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BUSINESS PROGRESS REPORT

November 2017

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Generation Costs & Reliability

Combustion Turbine Project

Unit Operation for October

Unit	Availability		Production		Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	963.0	CAISO / CAISO
	86.79%	48.08%	Unit 2	944.8	
Curtailments, Outages, and Comments: 10/16/17 to 10/20/17- Unit 1 out of service due to station service transformer outage. 10/26/17 - Unit 1 o/s to repair gas leak 1530 – 1753 10/1/17 to 10/16/17- Unit 2 out of service due to station service transformer outage. 10/24/17 - Unit 2 Tripped on IGV Position error. 10/26/17 - Unit 2 o/s to repair gas leak 1530 - 1753					
Unit	Availability		Production		Reason for Run
CT1 Lodi	99.19%		85.3 MWHr		CAISO
Curtailments, Outages, and Comments: 10/15/17 (18:00-24:00) Diesel Failed to Start					
Unit	Availability		Production		Reason for Run
CT2 STIG	99.90%		2,121.7 MWHr		CAISO
Curtailments, Outages, and Comments: 10/23/17 (18:31-19:14) STIG tripped on generator rundown tank oil level switch.					
Unit	Availability		Production		Reason for Run
LEC	100.00%		136,029.8 MWHr		CAISO
Curtailments, Outages, and Comments: No Comments.					

Maintenance Summary – Specific per asset above.

Geothermal Facilities

Availability/Production for October

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
Unit 1	65.39 %	15,226 MWh	Unit 1 OOS from 0330 10/9/17 until 2100 10/19/17 for PG&E line work/fires.
Unit 2	61.96 %	*13,315 MWh	Unit 2 OOS from 0330 10/9/17 until 2230 10/20/17 for PG&E line work/fires.
Unit 3	N/A %	N/A	Unit 3 remains out of service for the month.
Unit 4	84.74 %	29,327 MWh	U4 OOS from 0330 10/2/17 until 2100 10/6/17 for PG&E line work.
Southeast Geysers Effluent Pipeline	93.3 %	171.3 mgallons	Average flow rate: 5,570 gpm
Southeast Solar Plant	N/A	90,129 KWh	Year-to-date KWh: 840,404.
Bear Canyon Pump Station Zero Solar	N/A	151,177 KWh	Year-to-date KWh: 1,914,390

* Accounts for an additional 1,015 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

Hydroelectric Project

Availability/Production for October

Units	Availability	Net Electricity Generated	Out-of-Service
Collierville Unit 1	58.98 %	1,888 MWh	CV #1 unit was out of service, on 10/14/17 at 0501 through 10/26/17 at 2209 due to annual maintenance.
Collierville Unit 2	95.31 %	15,913 MWh	CV #2 unit derate to 110mw due to stator ground fault repair. CV #2 unit was out of service, on 10/14/17 at 0702 through 2007 due to intake trashrack cleaning/dual unit outage items. CV #2 unit was out of service, on 10/15/17 at 0706 through 1818 due to intake trashrack cleaning/dual unit outage items. CV #2 unit was out of service, on 10/16/17 at 0703 through 1739 due to intake trashrack cleaning/dual unit outage items.
Spicer Unit 1	94.42 %	1,142 MWh	NSM #1 unit was out of service, on 10/30/17 at 0631 through 10/31/17 at 2359 due to PG&E Salt Springs-Tiger Creek 115KV line work.
Spicer Unit 2	91.21 %	429 MWh	NSM #2 unit was out of service, on 10/10/17 at 0938 through 1714 due to troubleshooting wicket gate position issue. NSM #2 unit was out of service, on 10/16/17 at 1915 through 10/17/17 at 1138 due to unit failed start. NSM #2 unit was out of service, on 10/30/17 at 0632 through 10/31/17 at 2359 due to PG&E Salt Springs-Tiger Creek 115KV line work.
Spicer Unit 3	94.42 %	187 MWh	NSM #3 unit was out of service, on 10/30/17 at 0632 through 10/31/17 at 2359 due to PG&E Salt Springs-Tiger Creek 115KV line work.

Operations & Maintenance Activities:

- Monthly CMMS work orders
- Adit 4 Slide repair
- Beaver Creek Diversion Dam Low level Outlet repair
- Murphys Micro-wave project
- CV Intake trashrack cleaning and CVPH dual Unit outage
- CV1 annual maintenance
- Hydro Project Physical Security Upgrade equipment installation

Environmental, Health & Safety (EH&S) Projects

Incident Reports

- No vehicle accidents, no recordable incidents, and no lost time accidents occurred in October.
- 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 October 28, 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.

October 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	1046	293	936	6,004
Work Hours Since Last Recordable	91,076	56,570	137,423	2,164,717
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	3,662	799	8,840	4,933
Work Hours without LTA	336,641	162,698	578,787	1,786,737
Vehicle Incident (month)	0	1	0	0
Vehicle Incident (calendar year)	0	2	1	1

* 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 October 28, 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

	October 2017		Calendar Year 2017	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	349.88 10/24 @1700	190,738	485.85 9/1 @1700	2,000,338
SVP	520.95 10/25 @1600	319,920	586.59 9/1 @1600	3,114,751
MSSA	868.03 10/24 @ 1700	510,658	1070.79 9/1 @ 1700	5,115,089

Last Year 2016 Data*

	October 2016		Calendar Year 2016	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	321.05 10/7 @1700	192,514	449.75 7/27 @1700	1,976,737
SVP	478.05 10/20 @ 1500	308,017	534.21 9/26 @ 1700	2,966,988
MSSA	797.85 10/7 @ 1600	500,531	968.73 7/27 @ 1600	4,943,725

*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 7/24/06 @ 1500	485.85 9/1 @ 1700
SVP	586.59 MW on 9/1/17 @ 1600	586.59 9/1 @ 1600
MSSA	1070.79 MW on 9/1/17 @ 1700	1070.79 9/1 @ 1700

- 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		
	October 2017	Calendar Year 2017
MSSA % Within the Band	98.19%	97.67%

- Spicer Meadows:
 - October 10 @ 0938 – 1714, Unit 2 o/s to troubleshoot wicket gate position issue
 - October 16 @ 1915 – October 17 @ 1138, Unit 2 o/s due to a failed start attempt, local reset required
 - October 30 – 31, Units 1 & 2 off line for PG&E work on the Salt Springs – Tiger Creek 115kV line. Unit 3 remained on, islanded with station service power supply

- Geothermal Units:
 - October 2 – 6, Unit 4 off line for scheduled PG&E Geysers 12 – Fulton 230kV line outage
 - October 8 – 19, Unit 1 & 2 off line due to forced outage on the Geysers 9 – Lakeville 230kV line caused by wild fire. Unit 2 return to service delayed until late on 10/20 due to trouble with turbine stop valve
 - October 9 @ 0648 – 0723, Unit 4 forced o/s due to system disturbance caused by line outages associated with wild fires

- Lodi Energy Center:
 - No curtailments

- Alameda CTs:
 - October 1 – 16, Unit 2 o/s due to failed station service transformer allowing only one unit available at a time
 - October 16 @ 1200, Unit 2 returned to and Unit 1 removed from service while replacement station service transformer was installed
 - October 16 – 20, Unit 1 o/s for installation of replacement station service transformer
 - October 24 @ 1500 – 1528, Unit 2 late start due to inlet guide vanes trouble
 - October 26 @ 1530 – 1758, Unit 1 and 2 forced o/s for repair of gas supply line leak

- Lodi CT:
 - October 15 @ 1800 – 2359, unit o/s due to one failed start due to diesel trouble and one due to flame failure; 2 start per day emissions limitation
 - October 17 – 31, unit o/s due to emissions limitation on total annual run hours
 - Unit remains available in the event of CAISO declared Stage or Transmission emergency

- Collierville Units:
 - October 1 – 30, Unit 2 remains derated due stator ground fault repair
 - October 14 – 26, Unit 1 o/s for annual maintenance
 - October 14 -16, Unit 2 shut down each day for divers to clean intake trash rack, and for dual unit outage maintenance items. Unit 2 returned to service overnight to draw down McKays elevation. Work extended one day longer than scheduled to large accumulation of fine debris found on trash rack.

