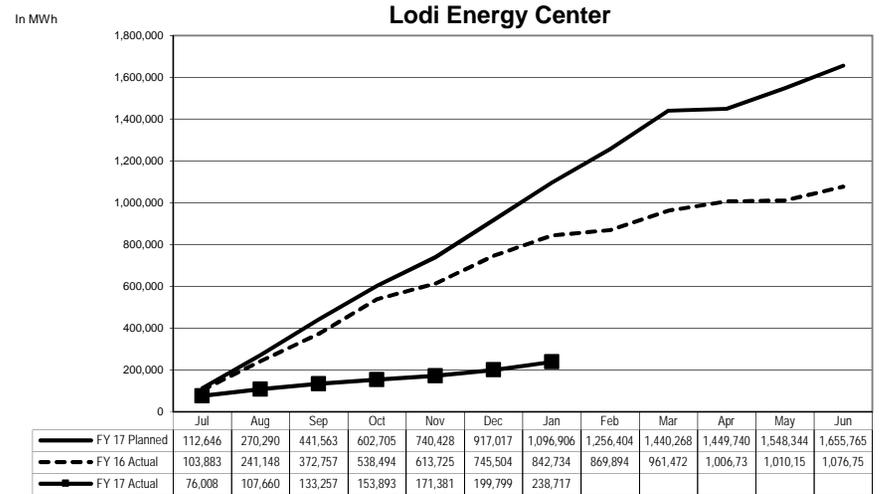
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

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

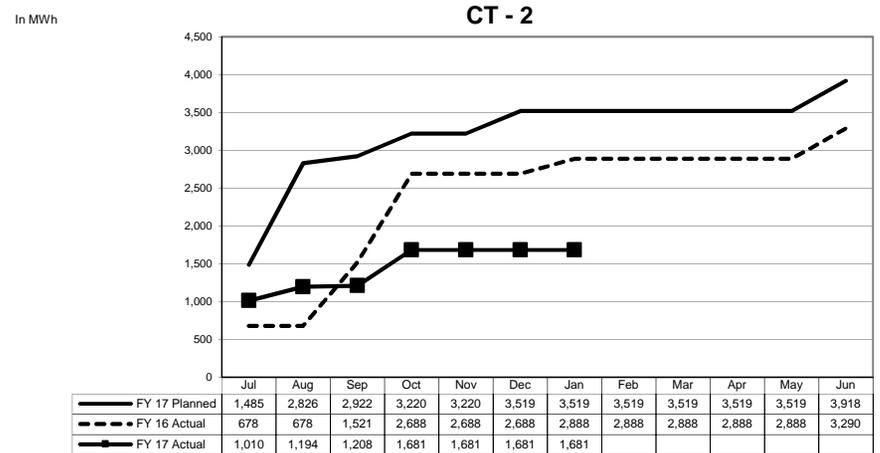
**Generation Cost Analysis**

Lodi Energy Center					
	Budget		Actual		YTD % Remaining
			\$/MWh	Under(Ovr)	
Routine O & M	\$ 14,041	\$ 6,400	\$ 26.81	\$ 7,641	54%
Fuel	44,101	7,207	30.19	36,894	84%
AB 32 GHG Offset	-	-	-	-	
CA ISO Charges and Energy Purchases	2,374	2,114	8.86	260	11%
Capital Assets/Spare Parts Inventories	2,805	1,100	4.61	1,705	61%
Other Costs	3,233	1,705	7.14	1,528	47%
Debt Service	26,437	15,406	64.54	11,031	42%
<b>Annual Budget</b>	<b>92,991</b>	<b>33,932</b>	<b>142.14</b>	<b>59,059</b>	<b>64%</b>
Less: Third Party Revenue					
Interest Income	44	113	0.47	(68)	-153%
ISO Energy Sales	68,846	11,377	47.66	57,469	83%
Ancillary Services Sales	1,303	411	1.72	891	68%
Transfer Gas Credit	-	-	-	-	0%
Misc	3	4,361	18.27	(4,358)	0%
	70,197	16,262	68.12	53,934	77%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 22,795</b>	<b>\$ 17,670</b>	<b>\$ 74.02</b>	<b>\$ 5,125</b>	<b>22%</b>
<b>Net Generation--MWh @ Meter</b>	<b>1,655,765</b>	<b>238,717</b>			
<b>\$/MWh (A)</b>	<b>\$ (2.20)</b>	<b>\$ 9.48</b>			

