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# BUSINESS PROGRESS REPORT

*July 2022*

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# Generation Costs & Reliability

## Combustion Turbine Project

### Unit Operation for June 2022

Unit	Availability		Production			Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	0.0	MWh	CAISO / CAISO
	0.0%	100.0%	Unit 2	771.6	MWh	
Curtailments, Outages, and Comments:						
Unit 1: 6/01 @ 00:00 - 6/30 @ 23:59; Oil Fire and Repair, OMS 11417957						
Unit 2: Normal Operation.						
Unit	Availability		Production			Reason for Run
CT1 Lodi	99.76%		744.7 MWh			CAISO
Curtailments, Outages, and Comments:						
6/01 @ 18:29 - 20:12; Control cabinet overtemp.						
Unit	Availability		Production			Reason for Run
CT2 STIG	100.0%		770.0 MWh			CAISO
Curtailments, Outages, and Comments:						
Normal operation.						
Unit	Availability		Production			Reason for Run
LEC	24.5%		11,694 MWh			CAISO
Curtailments, Outages, and Comments:						
6/01 @ 00:00 - 6/13 @ 05:55; CT ULN and ST Generator Major Maintenance Outage, OMS 11341152						
6/13 @ 19:58 - 6/14 @ 06:41; CT ULN and ST Generator Major Maintenance Outage Extended, OMS 11341152						
6/14 @ 18:38 - 6/19 @ 15:01; CT ULN and ST Generator Major Maintenance Outage Extended, OMS 11341152						
6/19 @ 19:11 - 6/24 @ 12:51; CT ULN and ST Generator Major Maintenance Outage Extended, OMS 11341152						
6/24 @ 14:52 - 23:59; CT ULN and ST Generator Major Maintenance Outage Extended, OMS 11341152						
6/26 @ 15:13 - 16:45; Kettle Boiler Level Trouble						
6/27 @ 12:00 - 12:09; Plant Trip on Startup						

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

## Geothermal Facilities

### Availability/Production for June 2022

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
<b>Unit 1</b>	100 %	22,047 MWh	U1 had no outages for the month
<b>Unit 2</b>	100 %	*21,608 MWh	U2 had no outages for the month
<b>Unit 3</b>	N/A %	N/A -	Unit 3 remains out of service.
<b>Unit 4</b>	73.33 %	20,607 MWh	U4 was off line 0100 6/1/22 until 0315 6/12/22 for PG&E line outage
<b>Southeast Geysers Effluent Pipeline</b>	59 %	86.9 mgallons	Average flow rate: 1,947 gpm
<b>Southeast Solar Plant</b>	N/A	212,516 KWh	Year-to-date KWh: 1,422,579
<b>Bear Canyon Pump Station Zero Solar</b>	N/A	132,634 KWh	Year-to-date KWh: 1,401,224

\* Accounts for an additional 748 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

## Hydroelectric Project

### Availability/Production for June 2022

Units	Availability	Net Electricity Generated	Out-of-Service
<b>Collierville Unit 1</b>	99.54%	8489 MWh	CV Unit 1 – Out of Service on 6/14/22 from 0901 to 1217 for Exciter Brushes.
<b>Collierville Unit 2</b>	100%	12798 MWh	CV Unit 2 – No Outages.
<b>Spicer Unit 1</b>	58.18%	0 MWh	NSM1- Out of Service on 6/16/22 from 1057 to 1147 for trip testing and on 6/17/22 to 6/29/22 from 0600 to 1818 for PGE Salt Sprints-Tiger Creek 115kV line outage.
<b>Spicer Unit 2</b>	58.29%	0 MWh	NSM2- Out of Service on 6/16/22 from 1057 to 1129 for trip testing and on 6/17/22 to 6/29/22 from 0600 to 1746 for PGE Salt Sprints-Tiger Creek 115kV line outage.
<b>Spicer Unit 3</b>	58.19%	189 MWh	NSM3- Out of Service on 6/16/22 from 1057 to 1158 for trip testing and on 6/17/22 to 6/29/22 from 0600 to 1801 for PGE Salt Sprints-Tiger Creek 115kV line outage.

### Operations & Maintenance Activities:

- CMMS work orders
- Alpine dam deformation survey complete
- Coordination meeting with CCWD
- Issued McKays diving RFP
- Completed 2021 WY reports for 11563 and 2409
- Issued fall NSM Dam fall protection design contract
- Held SWRCB curtailment inspections
- Completed McKays DSSMR for FERC and DSOD
- Completed consultations with CFWS for Avery fish flow temporary variance request
- Increased recruitment efforts for Plant Engineer

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

- There were no Cal OSHA recordable incidents or Lost Time accidents in the month of June. NCPA's CT facility reported two vehicle accidents. In the first accident, an employee rubbed the bumper of a truck on an injection well pipe. In the second accident, an employee was backing up and bumped a cylinder. There was no damage to vehicles or property in either accident.
- 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 was updated through the payroll period ended June 18, 2022.
- 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.

### June 2022 Generation Services Safety Report

	Hydro	GEO	CT Group *	NCPA HQ **
Cal OSHA Recordable (this month)	0	0	0	0
Cal OSHA Recordable (calendar year)	0	0	0	0
Days since Recordable	615	239	2,630	3,614
Work Hours Since Last Recordable	51,940	49,670	399,824	2,826,830
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	5,364	2,493	10,534	6,627
Work Hours without LTA	484,509	213,880	810,368	2,448,848
Vehicle Incident (month)	0	0	2	0
Vehicle Incident (calendar year)	0	0	2	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 June 18, 2022.

## 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 2022 Data**

	<b>June 2022</b>		<b>Calendar Year 2022</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	440.09 6/21 @ 1800	197,046	440.09 6/21 @ 1800	1,092,764
SVP	647.57 6/21 @ 1700	381,519	647.57 6/21 @ 1700	2,188,502
MSSA	1086.35 6/21 @ 1800	578,565	1086.35 6/21 @ 1800	3,281,266

#### **Last Year 2021 Data\***

	<b>June 2021</b>		<b>Calendar Year 2021</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	440.56 6/17 @ 1700	197,131	440.56 6/17 @ 1700	1,092,369
SVP	590.64 6/17 @ 1600	341,770	591.96 8/27 @ 1500	1,960,729
MSSA	1025.46 6/17 @ 1700	538,901	1025.46 6/17 @ 1700	3,053,098

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

#### **System Peak Data**

	<b>All Time Peak Demand</b>	<b>2022 Peak Demand</b>
NCPA Pool	517.83 MW on 7/24/06 @ 1500	440.09 6/21 @ 1800
SVP	647.57 MW on 6/21/22 @ 1700	647.57 6/21 @ 1700
MSSA	1086.35 MW on 6/21/22 @ 1800	1086.35 6/21 @ 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>June 2022</b>	<b>Calendar Year 2022</b>
MSSA % Within the Band	97.52%	98.11%

- There were no PG&E PSPS events.
- CAISO System Alerts, Warnings, and Emergencies:
  - Transmission Emergency Notice (202202608) at 2020 6/10/22, CAISO requested 100 MW of load in Northern California to be shed due to a transmission emergency. No NCPA members were affected and CAISO handled internally.
  - Transmission Emergency CANCELLATION [202202609]. As of 00:00 the California ISO has Canceled the request to shed load in Northern CA due to the Transmission Emergency.
  - 1830 6/24/22: Restricted Maintenance Operations (RMO) [202202612] declared for the Bakersfield area due to high temperatures from 1600-2200 6/25/22.
  - 2200 6/25/22: Restricted Maintenance Operations (RMO) [202202613] declared for the Bakersfield area has been terminated.
- There were no CAISO Oversupply Potential Notifications.
- CAISO Real-time Contingency Dispatches (RTCD):
  - RTCD event 2015 hours 6/4/22
  - RTCD event 0131 hours 6/17/22
  - RTCD event 0451 hours 6/23/22