- STIG:
 - October 23 @ 1831 – 1914, unit trip due to rundown tank low oil level
 - October 25 @ 1407 – 1453, unit late start due to trip on start up

Pooling & Portfolio Planning & Forecasting

- Actual NCPA Pool load of 190.7 GWh during October was 97% of the pre-month forecast of 197.1 GWh as the early-month heat wave tapered off, easing demand. Pool load, running 73.4 GWh through November 12, may not reach the forecast of 189.2 GWh, even with mixed at- and below-normal temperatures forecasted.
- The Lodi Energy Center (LEC) generated 24,463 MWh for the pool in October, far above the 9,284 MWh forecast, due to the significant drop in local transport rates. Once again, high temperatures kept implied heat rates well above the norm, adding to run hours. For November, the pool's share of LEC generation is forecasted at 24,080 MWh and had already reached 11,350 MWh by November 12.
- For the month of October, 1.20" of rain was recorded at Big Trees gage. October Big Trees average precipitation is 3.38'.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been increased to \$55/MWh from a previous value of \$50/MWh.
- NSMR storage as of October 31 was at 88,060 acre feet. The historical average NSMR storage at the end of October is 92,121 acre feet. As of November 14, NSMR storage is 85,565 acre feet. The current NCPA Pool share of NSMR storage is 43,390 acre feet.
- Combined Calaveras Project generation for the Pool in September totaled 9.9 GWh, down from 21.0 GWh in September. The Pool's 9.9 MWh in October was less than the pre-month forecast of 12.5 GWh. Through November 14, Calaveras generation for the Pool is 3.2 GWh, near the month forecast of 9.4 GWh.
- Western Base Resource (BR) Pool delivery in October was 39.4 GWh, above the forecast of 32.3 GWh. Through November 12, BR pool allocations of 17.4 GWh (4.7 GWh Displacement) should meet the 28.2-GWh November forecast.
- The PG&E City-Gate gas index traded at \$3.28/MMBtu for November 14 delivery - compared to an average of \$3.13/MMBtu (and a high of \$3.31/MMBtu) during October. High temperatures and supply constraints increased prices during late October and early November, but prices now seem to be moderating as temperatures become more seasonal. The PG&E November Bidweek price is \$3.19, up 2 cents from October's, and daily Platt's prices have been averaging slightly higher due to the ongoing SoCal supply constraints.
- Day-ahead HLH (on-peak) NP15 electricity have followed natural gas prices upward, with highest prices occurring on days with greatest load and least wind. The HLH and LLH day-ahead average LMPs for Wednesday, November 14 delivery were \$40.55 and \$32.29/MWh, respectively.

NCPA Pool Loads & Resources Value Summary								
Peak and Energy Summary Oct-17					Estimated Production Costs		Cost of Serving Demand	
	Coincident		Forecast		NCPA Pool		Totals	Avg (\$/MWh)
	Peak (MW)	Total MWh	Values	Avg. MW	Cost/Revenue (Estimate)	Variable Cost (\$/MWh)		
Demand	349.9	190,730	197,099	256.4	N/A	N/A		
WAPA	112.0	39,352	32,254	52.9	\$ 833,923	\$ 21.19	\$ 8,568,729	\$ 44.93
Geothermal	-	23,971	28,520	32.2	455,446	19.00		
Hydro	-	9,900	13,117	13.3	59,400	6.00		
Stig & CTs	-	2,426	2,442	3.3	115,326	47.53		
LEC	-	24,463	9,284	32.9	847,644	34.65		
Contracts	55.0	71,285	83,981	95.8	4,396,318	61.67	\$ 7,464,703	\$ 39.14
Market - Net (Net Sales - Negative)	182.9	19,333	27,501	26.0	824,611.18	42.65		
Net Total	349.9	190,730	197,099	256.4	\$ 7,532,668	\$ 39.14		

Monthly Market Summary						
	Pool Energy (MWh)	HLH Avg MCP (\$/MWh)	Avg Variable Cost of Pool Generation (\$/MWh)	Forward Prices (EOX NP15 HLH Ask Prices)		
				NP15 10/2/2017 (\$/MWh)	11/10/2017 (\$/MWh)	
Jan-17	205,675	\$ 36.58	\$ 23.70	Nov-17	\$ 36.79	\$ 41.80
Feb-17	178,642	\$ 30.61	\$ 24.41	Dec-17	\$ 38.94	\$ 43.84
Mar-17	192,408	\$ 23.37	\$ 25.43	Jan-18	\$ 39.15	\$ 42.18
Apr-17	179,239	\$ 23.39	\$ 31.47	Q1 2018	\$ 37.25	\$ 39.68
May-17	195,573	\$ 31.70	\$ 26.86	Q2 2018	\$ 32.50	\$ 32.74
Jun-17	206,429	\$ 38.62	\$ 34.25	Q3 2018	\$ 41.50	\$ 41.85
Jul-17	221,169	\$ 39.42	\$ 36.21	CY2018	\$ 37.56	\$ 39.23
Aug-17	223,320	\$ 51.70	\$ 37.30	CY2019	\$ 38.30	\$ 39.37
Sep-17	206,930	\$ 45.07	\$ 40.69	CY2020	\$ 39.56	\$ 40.52
Oct-17	190,730	\$ 44.93	\$ 39.14	CY2021	\$ 41.22	\$ 42.44
Nov-17				CY2022	\$ 43.00	\$ 43.53
Dec-17				CY2023	\$ 44.34	\$ 44.61

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.

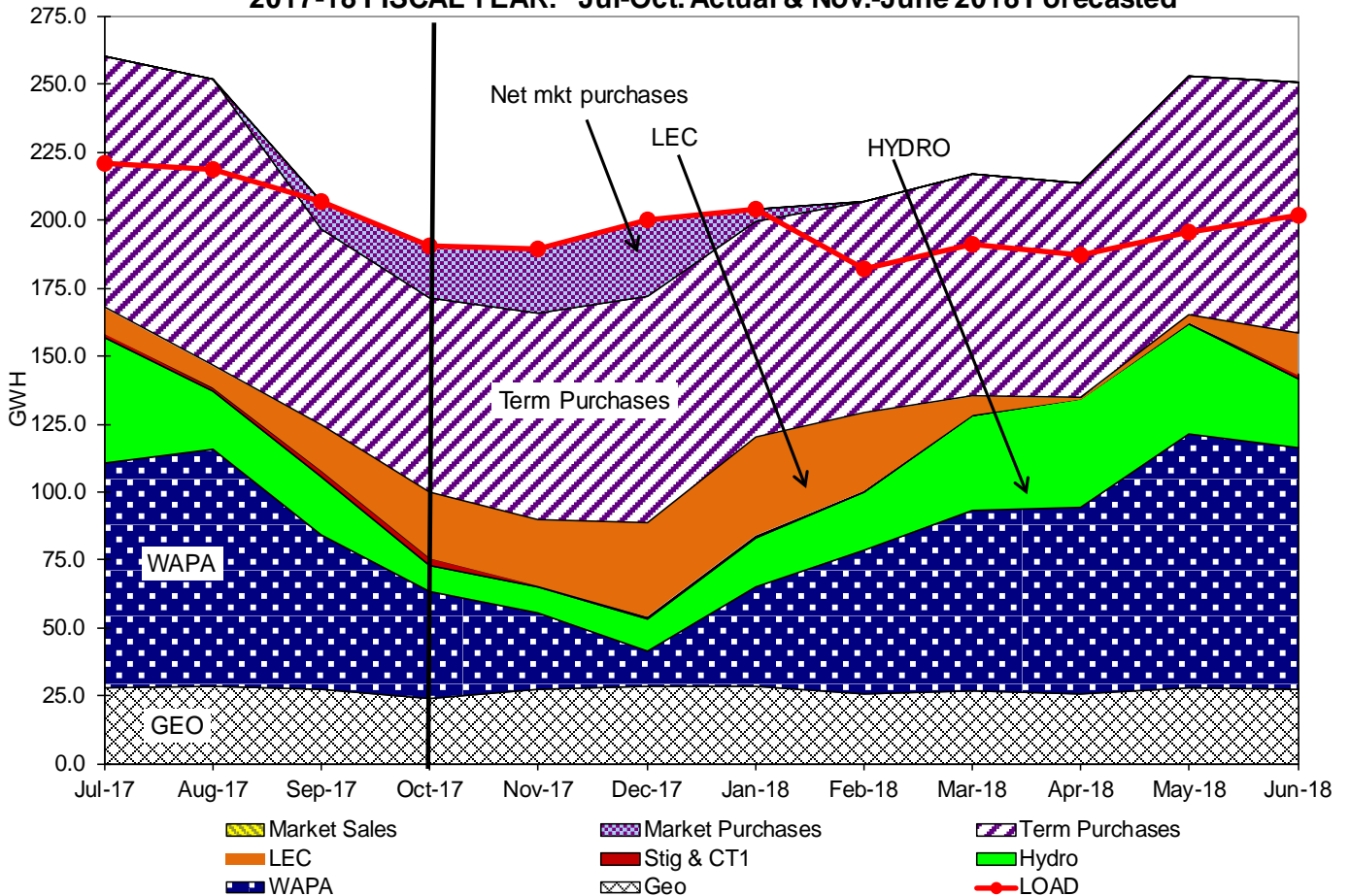
* STIG & CT costs reflect \$2.60 and \$1.62/MWh variable O&M costs per 6-12-06 GSCA.