**MWhs Generated**



Combustion Turbine No. 2 (STIG)					
	Budget		Actual		YTD % Remaining
			\$/MWh	Under(Ovr)	
Routine O & M	\$ 1,413	\$ 736	\$ 437.66	\$ 677	48%
Fuel and Pipeline Transport Charges	936	477	283.63	459	49%
Capital Assets/Spare Parts Inventories	133	25	14.85	108	81%
Other Costs	477	216	128.55	261	55%
CA ISO Charges	2	46	27.13	(43)	-1893%
Debt Service	5,626	3,282	1,952.09	2,344	42%
<b>Annual Budget</b>	<b>8,587</b>	<b>4,781</b>	<b>2,843.92</b>	<b>3,806</b>	<b>44%</b>
Less: Third Party Revenue					
Interest Income	19	32	19.18	(14)	-72%
ISO Energy Sales	282	127	75.28	155	55%
Ancillary Service Sales	-	0	0.01	(0)	0%
Fuel and Pipeline Transport Credits	415	697	414.74	(282)	-68%
Misc	-	-	-	-	0%
	715	856	509.22	(141)	-20%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 7,872</b>	<b>\$ 3,925</b>	<b>\$ 2,334.70</b>	<b>\$ 3,947</b>	<b>50%</b>
<b>Net Generation--MWh @ Meter</b>	<b>3,918</b>	<b>1,681</b>			
<b>\$/MWh (A)</b>	<b>\$ 573.32</b>	<b>\$ 382.61</b>			



**Footnotes:**

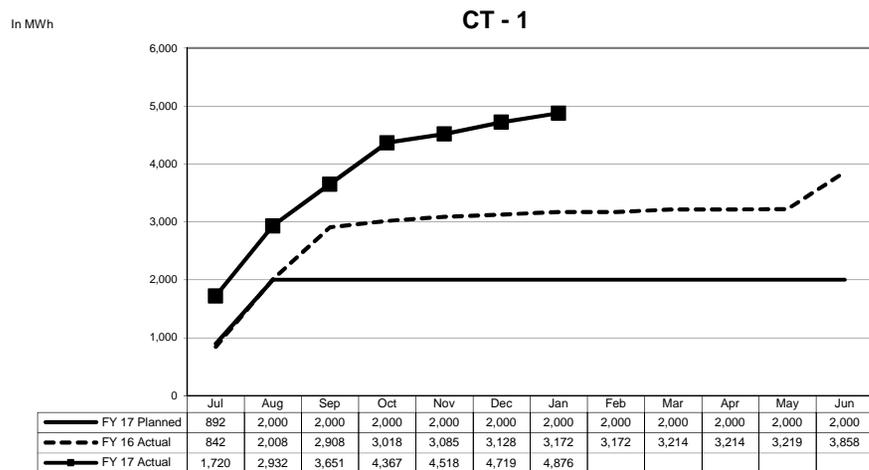
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

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

**Generation Cost Analysis**

	<b>Combustion Turbine No. 1</b>				
	<b>Budget</b>	<b>Actual</b>	<b>\$/MWh Actual</b>	<b>Under(Ovr) Budget</b>	<b>YTD % Remaining</b>
Routine O & M	\$ 1,459	\$ 997	\$ 204.46	\$ 462	32%
Fuel and Pipeline Transport Charges	174	357	73.20	(183)	-105%
Capital Assets/Spare Parts Inventories	525	318	65.31	207	39%
Other Costs	489	215	44.09	274	56%
CA ISO Charges	1	82	16.72	(80)	-7814%
Debt Service	-	-	-	-	
<b>Annual Budget</b>	<b>2,648</b>	<b>1,969</b>	<b>403.78</b>	<b>679</b>	<b>26%</b>
Less: Third Party Revenue					
Interest Income	0	-		0	
ISO Energy Sales	160	450	92.28	(290)	0%
Ancillary Services Sales	-	0	0.03	(0)	0%
Misc	-	16	3.21	(16)	0%
	161	466	95.52	(305)	-190%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 2,488</b>	<b>\$ 1,503</b>	<b>\$ 308.26</b>	<b>\$ 985</b>	<b>40%</b>
Net Generation--MWh @ Meter	2,000	4,876			
<b>\$/MWh (A)</b>	<b>\$ 1,243.89</b>	<b>\$ 308.26</b>			

**MWhs Generated**



Footnotes:

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