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

- NCPA Pool load during June 2022 was 197,046 MWh versus the budget forecast of 194,548 MWh, resulting in a forecast error of 1.27%. The current weather outlook for July 2022 is for above normal temperatures and little rainfall. The Pool's July load forecast is 211,199 MWh compared with extrapolated actuals of 215,610 MWh as of July 19, 2022.
- Lodi Energy Center (LEC) ran 89 hours out of a possible 720 producing 15,031 MWh. Natural gas and power prices are significantly higher than a year ago due to the low reservoir levels throughout the state and the situation in Ukraine. LEC is currently forced out from July, 20<sup>th</sup> through July 29<sup>th</sup>.
- During June 2022, 0.16" of rain was recorded at the Big Trees gauge. June average rainfall at Big Trees is 0.45". New Spicer Meadows storage decreased by just over 3,000 acre feet in June as the snowmelt and runoff finished early this year.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has remained at \$300/MWh. Releases from NSMR have been ramped up to meet and maintain the June 1<sup>st</sup> summer minimum Big Trees flows of 150 cfs.
- New Spicer Meadows storage as of June 30, 2022 was 125,300 acre feet. The historical average storage at the end of June is 145,758 acre feet. As of July 19<sup>th</sup>, storage was 120,317 acre feet. Peak storage this year was 129,378 acre feet on June 9<sup>th</sup>.
- Combined Calaveras Project generation for the Pool in June 2022 totaled 6,515MWh, down from 10,475 MWh in May 2022.



- Western Base Resource (BR) deliveries for the Pool during JUN 2022 were 21,080 MWh. Displacement program energy totaled 0 MWh. The Pool's share of expected total delivery from the Western Base Resource for July 2022 is 17,542 MWh.
- The PG&E Citygate gas index averaged \$8.76 / MMBtu during the month of June as compared to an average of \$9.297 for May. July's current average price is \$7.02 through the 19<sup>th</sup>. Both NYMEX gas and basis prices increased due to the current heat wave across the U.S. and below average storage volumes. The August 2022 PG&E Citygate forward price is \$8.62 / MMBtu, up \$0.20 from the July forward.
- Day-Ahead PG&E DLAP electricity prices for June averaged \$86.21 / MWh On-Peak and \$72.20 Off-Peak, with a high of \$269.59. For the dates of July 1<sup>st</sup> through the 19<sup>th</sup> prices have averaged \$76.11 On-Peak and \$63.08 Off-Peak. The forward prices for August are \$131.07 On-Peak and \$86.72 Off-Peak.

## **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 of September 2022:
  - Monthly System Resource Adequacy Demonstration (filed July 18, 2022)
  - Monthly Supply Plan (filed July 18, 2022)

### **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 key active initiatives:

#### **Energy Storage Enhancements**

- Second Revised Straw Proposal published Jun. 30, 2022. New Energy Storage Model concept removed and will be developed in new, concurrent stakeholder initiative. Ancillary Services changes for reliability include factoring Regulation in State of Charge formula, reducing energy bidding requirements for storage providing ancillary services, and provide additional analysis on storage providing regulation. Proposals to compensate batteries for Exceptional Dispatches to hold State of Charge included using actual LMPs vs. counterfactual values and considering the time horizon to the end of the day. CAISO also proposed additional options for co-located resources that may have rules in place to prevent "grid charging" including a tool that will prevent on-site storage from receiving dispatch instructions in excess of co-located renewable output.
- Next steps:
  - Jul. 27, 2022: comments due
  - Aug. 2022: Final Straw Proposal and meeting
  - Oct. 2022: ISO Board of Governors and WEIM Governing Body joint meeting.

#### **Extended Day-Ahead Market**

- Stakeholders are currently working through a series of workshops to discuss details of key initiative components. The first sessions have mostly covered rules for unused Bucket 2 and Bucket 3 transmission. Consensus is that if they are made

available to EDAM then they should not be entitled to a hurdle rate in order to prevent interference with the market optimization. In lieu of a hurdle rate, CAISO is proposing to make transmission providers “whole” by calculating average annual transmission revenues less realized bilateral sales, transfer revenues, etc. and allocating the remainder presumably to EDAM load. NCPA is concerned that lost revenues could be overestimated as bilateral markets continue to lose liquidity as more Balancing Authority Areas participate in organized markets such as EDAM, EIM, and SPP’s Markets +. Also concerning is that preliminary estimated CAISO opportunity costs are far lower than non-CAISO costs. Parties also debated whether or not unreserved Bucket 2 and 3 transmission should be automatically committed to the EDAM at some point before the Day Ahead Market run. Resource Sufficiency Evaluation details were also discussed. Parties debated whether or not import bids should qualify as RSE supply. An EDAM entity insisted that they should only count if they were contractually obligated to be scheduled in the Day Ahead Market and delivered in the Real Time Market, apparently not understanding that the market will determine whether or not the imports are scheduled in either market and subsequently dispatched. An outstanding question is whether or not CAISO could pass the RSE without import bids.

- EDAM Next steps:
  - Jun-Jul 2022 Technical workshops
  - Aug 11, 2022 Revised straw proposal posting
  - Aug 25, 2022 Meeting
  - Sep 09, 2022 Comments due on revised straw proposal
  - Sep 2022 Draft tariff framework posting
  - Oct 19, 2022 Draft final proposal posting
  - Nov 02-03, 2022 Meeting
  - Nov 03, 2022 Draft tariff posting
  - Nov 18, 2022 Comments due on draft final proposal and draft tariff language
  - Dec 07, 2022 Final proposal posting
  - Dec 14, 2022 ISO Board of Governors and WEIM Governing Body joint meeting

#### Resource Adequacy Enhancements

- CAISO delayed further work on RA Enhancements indefinitely in order to align bid insertion, must offer obligation, and flexible RA proposals with DAME, EDAM, and CPUC stakeholder initiatives. No schedule is currently available other than fall 2023 implementation.
- NCPA continues to monitor RA developments at CPUC that could materialize at CAISO and NCPA could then become subject to. Jurisdictional entities are vetting an hourly slice of day proposal that would better ensure sufficient coverage in all hours than the current coincident peak program. One could envision batteries, large hydro, and peakers in the AM and PM ramps, solar during the day, and base load and wind generation overnight. A 17% planning reserve margin is also being proposed but the unforced capacity concept is evolving into more of an ambient derate concept which could result in lesser impact on Net Qualifying Capacity values than the original proposal to degrade the values when the original proposal which would reduce NQC when units experienced forced outages during certain periods of tight supply. The proposals seem rational thus far.

### Day-Ahead Market Enhancements

- NCPA submitted comments supporting Load Following Metered Subsystem RUC cost exemption and Imbalance Reserve Product cost netting. Other entities opposed the initiative's timing or were concerned that it would not adequately address uncertainty and increase costs.
- DAME Next steps
  - Jul 19, 2022 Draft final proposal posting
  - Jul 26, 2022 Meeting
  - Aug 09, 2022 Comments due
  - Sep 01, 2022 ISO Board of Governors and WEIM Governing Body joint meeting

### Transmission Access Charge Structure Enhancements

- Initiative draft final proposal is complete and the initiative is currently on hold pending developments from Extend Day Ahead Market to EIM 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-21	90,622	64,857	(25,765)	\$1,943,287	\$ 29.96	\$ 0.50	\$ 48.51
Aug-21	67,967	54,903	(13,064)	\$1,943,287	\$ 35.39	\$ (0.06)	\$ 49.58
Sep-21	28,320	34,068	5,748	\$1,849,800	\$ 54.30	\$ (0.13)	\$ 50.66
Oct-21	22,710	25,992	3,282	\$759,202	\$ 29.21	\$ 0.59	\$ 49.01
Nov-21	8,712	-	(8,712)	\$759,202	\$ 87.14	\$ -	\$ 49.25
Dec-21	7,036	1,094	(5,942)	\$759,202	\$ 693.97	\$ 0.78	\$ 50.71
Jan-22	5,620	880	(4,740)	\$759,202	\$ 862.73	\$ -	\$ 51.22
Feb-22	14,806	6,343	(8,463)	\$759,202	\$ 119.69	\$ 0.01	\$ 50.12
Mar-22	21,003	10,930	(10,073)	\$759,202	\$ 69.46	\$ 0.06	\$ 50.44
Apr-22	55,270	13,637	(41,633)	\$1,733,503	\$ 127.12	\$ (0.46)	\$ 51.96
May-22	90,965	20,965	(70,000)	\$1,733,503	\$ 82.69	\$ 1.76	\$ 53.40
Jun-22	86,068	21,080	(64,988)	\$1,733,503	\$ 82.23	\$ 3.83	\$ 59.42
1/	As forecasted in NCPA 21/22 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.						