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 2017-18 FISCAL YEAR: Jul-Oct. Actual & Nov.-June 2018 Forecasted



Industry Restructuring, Contracts and Interconnection Affairs

Resource Adequacy Compliance Filings

- NCPA submitted the calendar year 2018 annual Resource Adequacy demonstration and supply plan to the CAISO on October 31, 2017.
- NCPA made the following Resource Adequacy compliance filings with the CAISO for the compliance period January 2017:
 - Monthly System Resource Adequacy Demonstration (filed November 15, 2017)
 - Monthly Supply Plan (filed November 15, 2017)

Industry Restructuring

NCPA is actively participating in a number of CAISO stakeholder initiatives on behalf of the members. The following 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.

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)

Western Base Resource Tracking - NCPA Pool							
	Actual			Costs & Rates			
	BR Forecast ¹ (MWh)	BR Delivered (MWh)	Difference (MWh)	Base Resource & Restoration Fund (\$)	Monthly Cost of BR ² (\$/MWh)	CAISO LMP Differential ³ (\$/MWh)	12-Mo Rolling Avg. Cost of BR ⁴ (\$/MWh)
Jul-17	71,656	82,819	11,163	\$2,334,679	\$ 28.19	\$ 1.60	\$ 27.59
Aug-17	55,736	79,371	23,635	\$2,334,679	\$ 29.41	\$ 0.08	\$ 27.14
Sep-17	56,044	57,011	967	\$1,979,032	\$ 34.71	\$ 0.12	\$ 26.27
Oct-17	33,604	39,352	5,748	\$833,923	\$ 21.19	\$ 0.79	\$ 25.27
Nov-17	19,601	-	(19,601)	\$833,923	\$ 42.55	\$ 0.10	\$ 24.54
Dec-17	15,404	-	(15,404)	\$833,923	\$ 54.14	\$ 0.10	\$ 24.35
Jan-18	7,358	-	(7,358)	\$833,923	\$ 113.34	\$ 0.10	\$ 26.07
Feb-18	13,359	-	(13,359)	\$833,923	\$ 62.42	\$ 0.10	\$ 28.30
Mar-18	30,216	-	(30,216)	\$833,923	\$ 27.60	\$ 0.10	\$ 29.85
Apr-18	50,443	-	(50,443)	\$2,035,038	\$ 40.34	\$ 0.10	\$ 30.79
May-18	66,832	-	(66,832)	\$2,035,038	\$ 30.45	\$ 0.10	\$ 33.10
Jun-18	74,030	-	(74,030)	\$2,035,038	\$ 27.49	\$ 0.10	\$ 33.52
1/	As forecasted in NCPA 17/18 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.						

- The Displacement Program continued to perform for Pool Members with October activity of 8,009 MWhs for an estimated savings of \$46,500, or about \$5.80/MWh. The program has saved Pool Members over \$850,000 in FY18 (Jul-Sep). This raises the Pool's savings under the Displacement Program to over \$1 million in FY18.
- Estimated savings from MEEA pricing was about \$25,000 for October, raising the Pool Members' total savings under MEEA pricing to about \$113,000 for FY18.

Debt and Financial Management

- Bond investors largely shrugged off the Fed leadership nomination and potential tax changes. Short-term rates rose 0.1%-0.15%, as it became clearer that the Fed would raise short-term rates in December, but intermediate and long-term rates barely budged.
- The yield on two-year Treasury notes rose 11 basis points (bps) to 1.60%, pushing to a nine year high. The yield on 10-year Treasury notes rose 5 bps to 2.38%.
- The nomination of Fed Governor Jerome Powell to chair the Federal Reserve Board is not expected to affect monetary policy, at least in the near term. Powell has been supportive of current chair Janet Yellen's cautious and data-dependent approach to monetary policy.
- The Finance Committee directed staff to proceed with their recommendation of using Citigroup Global Markets as lead underwriter and Goldman Sachs as co-underwriter to refund the Hydroelectric Bonds, Series C. Of the 14 proposals received, these were considered the best responses at understanding the complexities of the transactions.
- With the proposed tax bill of eliminating the ability to do an advanced refunding, the LEC Project Participant Committee and the Finance Committee gave staff direction to proceed with refunding the Lodi Energy Center Issue One Series A bonds as a Direct Purchase with Bank of America Merrill Lynch (BofAML). Of the three direct purchase proposals received, BofAML offered the best advanced refunding rate that will create debt service savings for these participants. Refunding the bonds to a Direct Purchase will allow the agency to complete this transaction prior to January 1, 2018 (and the expected effective date if the bill passes). A Direct Purchase essentially acts as a bank loan and does not require the agency to receive bond ratings or an update to an Official Statement saving several months of a normal bond refunding timeline.

Schedule Coordination Goals

Software Development

- The configuration of Scheduling software is underway for the PCWA project under the MFP1 SCID.
- Various other Software Development is underway. The Resource Adequacy Compliance App is a tool to manage RA supply planning and compliance tracking. The Risk Management App is a tool for the Risk Manager to maintain counterparty credits and ratings and provides Mark-to-Market report to the business users. The Green House Gas (GHG) Accounting App is a tool for the business user to track GHG transactions by Member. The Shared Services App has three modules about Training, Support Services, and Vendor Contracts. It calculates the billable amount for the Member's portion of the Shared Services.
- A new application authentication/security model based on Azure is being implemented on the Scheduling Suite.

Network

- 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.
- Additional 56k circuit upgrades to T1 at Portola, Ukiah and the Disaster Recovery Center have been successfully completed. Information Services is currently working on upgrading the Ukiah Orchard substation.
- Work has begun on streamlining the meetings workflow process using SharePoint to assist in preparing documents and presentations for a variety of NCPA committees. Information Services is anticipating to begin testing sometime in November with a first-of-the-year rollout into production.
- Information Services continues to work alongside Generation Services to help expand their physical security presence at the plant locations. This includes diagramming, installing and configuring network switches in preparation for security devices.
- PCWA network and point testing continues to move forward as we prepare for a January 1st cutover date.
- NCPA is researching the capability to use digital signatures for internal document approvals. This will help to streamline the current process and cut back on the amount of time it takes to approve document requests.
- Information Services has hired student interns to assist in providing additional coverage for help desk related responsibilities. This has allowed them to gain some experience in technical support while freeing up existing computer analysts' time to focus on more infrastructure and networking demands.
- NCPA is preparing to have a "red team" security assessment performed at the Headquarters building. This will identify any gaps in both physical and cyber vulnerabilities and then provide remediation steps for improvement and correction.

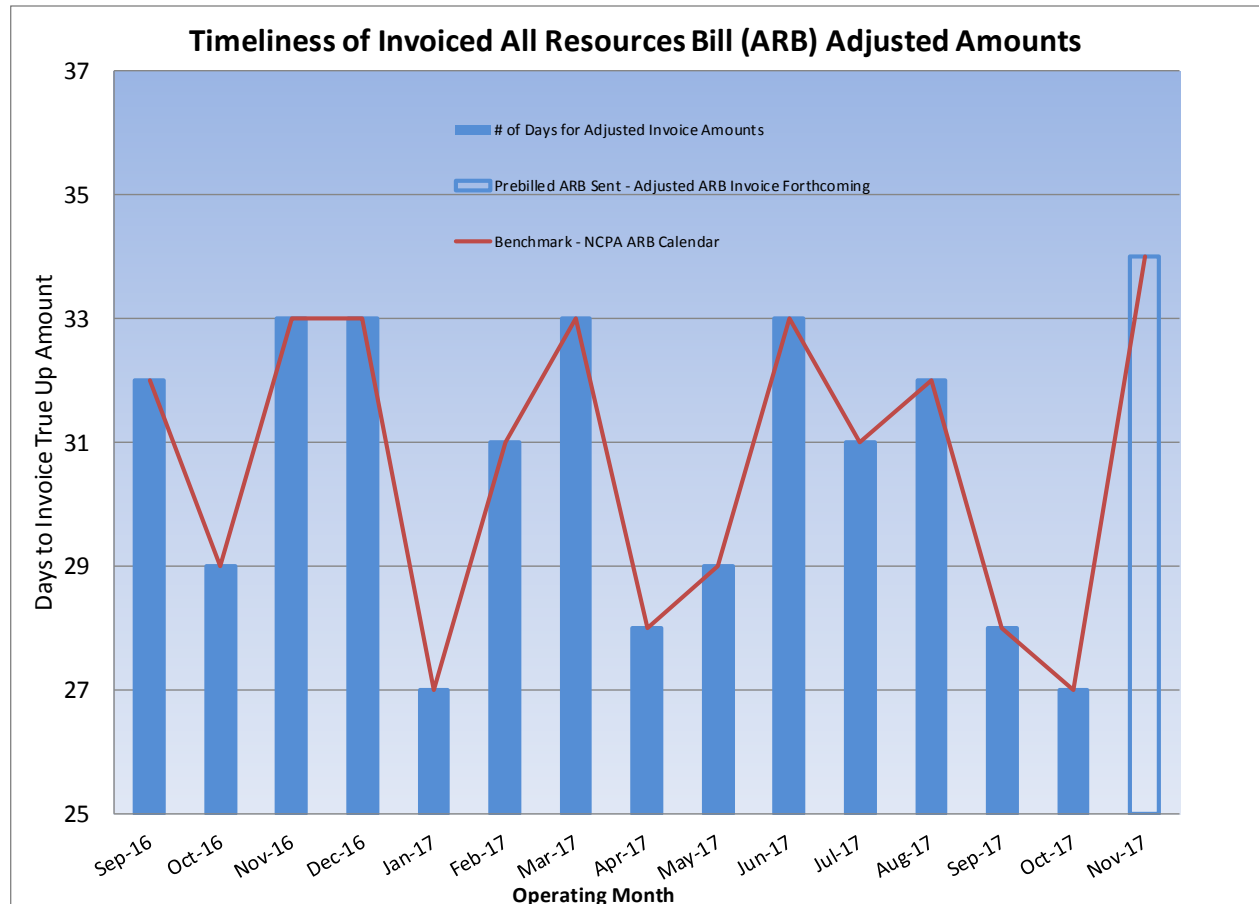
NCPA Bills & Settlements

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 November 2017 NCPA All Resources Bill (ARB) monthly invoice sent to members on October 23, 2017 contains:

- November 2017 monthly pre-billed budget/forecast amounts;
- September 2017 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- August 2017 (2nd Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
- June 2017 (3rd Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- December 2016 (4th Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
- February 2016 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- August 2014 (6th Adjustment) T+35 month CAISO settlement true-up



Legislative & Regulatory

Political Arena State/Federal/Western Programs

- NCPA participated in a Bureau of Reclamation briefing conducted for preference power customers regarding its participation in the California WaterFix project. NCPA and others had requested the meeting out of growing concern that power customers could pay for direct or indirect costs despite receiving zero benefits from the project. At the meeting, NCPA raised concerns that “project use” power used to pump water through the WaterFix would reduce the amount of base energy available to power customers, and, thereby increase Central Valley Project power costs.
- The Western Area Power Administration (WAPA) hosted its quarterly Central Valley Project (CVP) preference power customer meeting. Of key interest for NCPA was WAPA’s explanation for the mechanics of implementing the Bureau of Reclamation’s “Croffsets” proposal – a credit to CVP power customers of \$92 million for their excess payments in the Central Valley Project Improvement Act (CVPIA) Restoration Fund (RF). The “Croffsets” – credits and offsets – proposal is based upon the Expenditures, Credits, and Offsets (ECO) report that tracks all CVPIA RF revenues and expenditures from 1992 through 2016. NCPA raised concerns about the ECO report and noted that there are significant issues that need to be resolved, including faulty assumptions and data that could alter the size of the credit.

Human Resources

Hires:

Robyn Jackson joined NCPA on October 25, 2017, as an Office Assistant I at the Headquarters office in Roseville. Robyn has over 27 years of experience in the administrative and customer service field.

Intern Hires:

Thomas Williams was hired at NCPA on October 19, 2017, as Student Intern II at our Headquarters office in Roseville. Thomas is pursuing a Computer Engineering degree at California State University Sacramento.

Ryan Deleurme was hired at NCPA on October 31, 2017, as Student Intern II at our Headquarters office in Roseville. Ryan is pursuing a Computer Information Systems degree at Sierra College in Rocklin.

Promotions/Position Changes:

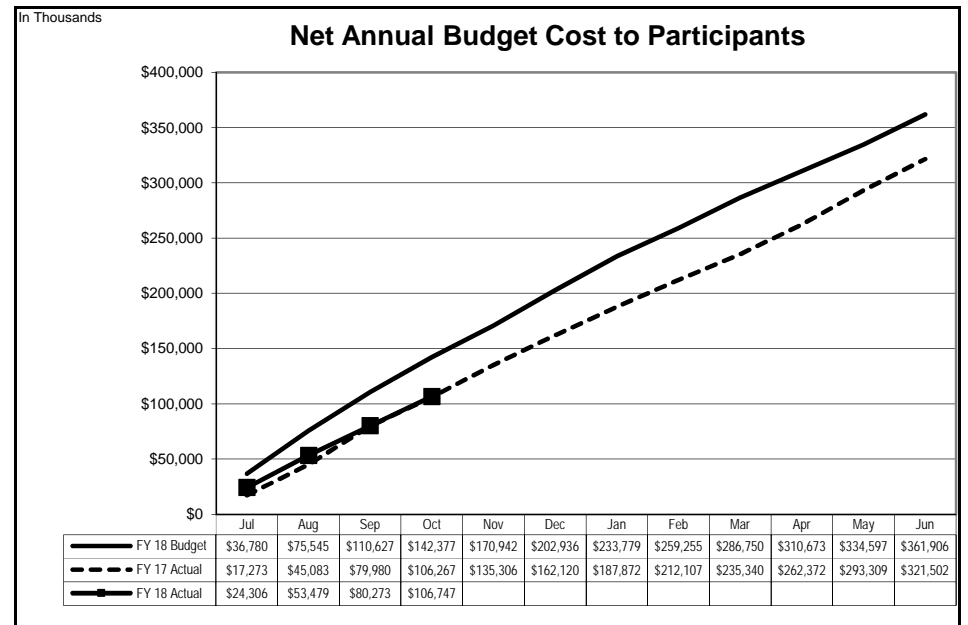
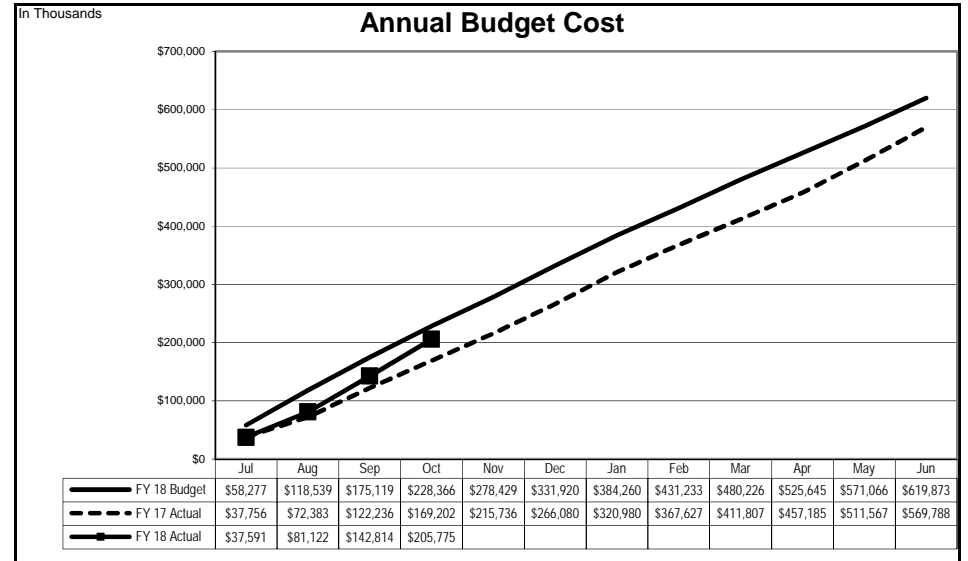
Jeff Gibbons transferred to our Roseville Headquarters office as a Schedule Coordinator III effective November 12, 2017. Jeff was previously the CT Specialist V at Lodi CT/LEC.

Separations:

Victoria Schofield-Nguyen, Office Assistant II, resigned her position at our Roseville Headquarters. Victoria left for another employment opportunity.