- NCPA Pool received 21,080 MWh of Base Resource (BR) energy in June 2022 with an estimated MEEA savings of \$80,720. There was zero MWh displaced energy in June.
- Pool Members' cumulative MEEA savings is approximately \$153,670 and \$60,460 of displacement savings in FY2022.

## Integrated Resource Plan (IRP)

- Pursuant to the Western Base Resource Contract, NCPA, on behalf of the assignment Members is required to file a structured Integrated Resource Plan with Western every five calendar years, and is subsequently required to file an update to the IRP each year. NCPA filed the 2022 Annual Progress report to WAPA on June 28, 2022 for the July 1, 2022 deadline.

## Interconnection Affairs

### PG&E Update

#### TO-18 and TO-19 Rate Case

- On March 24, 2022 FERC issued an order on PG&E's TO18 return on equity, reducing PG&E's base return on equity from 10.4% to 9.26%, and ordering PG&E to pay refunds by May 2022.
- May 16, 2022 PG&E made a Compliance Filing with FERC in which it calculated the TO-18 refund amount to be \$234 million. The Compliance Filing stated "the CAISO is responsible for administering refunds that occur as a result of adjustment of a PTO TAC/WAC."
- June 2022 - CAISO stated refunds will not be issued to customers until FERC issues an order on PG&E's compliance filing. FERC is under no deadline to issue such an order. CAISO might prefer to wait until FERC has resolved all the disputes before issuing the refunds to avoid too many true-up transactions. CAISO has also delayed other refunds until after the FERC Order and would likely want to follow its own internal precedence.
- PG&E's TO19 settlement is tied to the TO18 outcome. PG&E will have to pay refunds in TO19 after a final, non-appealable decision is made in the TO18 proceeding. TANC estimates the TO-19 refund to be \$248.5 million (HV: \$112.8 million; LV: \$135.7 million).

#### RY2023 Formula Rate Annual Update

TO-20 was PG&E's first formula rate filing. After the formula is set/final, the revenue requirement is revised through an annual update. This process is FERC approved and allows for a pass through of changing costs without further approval. Amounts charged by PG&E are later true-up to recorded cost.

- Annual update schedule is as follows:
  - July 1 – Utility posts proposed cost for the next calendar year
  - July 1 – Oct 15 – Customers examine new costs and issue discovery
  - August 15 – Sept 1 – Technical Conference
  - November 1 – Last changes to Annual Update
  - December 1 – Utility submits to FERC
  - January 1 – New revenue requirement becomes effective

- Revenue Requirement for RY2023 (Jan 1 – Dec 31, 2023) is as follows:

PG&E Wholesale Rates	RY2022 (Current)	As Filed RY 2023	% Change
Revenue Requirement	\$2.6B	\$2.9B	12%
HV TAC (\$/MWH)	\$12.62	\$11.30	-10%
LV TAC (\$/MWH)	\$17.51	\$22.12	26%

- Major Contributing Factors to the increase are PG&E's:
  - \$46M increase to A&G expenses
  - \$38M increase to O&M expenses
  - \$29M increase to Depreciation Expense
  - \$85M increase to Return on Rate Base
- Next Steps:
  - TANC is now engaged in the 2023 TRR review process to negotiate with PG&E over amounts found to be excessive or unsupported.
  - NCPA in collaboration with CPUC and BAMX will continue reviewing transmission investments in PG&E's STAR Process. CPUC will continue reviewing transmission investments SCE's Stakeholder Review Process (SRP) Process.

#### Permanent Inter-Tie Switch Between Geo Plants 1 and 2

- The permanent no-load intertie switch has been approved by the CAISO. The switch can be used when either the Fulton or Lakeville line is out of service to combine the outputs of Geo Plant 1 and Plant 2. CAISO has updated their full network model.
- NCPA and PG&E operating procedure is complete.
- May 2022 – NCPA received formal approval from CEC. Intertie switch engineering, design, and construction to be complete by fall of 2022 or spring 2023.

#### Cotenancy Agreement

- PG&E with support from NCPA and SVP filed an amendment that acknowledged CDWR's request for termination. The amendment rejected CDWR's request, pending resolution of the Cost of Removal dispute. All other matters have been delayed until this issue is resolved.
- On September 27, 2019 FERC rejected PG&E's amendment stating PG&E cannot unilaterally extend the term of the Agreement. FERC did not address the cost of removal aspect and the calculation methodology. NCPA has initiated discussions with Members as to how much capacity from CDWR's share should NCPA take.
- Members have indicated they would like to keep the original 110MW plus CDWR's layoff (an additional 55 MW) since NCPA has paid for the capacity.

## **Debt and Financial Management**

- On July 13<sup>th</sup>, the Bureau of Labor Statistics reported that CPI surged again to 9.1% last month from 12 months earlier, and above the 8.8% Dow Jones estimate. That marked the fastest pace for inflation going back to November 1981.
- With supply conditions showing little sign of improvement, the onus is on the Fed to hit the brakes via higher interest rates to allow demand to better match supply conditions. Analysts are now predicting a full percentage point move by the Fed at their July 26-27 meeting. A recession threat is rising and becoming almost inevitable.
- With a sharp increase in interest rates, NCPA's portfolio will see an initial decline in market value (bond yields and market values have inverse relationships). However, as the bonds roll down the yield curve closer to maturity, many of them will be 're-balanced' meaning the shorter bonds will be sold or held to maturity and the proceeds will be reinvested at these new, higher interest rate levels.
- CalPERS announced a preliminary -6.1% return for the 12-month period that ended June 30, 2022. To no surprise, they noted how the volatile global financial markets, geopolitical instability, domestic interest rate hikes, and inflation all had an impact on public market returns. Investments in global public stocks returned -13.1%, while fixed income investments returned -14.5%. Public market investments make up roughly 79% of the CalPERS' total fund. CalPERS' private market investments fared much better, with private equity and real assets sectors returning 21.3% and 24.1%, respectively. The overall estimated funded status stands at 72%.

## **Schedule Coordination Goals**

### **Software Development**

- Applications and Enhancements under development
  - Development of the Renewable Portfolio Standards application continues and data validation continues. Rollout delayed pending completion of other higher priority projects
  - IS team deploying apps in the test environment to test the Oracle 2019 database and testing is on-going. September 2022 rollout into production anticipated.
  - IS Team configuring the Deal Manager app for Palo Alto's use. Anticipating a July 2022 rollout.
- Customer and Resource Integration
  - Work continues on the Settlements-related configurations for the South Feather Water and Power Agency Resources.
  - Initial systems configuration for the integration of NID's Deer Creek resource.

### **Network**

- SCADA and Networking team continue to work with a variety of customers in an effort to integrate several new wind, solar and hydro resources,
  - Camp Far West – IS team has completed the integration with Camp Far West at the end of April and are currently monitoring and controlling this resource.