**Annual Budget
2017-2018 Fiscal Year To Date
As of October 31, 2017**

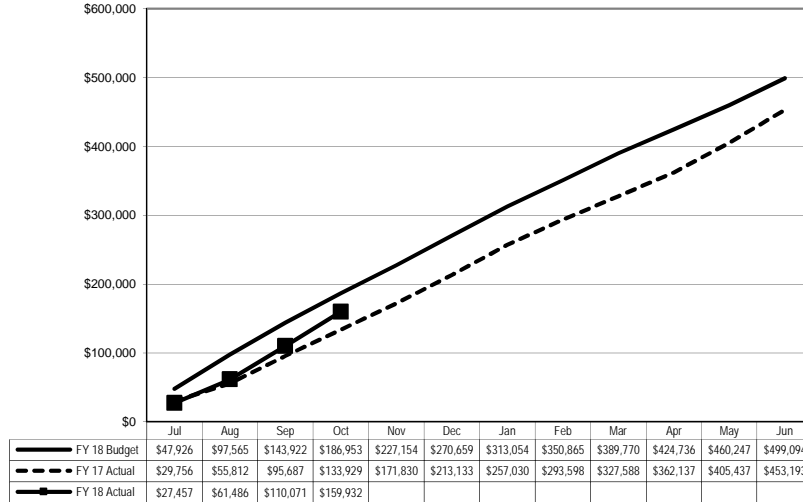
In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
GENERATION RESOURCES				
NCPA Plants				
Hydroelectric	53,862	19,399	\$ 34,463	64%
Geothermal Plant	32,120	9,594	22,526	70%
Combustion Turbine No. 1	2,849	1,905	944	33%
Combustion Turbine No. 2 (STIG)	8,623	3,292	5,331	62%
Lodi Energy Center	61,088	26,204	34,884	57%
	158,542	60,394	98,147	62%
Member Resources - Energy	53,389	19,306	34,083	64%
Member Resources - Natural Gas	3,457	1,207	2,250	65%
Western Resource	30,120	8,040	22,080	73%
Market Power Purchases	19,318	6,714	12,604	65%
Load Aggregation Costs - ISO	233,822	64,095	169,727	73%
Net GHG Obligations	446	175	271	61%
	499,094	159,932	339,162	68%
TRANSMISSION				
Independent System Operator	102,925	41,243	61,681	60%
MANAGEMENT SERVICES				
Legislative & Regulatory				
Legislative Representation	1,976	588	1,388	70%
Regulatory Representation	838	196	641	77%
Western Representation	830	159	670	81%
Member Services	436	114	322	74%
	4,079	1,058	3,022	74%
Judicial Action	625	65	560	90%
Power Management				
System Control & Load Dispatch	5,864	1,821	4,044	69%
Forecasting & Prescheduling	2,647	763	1,884	71%
Industry Restructuring	424	105	320	75%
Contract Admin, Interconnection Svcs & Ext. Affairs	1,152	283	869	75%
Green Power Project	18	1	17	96%
Gas Purchase Program	88	20	68	78%
Market Purchase Project	130	29	101	78%
	10,323	3,021	7,302	71%
Energy Risk Management	207	38	169	82%
Settlements	774	181	593	77%
Integrated System Support	319	45	273	86%
Participant Pass Through Costs	1,526	149	1,377	90%
Support Services	-	43	(43)	N/A
	17,854	4,600	13,253	74%
TOTAL ANNUAL BUDGET COST	619,872	205,775	414,097	67%
LESS: THIRD PARTY REVENUE				
Plant ISO Energy Sales	70,367	46,268	24,099	34%
Load Aggregation Energy Sales	151,019	32,837	118,182	78%
Ancillary Services Sales	2,731	1,510	1,221	45%
Western Resource Energy Sales	18,026	10,676	7,350	41%
Other ISO Revenue	-	3,542	(3,542)	N/A
Transmission Sales	110	37	74	67%
Western Credits, Interest & Other Income	15,713	4,158	11,555	74%
	257,967	99,028	158,939	62%
NET ANNUAL BUDGET COST TO PARTICIPANTS	361,906	106,747	\$ 255,158	71%