- Deer Creek – IS team is currently working with NID staff to collect the required information needed to perform a successful integration of the Deer Creek hydro resource by end of 2022.
- Luciana Solar – IS is coordinating with the necessary technical teams to setup communications to the resource. Network telemetry has been established with an expectation to test curtailment logic in the coming weeks. We anticipate Dispatch to have full monitoring and control capabilities by end of the summer.
- Operations and Support continues to work with VOIP vendor Integration Partners and ISP Consolidated Communications (CCI) to replace HQ and Disaster Recovery Center (DRC) phone systems and migrate to Session Initiation Protocol (SIP) from a legacy PRI circuit. Cutover is expected to be completed this summer.
- Operations and Support created the necessary plans such as procedures, MOU and documentation to be compliant with the new NERC CIP-012 control center communications requirement effective on July 1<sup>st</sup>. These procedures apply to Headquarters and the DRC Control Centers.
- Oracle 2019 continues to be tested with the anticipation of it replacing the current Oracle 11 and 12 versions in production. Application testing has started and staff is preparing for a full upgrade in early fall of 2022.
- IS continues to work with facilities to replace an outdated visitor management software program with a new solution called Splan. This works includes setting up new servers and working with our security vendor to install the necessary applications and services. Expected to be completed before end of summer.

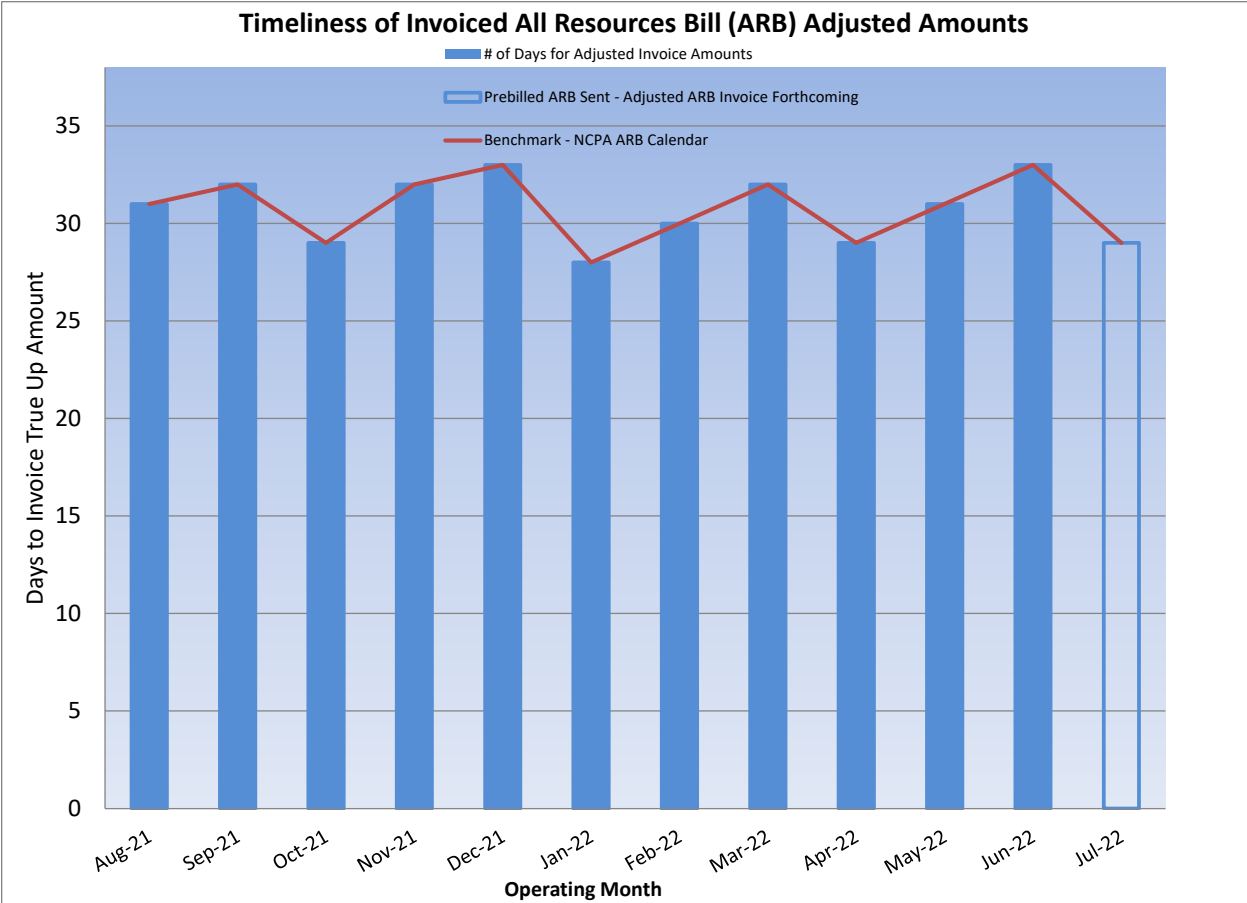
## **NCPA Bills & Settlements**

### **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 July 2022 NCPA All Resources Bill (ARB) monthly invoice sent to members on June 25, 2022 contains:

- July 2022 monthly pre-billed budget/forecast amounts;
- May 2022 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- April 2022 (2nd Adjustment) NCPA Project settlement true-up and T+20 business day recalculated CAISO settlement true-up allocations;
- February 2022 (3rd Adjustment) T+70 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- June 2021 (4th Adjustment) T+11-month recalculated CAISO settlement true-up allocations;
- October 2020 (5th Adjustment) T+18-month recalculated CAISO settlement true-up allocations;
- July 2019 (6th Adjustment) T+33-month recalculated CAISO settlement true-up;
- April 2019 (7th Adjustment) T+36-month CAISO settlement true-up;



**Legislative & Regulatory**

**State Legislative Update**

- On July 18, 2022, NCPA provided a tour and panel discussion on hydrogen integration in the electric and transportation sectors for nearly 50 legislative staffers, agency representatives, and stakeholder organizations. The event included a tour of the Lodi Energy Center (LEC) followed by a panel discussion on the future of hydrogen, featuring speakers from UC Riverside, Siemens, PG&E, City of Lodi, and the Port of Oakland.

**Human Resources**

**Hires:**

Danielle King joined NCPA's Lodi Energy Center as an Administrative Assistant/Office Administrator III (Facility Office Administrator) effective June 27, 2022. Danielle joins us from Lodi Unified School District, where she was a Facility and Planning Technician. In this role, she was responsible for processing monthly invoices, coordinating meetings, preparing purchase orders and agreements, and researching data to assist in preparing resolutions, contracts, and other documents. Danielle brings six years of administrative experience. Danielle holds an Associate of Arts degree from Eastern Gateway Community College.



Stephen Angel joined Lodi Energy Center's Operations team as a Combustion Turbine Specialist III (Operator) effective June 27, 2022. Stephen joins us from Ethos Energy, where he was a Lead Operations and Maintenance Technician III. In this role, he was responsible for a natural gas-fired combined cycle power plant's reliable and safe operation. He also ensured employees and contractors followed company policies and procedures, coordinated work priorities with staff, and performed troubleshooting for hardware and software diagnostic alarms. Stephen brings 16 years of operations and maintenance experience.

### **Intern Hires:**

Etienne De Raynal joined Truckee Donner PUD as a Student Assistant II, effective July 7, 2022.

### **Promotions:**

Michael DeBortoli was promoted to Assistant General Manager of Generation Services, effective July 3, 2022. Michael brings a wealth of experience to the position, as demonstrated through his many accomplishments during the last 16 years at NCPA. He started as an Engineer providing technical support for hydropower and geothermal operations and then became a Project Manager during the construction of our state-of-the-art Lodi Energy Center (LEC) natural gas facility. Most recently, in his role as NCPA's Combustion Turbine Plant Manager, Michael has led the Agency's efforts to integrate the use of hydrogen at the LEC and has helped initiate the development of the Northern California Pacific H2UB partnership that would demonstrate the use of hydrogen for ground transportation, shipping, and power generation—and enable research and development on the transmission of hydrogen through existing natural gas pipelines. In his new role, Michael will be a key part of NCPA's Executive Management Team and will oversee the operations and maintenance of all of the Agency's generation facilities. Michael holds a Bachelor of Science degree in Electrical Engineering from California State University, Sacramento.

Bryнна Bryant was promoted to Human Resources Manager, effective July 3, 2022. Bryнна joined NCPA in 2015 and brings over 16 years of progressive Human Resources experience. Throughout her time at the Agency, Bryнна has formed collaborative relationships with NCPA staff and Members and demonstrates a high level of professionalism and commitment to the Agency's goals. In her new role, Bryнна will continue to be a key part of enhancing employee benefits, implementing process improvements, and contributing to NCPA's Strategic Plan. Bryнна holds a Master of Arts degree in English from Arizona State University, a Bachelor of Arts degree in Political Science from California State University, Chico, and a certificate from the International Public Management Association as a Certified Professional in Human Resources.

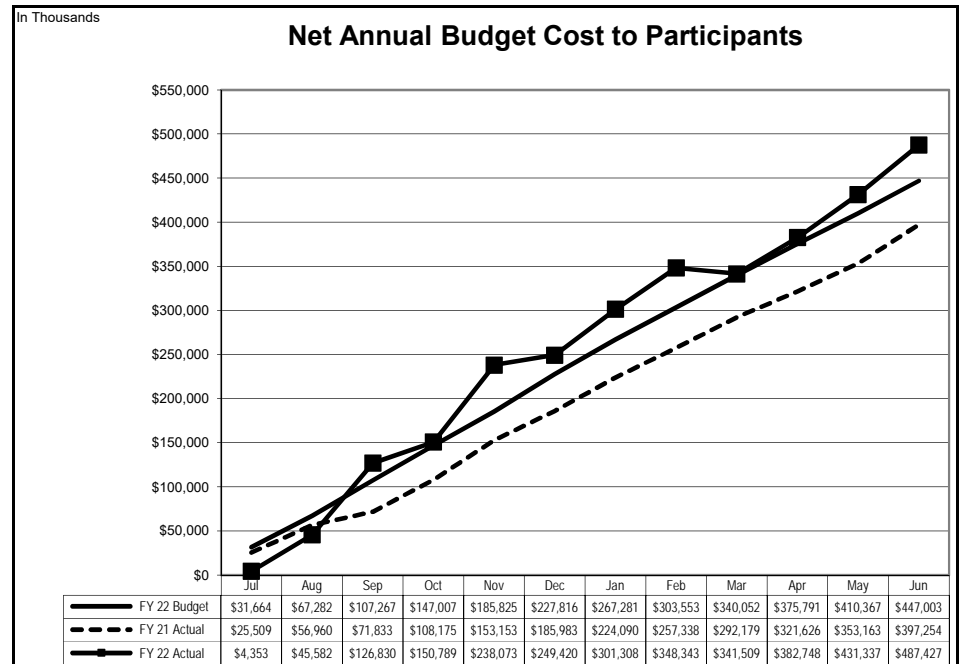
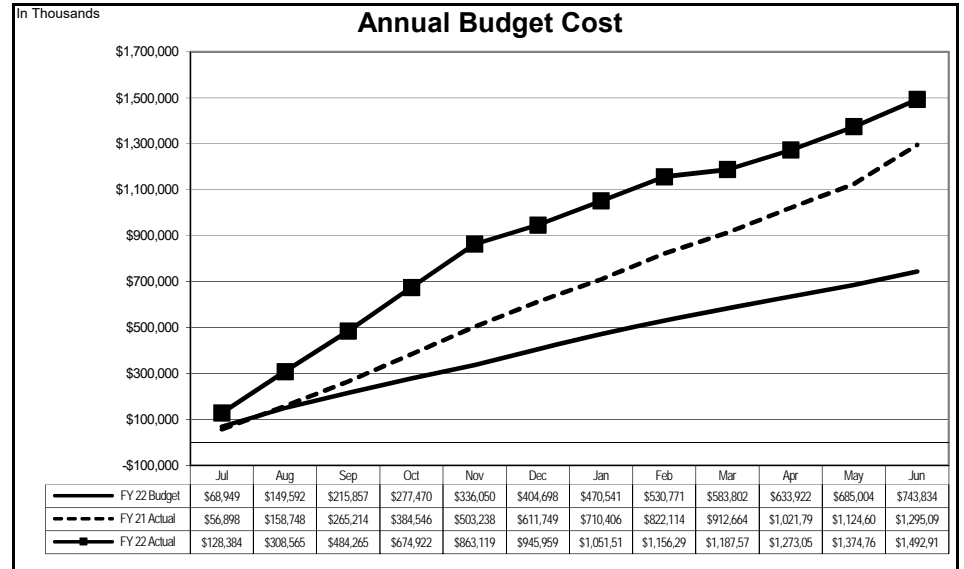
### **Separations:**

Jack Lincoln resigned from his position as a Government Relations Representative IV at our Headquarters offices on June 24, 2022

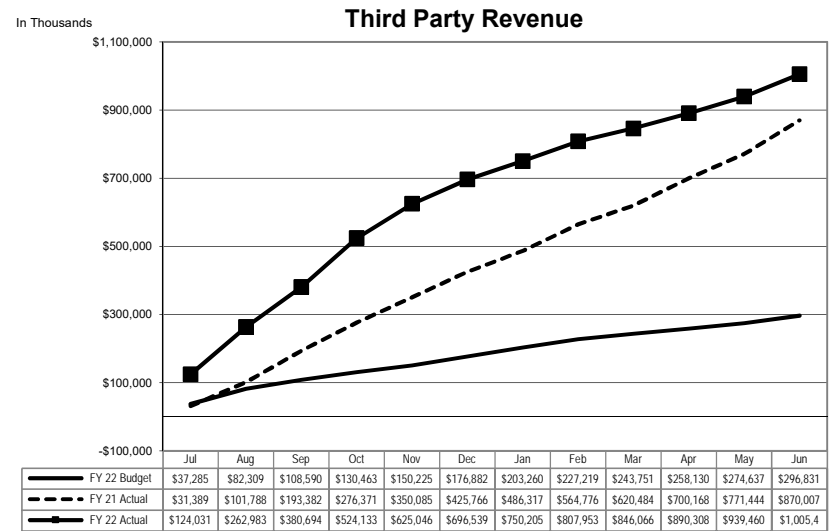
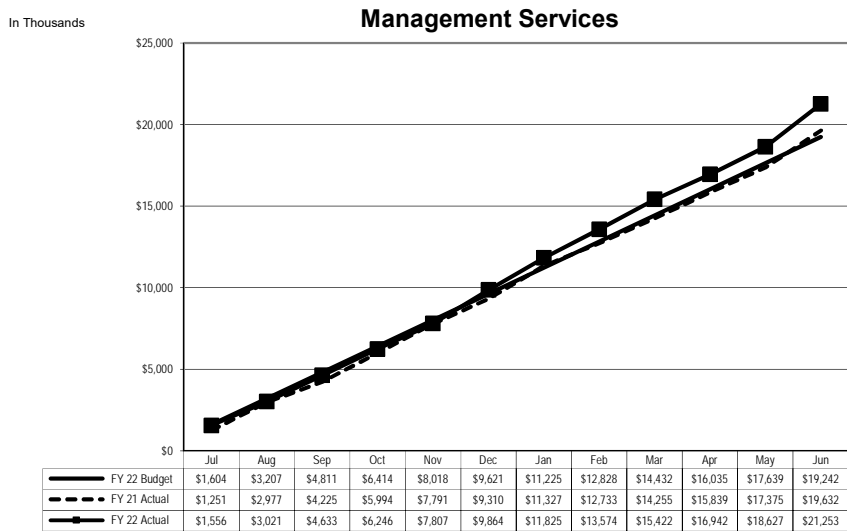
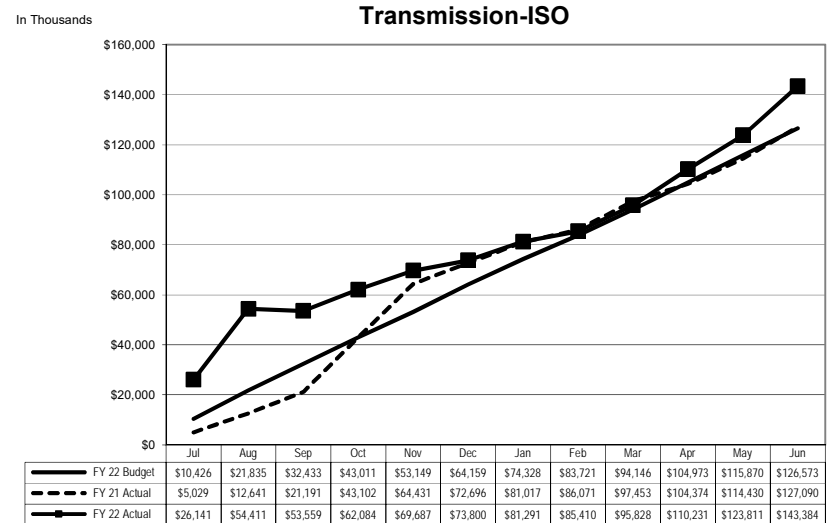
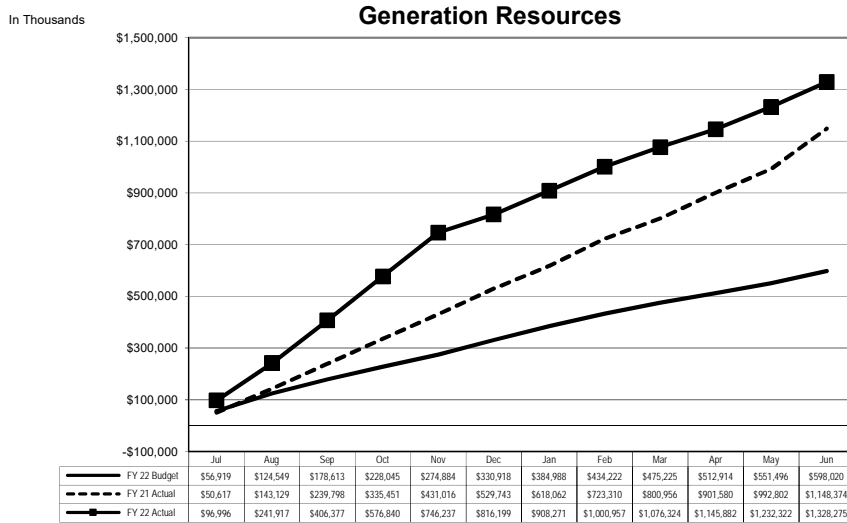
Saurabh Monga resigned from his position as Supervisor I, Power Settlements, at our Headquarters offices on July 1, 2022.