**Annual Budget
Budget vs. Actual By Major Area
2017-2018 Fiscal Year To Date
As of October 31, 2017**

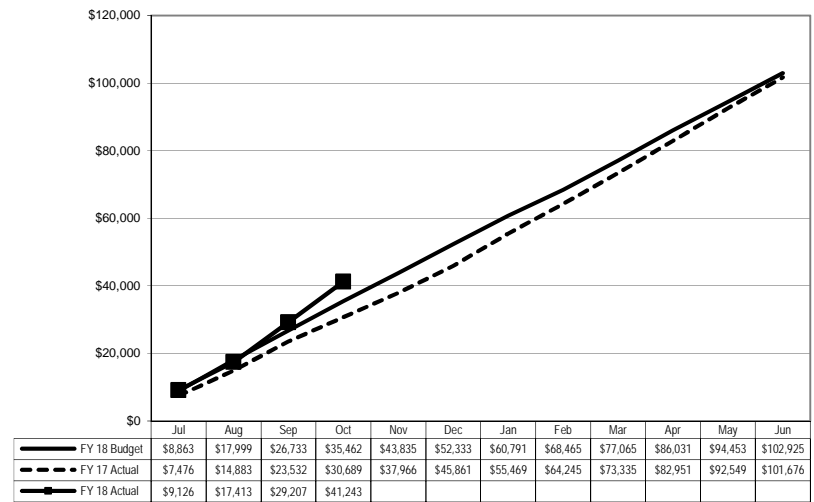
In Thousands

Generation Resources



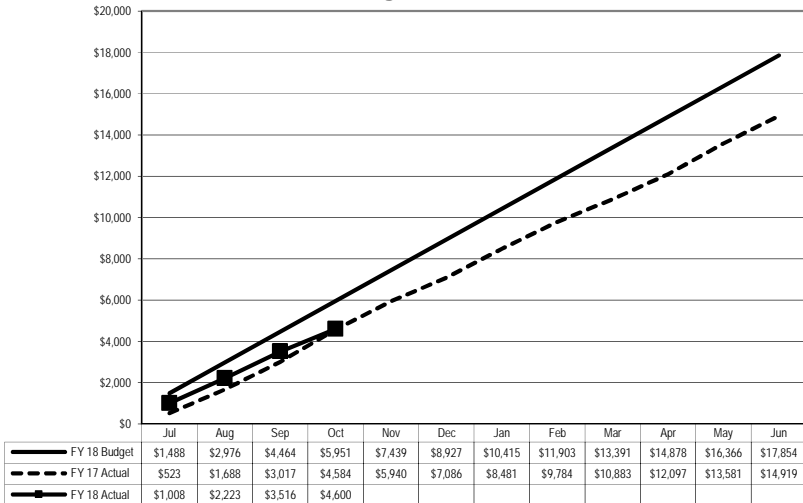
In Thousands

Transmission-ISO



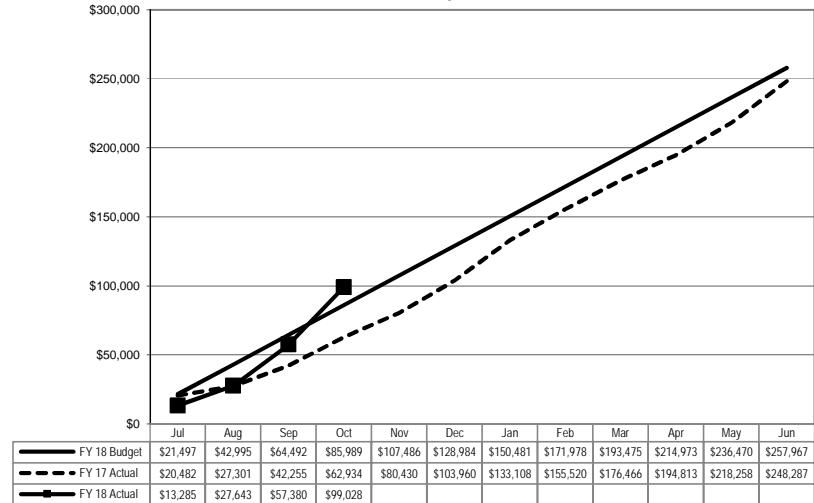
In Thousands

Management Services



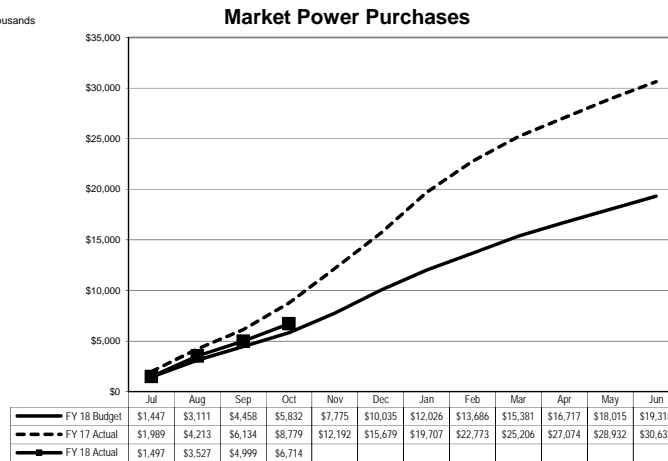
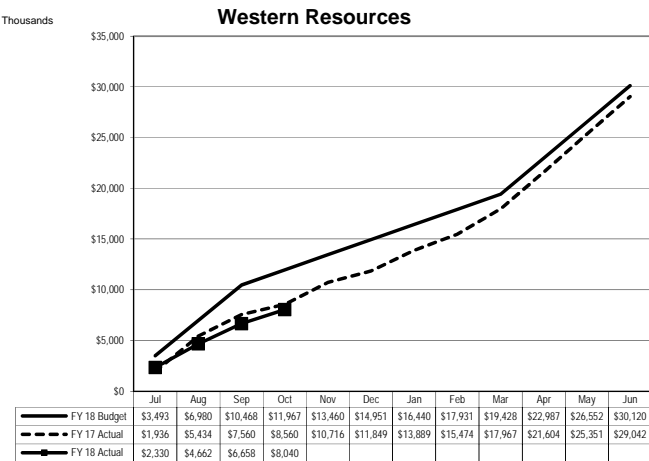
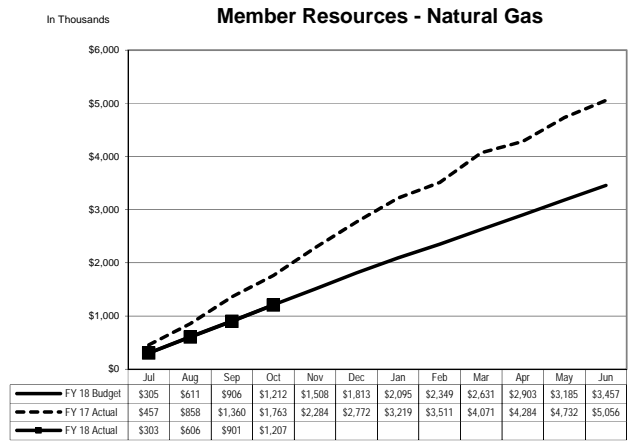
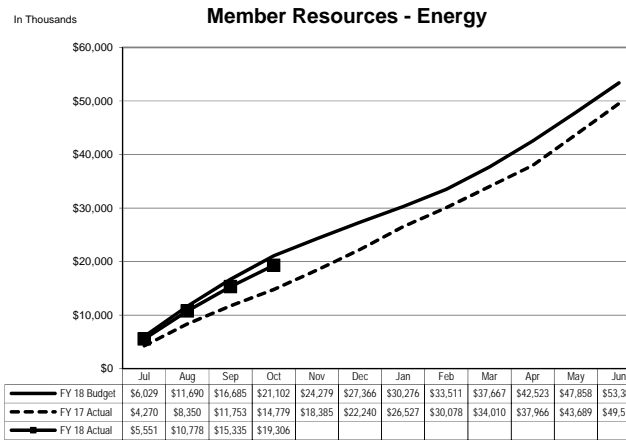
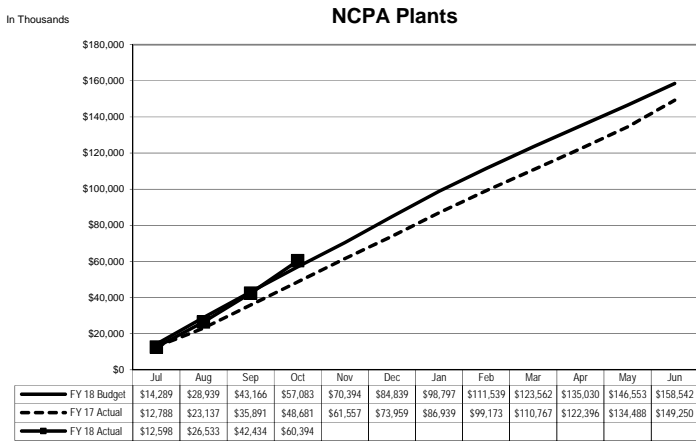
In Thousands

Third Party Revenue



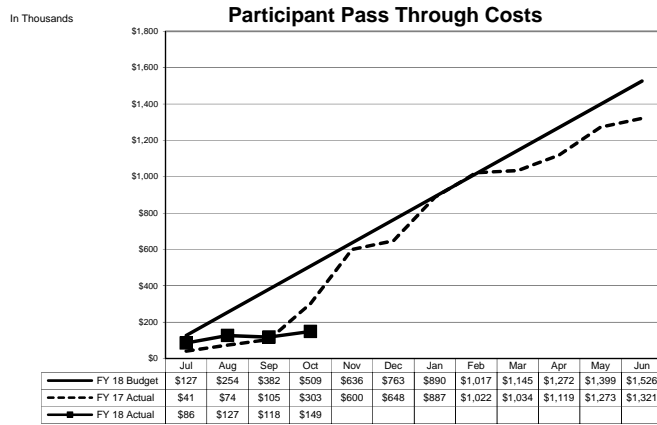
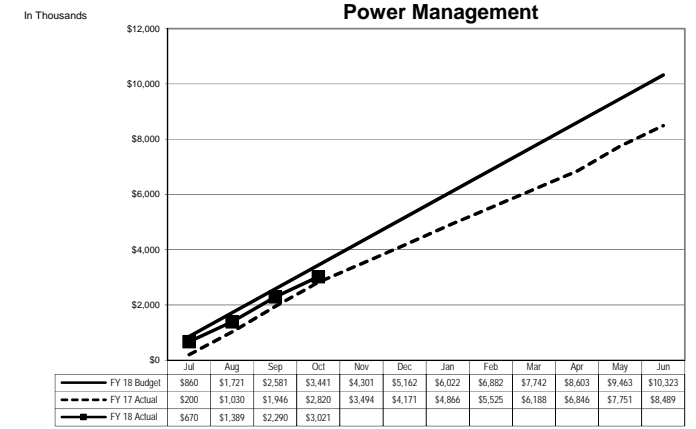
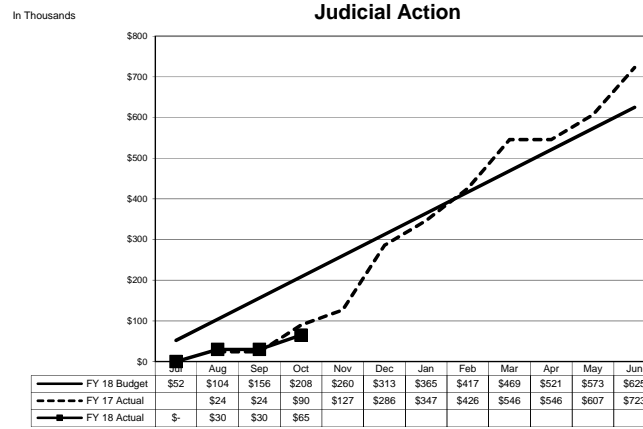
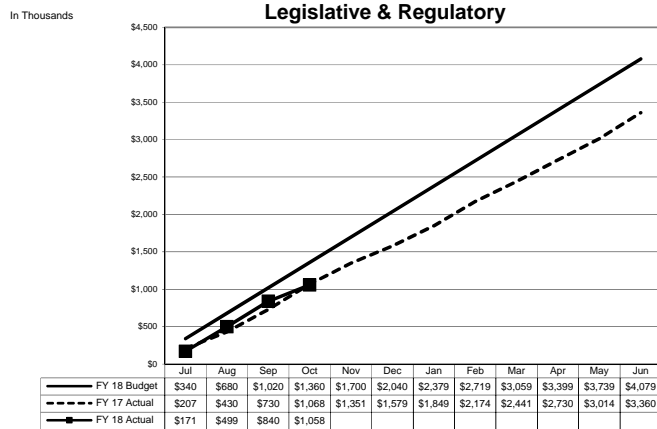
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

**Annual Budget Cost
Generation Resources Analysis By Source
2017-2018 Fiscal Year To Date
As of October 31, 2017**



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

**Annual Budget Cost
Management Services Analysis By Source
2017-2018 Fiscal Year To Date
As of October 31, 2017**



**Annual Budget Cost
Management Services Analysis By Source
2017-2018 Fiscal Year To Date
As of October 31, 2017**

In Thousands

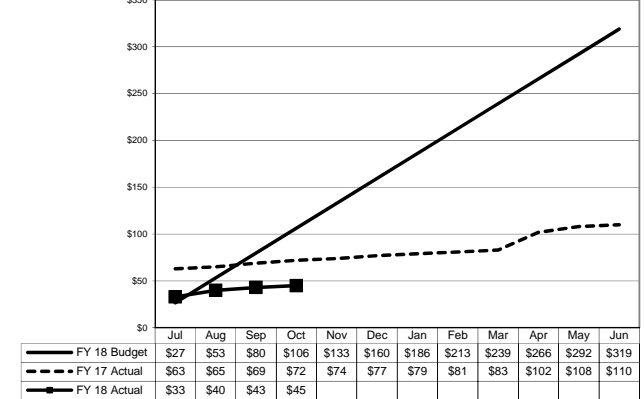
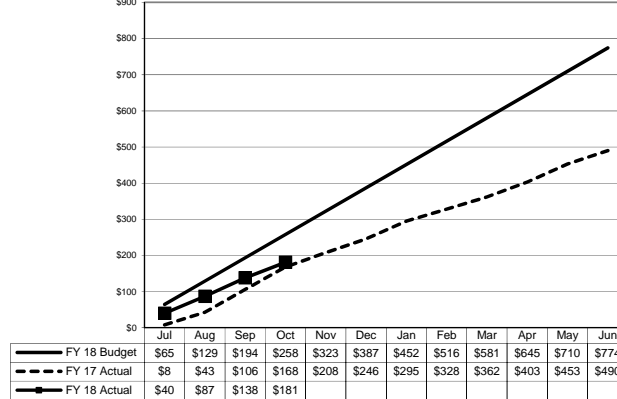
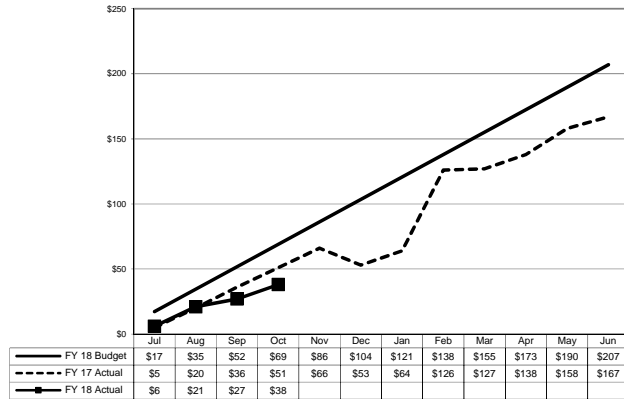
Energy Risk Management