**Annual Budget  
2021-2022 Fiscal Year To Date  
As of June 30, 2022**

In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
<b>GENERATION RESOURCES</b>				
<b>NCPA Plants</b>				
Hydroelectric	54,081	54,530	\$ (448)	-1%
Geothermal Plant	40,662	38,780	1,883	5%
Combustion Turbine No. 1	7,055	7,962	(907)	-13%
Combustion Turbine No. 2 (STIG)	8,962	9,196	(234)	-3%
Lodi Energy Center	88,813	127,204	(38,391)	-43%
	199,574	237,671	(38,098)	-19%
<b>Member Resources - Energy</b>	67,417	86,584	(19,167)	-28%
<b>Member Resources - Natural Gas</b>	2,981	4,985	(2,003)	-67%
<b>Western Resource</b>	27,302	25,426	1,877	7%
<b>Market Power Purchases</b>	17,225	50,267	(33,043)	-192%
<b>Load Aggregation Costs - ISO</b>	282,244	920,256	(638,011)	-226%
<b>Net GHG Obligations</b>	1,277	3,087	(1,810)	
	598,020	1,328,275	(730,256)	-122%
<b>TRANSMISSION</b>				
<b>Independent System Operator</b>	126,573	143,384	(16,812)	-13%
<b>MANAGEMENT SERVICES</b>				
<b>Legislative &amp; Regulatory</b>				
Legislative Representation	2,101	1,864	237	11%
Regulatory Representation	634	672	(38)	-6%
Western Representation	694	571	123	18%
Customer Programs	481	456	26	5%
	3,911	3,563	348	9%
<b>Judicial Action</b>				
<b>Power Management</b>	300	1,117	(817)	-272%
System Control & Load Dispatch	7,427	7,082	345	5%
Forecasting & Prescheduling	2,811	2,650	161	6%
Industry Restructuring	423	405	18	4%
Contract Admin, Interconnection Svcs & Ext. Affairs	975	945	29	3%
Gas Purchase Program	81	59	21	26%
Market Purchase Project	116	91	25	22%
	11,833	11,232	600	5%
<b>Energy Risk Management</b>				
<b>Settlements</b>	198	205	(7)	-3%
<b>Integrated System Support</b>	975	809	166	17%
<b>Participant Pass Through Costs</b>	307	493	(186)	-60%
<b>Support Services</b>	1,718	1,645	73	4%
	-	2,189	(2,189)	
	19,242	21,253	(2,011)	-10%
<b>TOTAL ANNUAL BUDGET COST</b>	743,834	1,492,913	(749,079)	-101%
<b>LESS: THIRD PARTY REVENUE</b>				
<b>Plant ISO Energy Sales</b>	101,640	170,257	(68,617)	-68%
<b>Member Resource ISO Energy Sales</b>	34,353	62,307	(27,955)	-81%
<b>Member Owned Generation ISO Energy Sales</b>	83,030	143,669	(60,639)	-73%
<b>Revenue from Customers</b>	-	97,806	(97,806)	
<b>Customer Owned Generation ISO Energy Sales</b>	-	315	(315)	
<b>NCPA Contracts ISO Energy Sales</b>	12,615	40,907	(28,293)	-224%
<b>Western Resource ISO Energy Sales</b>	19,297	20,550	(1,254)	-6%
<b>Load Aggregation Energy Sales</b>	-	398,836	(398,836)	
<b>Ancillary Services Sales</b>	4,317	9,387	(5,070)	-117%
<b>Transmission Sales</b>	110	110	-	0%
<b>Western Credits, Interest &amp; Other Income</b>	41,469	61,339	(19,870)	-48%
	296,831	1,005,486	(708,655)	-239%
<b>NET ANNUAL BUDGET COST TO PARTICIPANTS</b>	447,003	487,427	\$ (40,424)	-9%

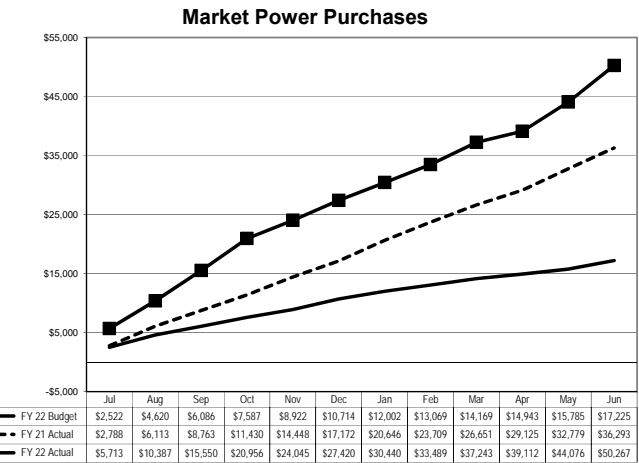
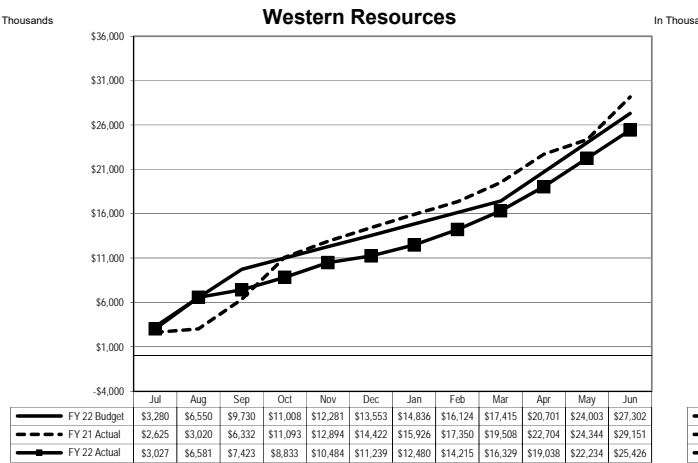
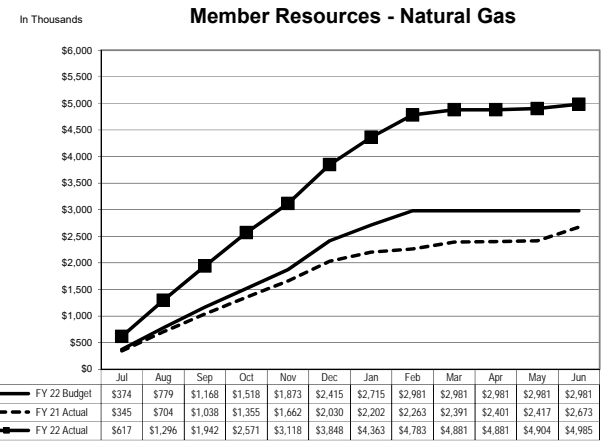
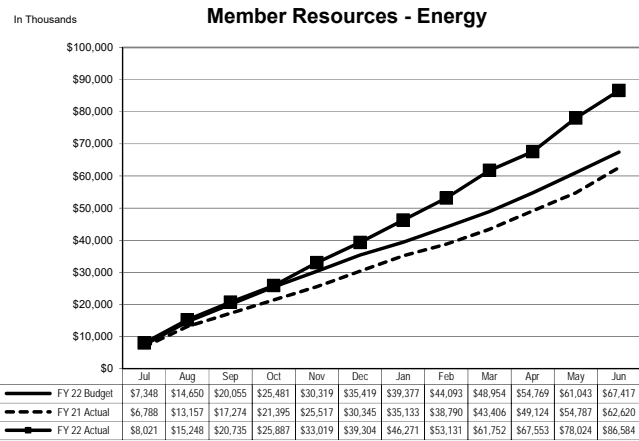
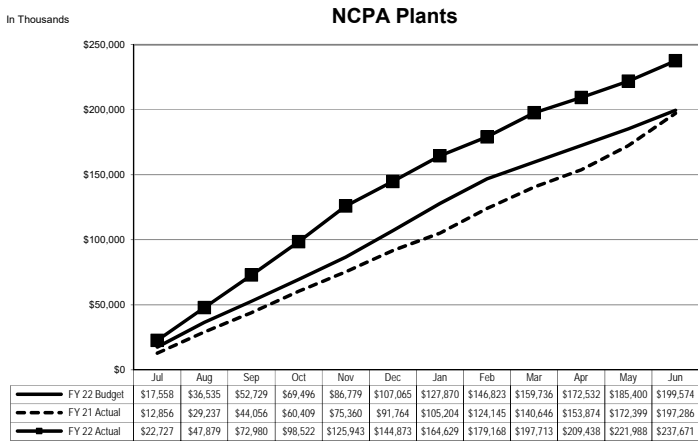


## Annual Budget Budget vs. Actual By Major Area As of June 30, 2022



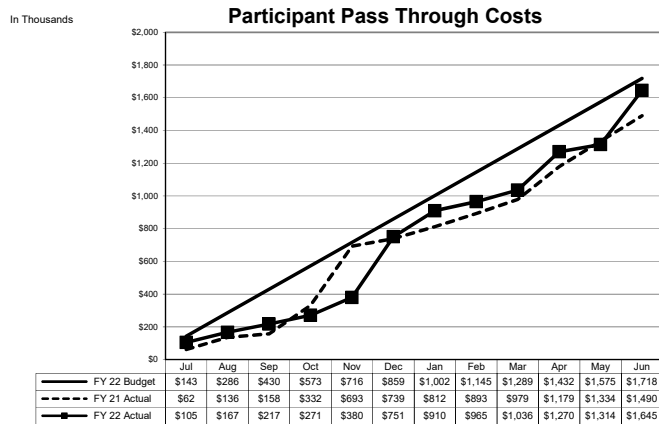
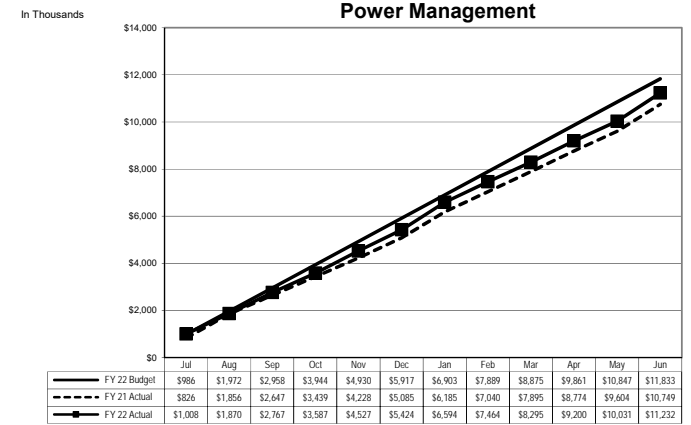
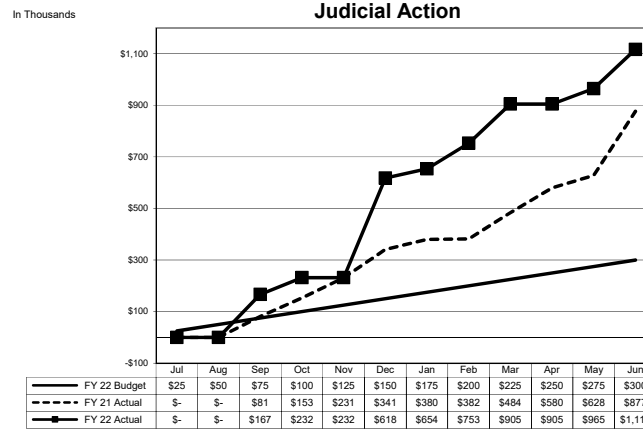
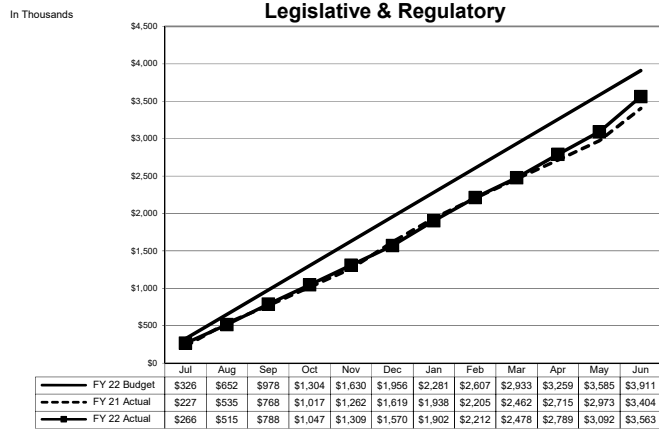
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs  
Transmission-ISO, July 2021 through February 2022, restated to include Other ISO Revenue

## Annual Budget Cost Generation Resources Analysis By Source As of June 30, 2022



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

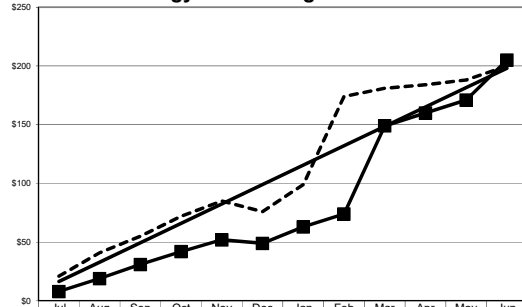
## Annual Budget Cost Management Services Analysis By Source As of June 30, 2022