In Thousands

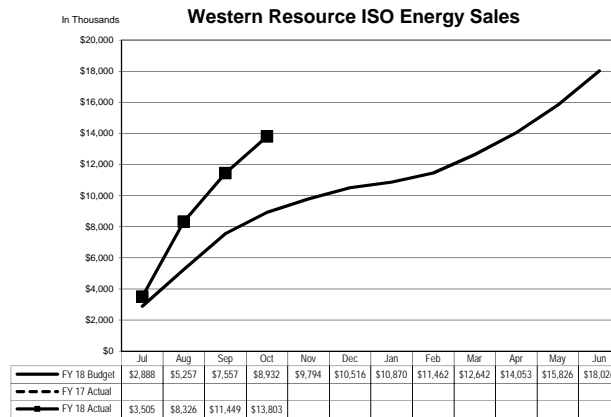
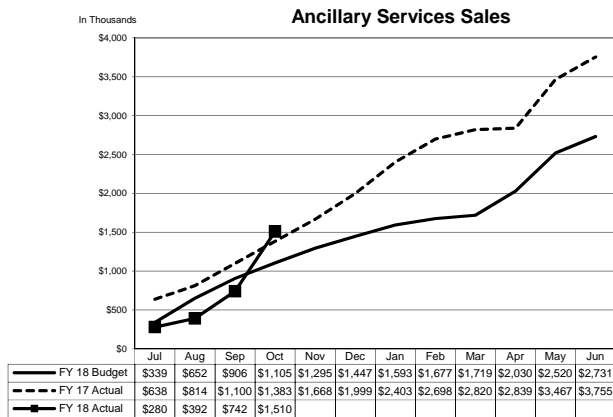
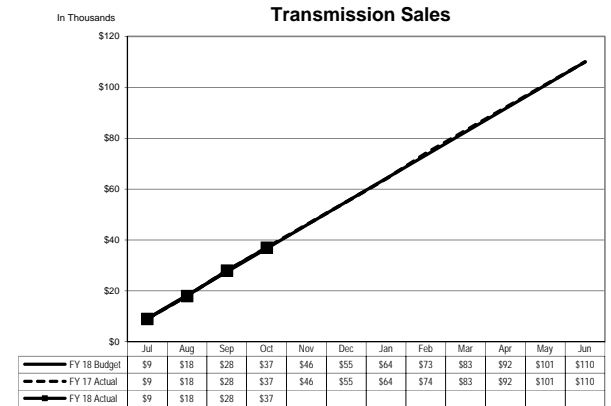
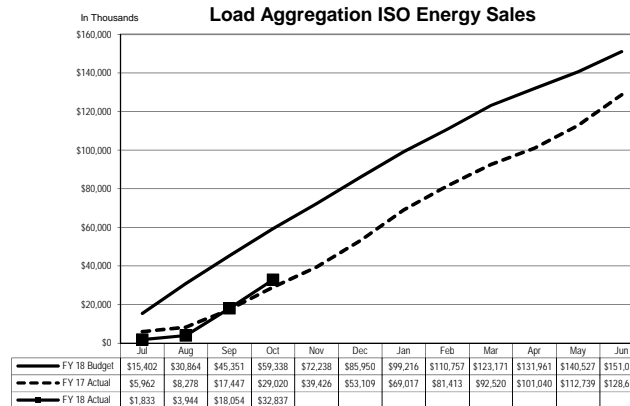
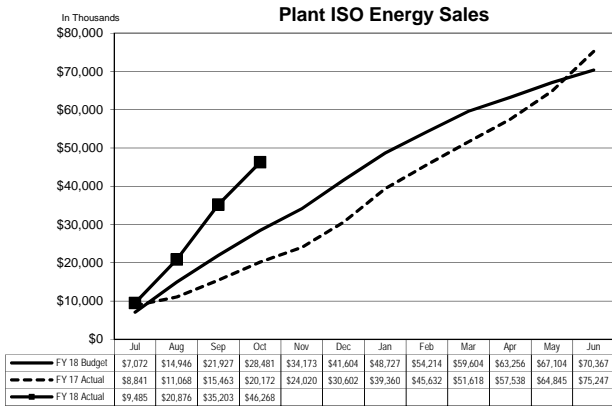
Settlements

In Thousands

Integrated Systems Support



**Annual Budget Cost
Third Party Revenue Analysis By Source
2017-2018 Fiscal Year To Date
As of October 31, 2017**



**Annual Budget
NCPA Generation Detail Analysis By Plant
2017-2018 Fiscal Year To Date
As of October 31, 2017**

Generation Cost Analysis

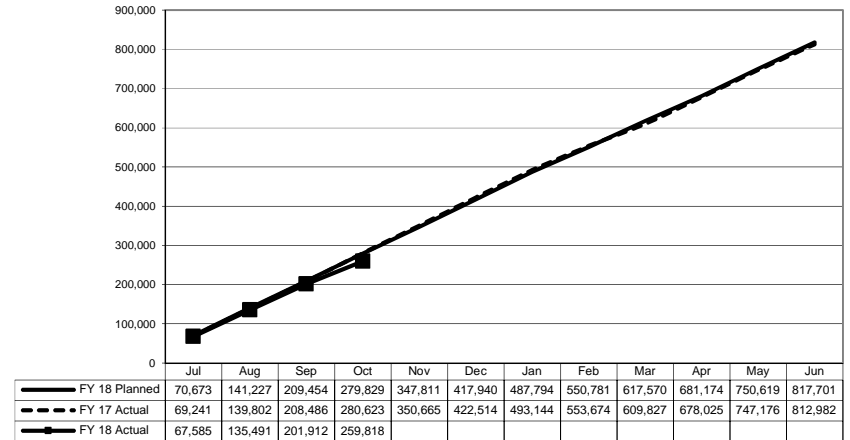
\$ in thousands

	Geothermal				
			\$/MWh	Under(Ovr)	YTD %
	Budget	Actual	Actual	Budget	Remaining
Routine O & M	\$ 17,564	\$ 5,092	\$ 19.60	\$ 12,473	71%
Capital Assets/Spare Parts Inventories	1,440	196	0.75	1,244	86%
Other Costs	7,863	2,455	9.45	5,407	69%
CA ISO Charges	317	206	0.79	111	35%
Debt Service	4,936	1,645	6.33	3,290	67%
Annual Budget	32,120	9,594	36.93	22,526	70%
Less: Third Party Revenue					
Interest Income	148	81	0.31	67	45%
ISO Energy Sales	28,349	10,577	40.71	17,772	63%
Ancillary Services Sales	-	(4)	(0.02)	4	
Effluent Revenues	700	430	1.65	270	39%
Misc	110	39	0.15	71	
	29,307	11,123	42.81	18,185	62%
Net Annual Budget Cost to Participants	\$ 2,813	\$ (1,528)	\$ (5.88)	\$ 4,341	154%
Net Generation--MWh @ Meter	817,701	259,818			
\$/MWh (A)	\$ (2.60)	\$ (12.22)			

MWhs Generated

In MWh

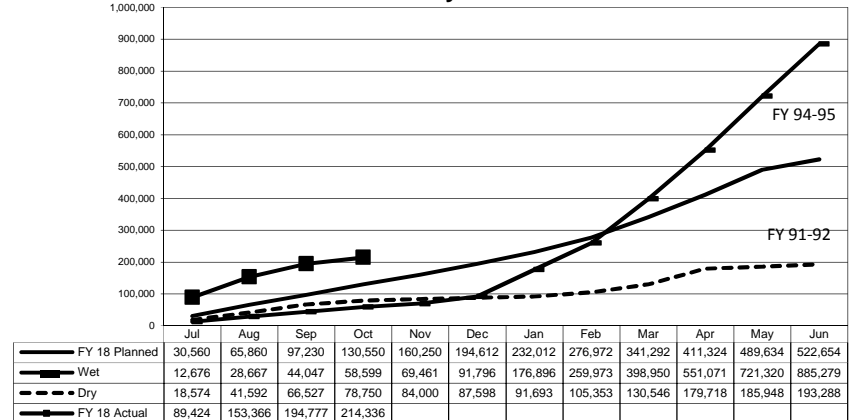
Geothermal



	Hydroelectric				
			\$/MWh	Under(Ovr)	YTD %
	Budget	Actual	Actual	Budget	Remaining
Routine O & M	\$ 8,465	\$ 2,173	\$ 10.14	\$ 6,292	74%
Capital Assets/Spare Parts Inventories	2,365	2,617	12.21	(252)	-11%
Other Costs	3,093	833	3.89	2,260	73%
CA ISO Charges	1,680	1,023	4.77	657	39%
Debt Service	38,258	12,753	59.50	25,505	67%
Annual Budget	53,862	19,399	90.51	34,463	64%
Less: Third Party Revenue					
Interest Income	244	126	0.59	119	49%
ISO Energy Sales	22,050	12,834	59.88	9,216	42%
Ancillary Services Sales	2,222	827	3.86	1,395	63%
Misc	-	1	0.01	(1)	
	24,516	13,788	64.33	10,728	44%
Net Annual Budget Cost to Participants	\$ 29,346	\$ 5,611	\$ 26.18	\$ 23,734	81%
Net Generation--MWh @ Meter	522,654	214,336			
\$/MWh (A)	\$ (17.05)	\$ (33.32)			

In MWh

Hydro



Footnotes:

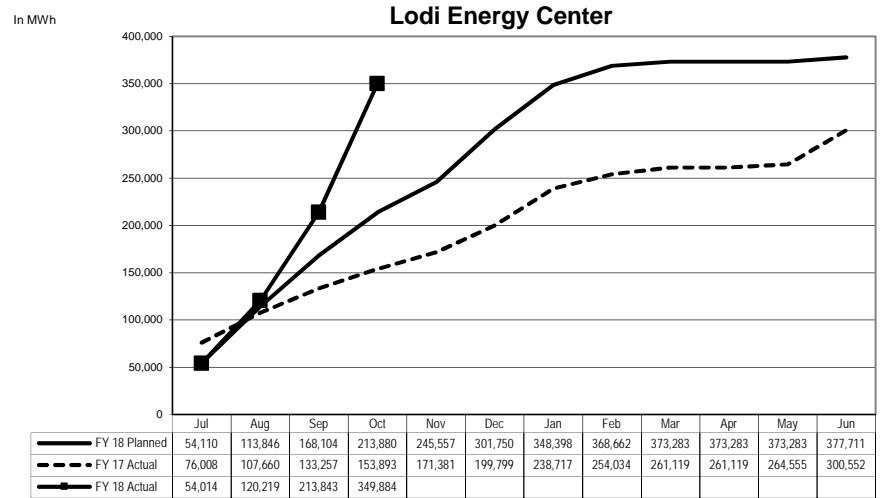
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

**Annual Budget
NCPA Generation Detail Analysis By Plant
2017-2018 Fiscal Year To Date
As of October 31, 2017**

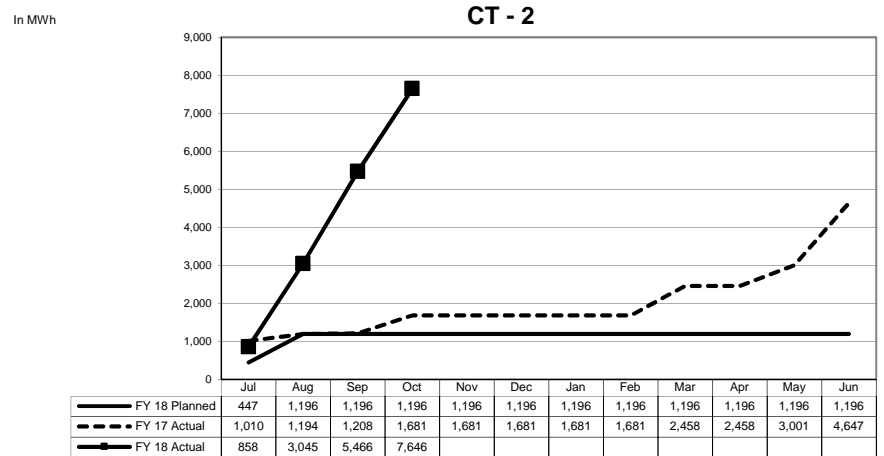
Generation Cost Analysis

Lodi Energy Center					
	Budget	Actual	\$/MWh Actual	Under(Ovr) Budget	YTD % Remaining
Routine O & M	\$ 10,174	\$ 4,257	\$ 12.17	\$ 5,917	58%
Fuel	14,877	9,496	27.14	5,381	36%
AB 32 GHG Offset	-	-	-	-	-
CA ISO Charges and Energy Purchases	3,921	2,282	6.52	1,638	42%
Capital Assets/Spare Parts Inventories	2,636	680	1.94	1,956	74%
Other Costs	3,063	683	1.95	2,380	78%
Debt Service	26,417	8,806	25.17	17,611	67%
Annual Budget	61,088	26,204	74.89	34,884	57%
Less: Third Party Revenue					
Interest Income	172	116	0.33	56	33%
ISO Energy Sales	19,760	20,322	58.08	(561)	-3%
Ancillary Services Sales	397	558	1.59	(161)	-40%
Transfer Gas Credit	-	-	-	-	0%
Misc	-	0	0.00	(0)	0%
	20,329	20,995	60.01	(666)	-3%
Net Annual Budget Cost to Participants	\$ 40,759	\$ 5,209	\$ 14.89	\$ 35,550	87%
Net Generation--MWh @ Meter	377,711	349,884			
\$/MWh (A)	\$ 37.97	\$ (10.28)			

MWhs Generated



Combustion Turbine No. 2 (STIG)					
	Budget	Actual	\$/MWh Actual	Under(Ovr) Budget	YTD % Remaining
Routine O & M	\$ 1,471	\$ 471	\$ 61.54	\$ 1,000	68%
Fuel and Pipeline Transport Charges	835	465	60.84	369	44%
Capital Assets/Spare Parts Inventories	121	-	-	121	100%
Other Costs	502	143	18.69	360	72%
CA ISO Charges	0	316	41.30	(315)	-68106%
Debt Service	5,693	1,898	248.20	3,795	67%
Annual Budget	8,623	3,292	430.57	5,331	62%
Less: Third Party Revenue					
Interest Income	43	23	3.03	20	46%
ISO Energy Sales	89	1,096	143.40	(1,008)	-1134%
Ancillary Service Sales	-	0	0.00	(0)	0%
Fuel and Pipeline Transport Credits	864	473	61.81	392	45%
Misc	-	-	-	-	0%
	996	1,592	208.24	(596)	-60%
Net Annual Budget Cost to Participants	\$ 7,627	\$ 1,700	\$ 222.33	\$ 5,927	78%
Net Generation--MWh @ Meter	1,196	7,646			
\$/MWh (A)	\$ 1,616.78	\$ (25.87)			



Footnotes:

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

**Annual Budget
NCPA Generation Detail Analysis By Plant
2017-2018 Fiscal Year To Date
As of October 31, 2017**

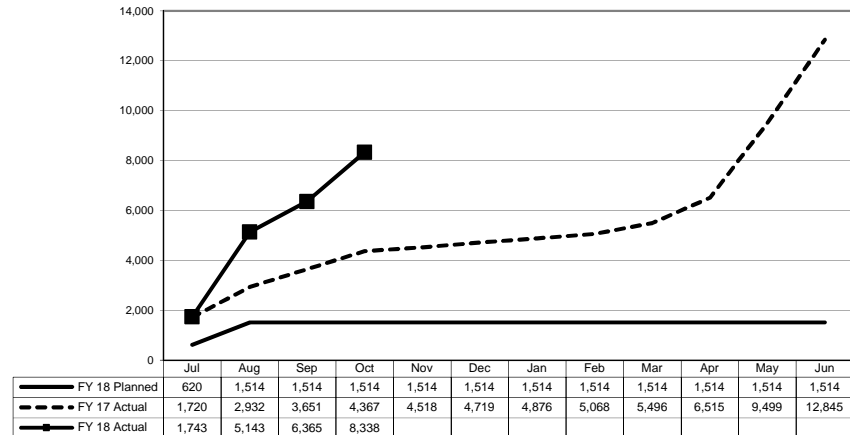
Generation Cost Analysis

	Combustion Turbine No. 1				
	Budget	Actual	\$/MWh Actual	Under(Ovr) Budget	YTD % Remaining
Routine O & M	\$ 1,520	\$ 827	\$ 99.22	\$ 693	46%
Fuel and Pipeline Transport Charges	172	-	-	172	100%
Capital Assets/Spare Parts Inventories	642	133	15.99	508	79%
Other Costs	292	619	74.26	(327)	-112%
CA ISO Charges	1	325	38.99	(325)	-55282%
Debt Service	-	-	-	-	-
Annual Budget	2,627	1,905	228.46	722	27%
Less: Third Party Revenue					
Interest Income	-	-	-	-	-
ISO Energy Sales	119	1,439	172.52	(1,320)	0%
Ancillary Services Sales	-	0	0.00	(0)	0%
Misc	-	16	1.88	(16)	0%
	119	1,454	174.40	(1,335)	-1122%
Net Annual Budget Cost to Participants	\$ 2,508	\$ 451	\$ 54.06	\$ 2,057	82%
Net Generation--MWh @ Meter	1,514	8,338			
\$/MWh (A)	\$ 1,656.50	\$ 54.06			

MWhs Generated

In MWh

CT - 1



Footnotes:

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