**Annual Budget Cost  
Management Services Analysis By Source  
As of June 30, 2022**

In Thousands

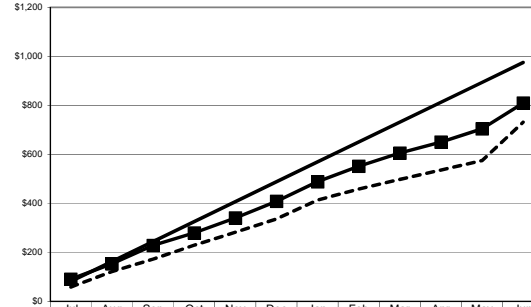
**Energy Risk Management**



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 22 Budget	\$17	\$33	\$50	\$66	\$83	\$99	\$116	\$132	\$149	\$165	\$182	\$198
FY 21 Actual	\$21	\$41	\$55	\$72	\$85	\$76	\$99	\$174	\$181	\$184	\$188	\$200
FY 22 Actual	\$8	\$19	\$31	\$42	\$52	\$49	\$63	\$74	\$149	\$160	\$171	\$205

In Thousands

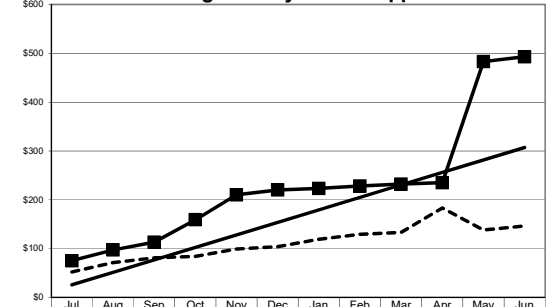
**Settlements**



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 22 Budget	\$81	\$163	\$244	\$325	\$406	\$488	\$569	\$650	\$731	\$813	\$894	\$975
FY 21 Actual	\$58	\$121	\$172	\$229	\$282	\$336	\$413	\$458	\$497	\$536	\$574	\$731
FY 22 Actual	\$90	\$153	\$228	\$279	\$340	\$408	\$488	\$551	\$605	\$650	\$704	\$809

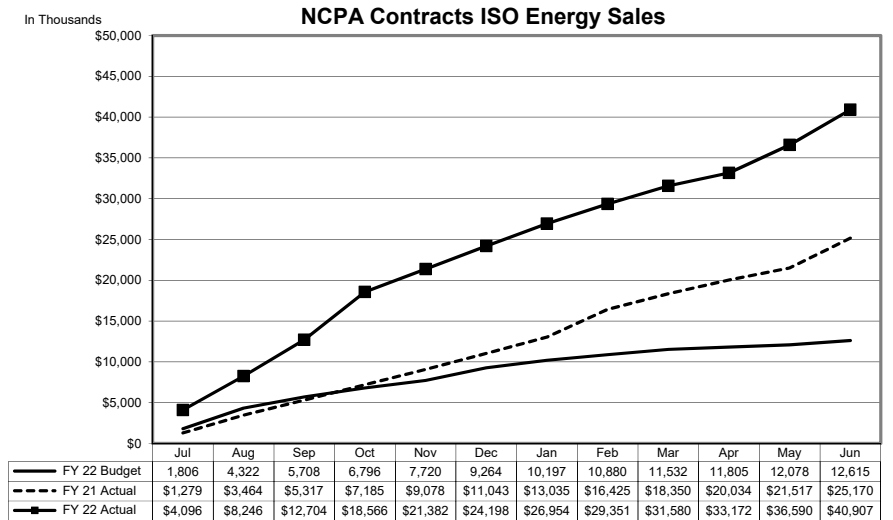
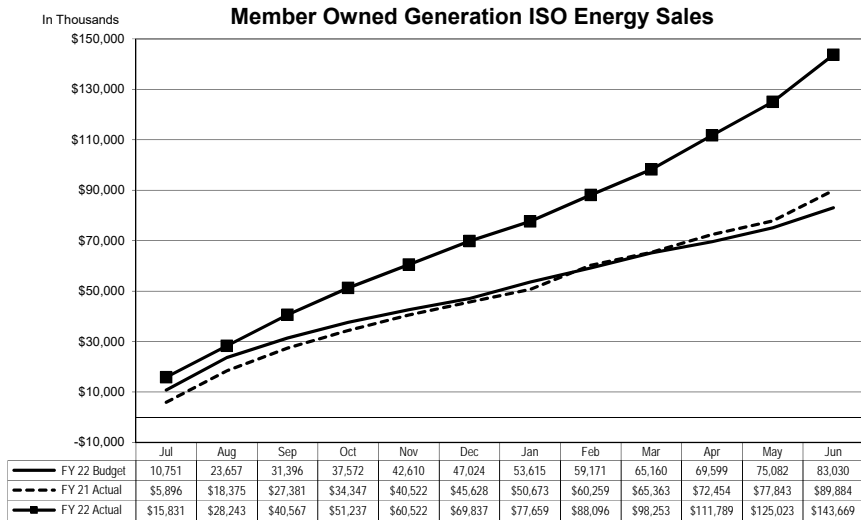
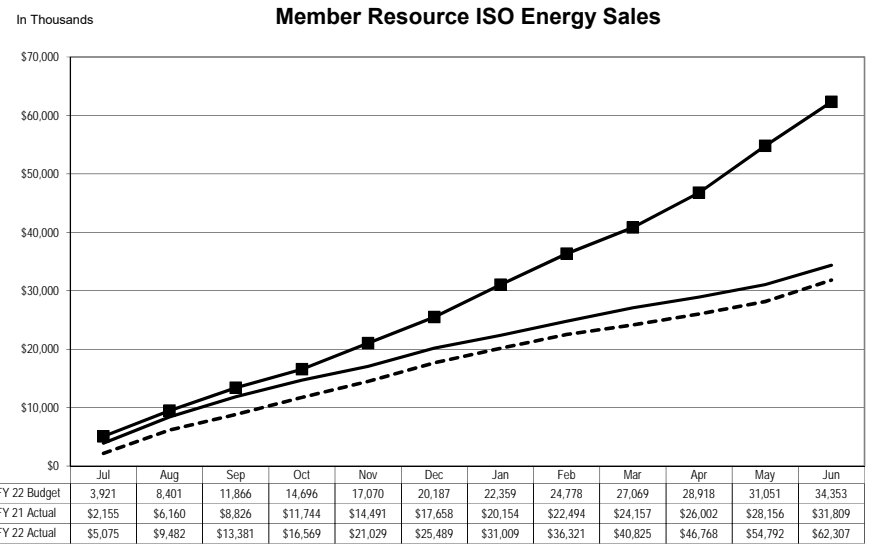
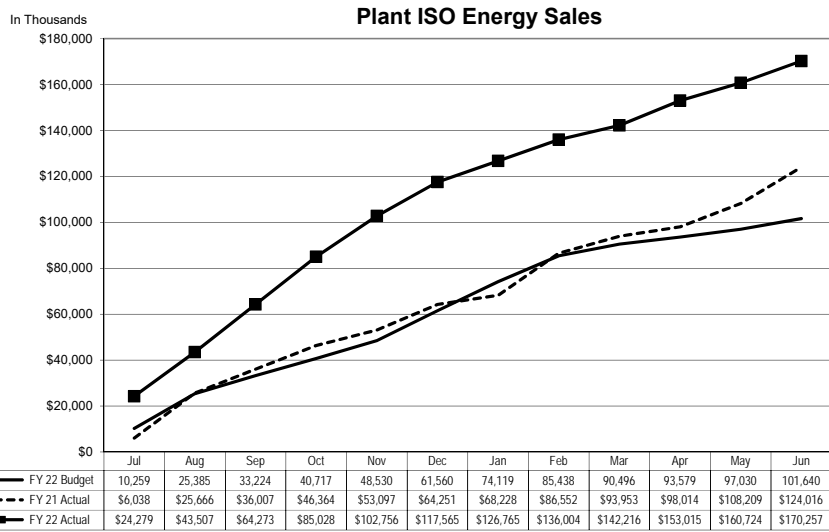
In Thousands

**Integrated Systems Support**

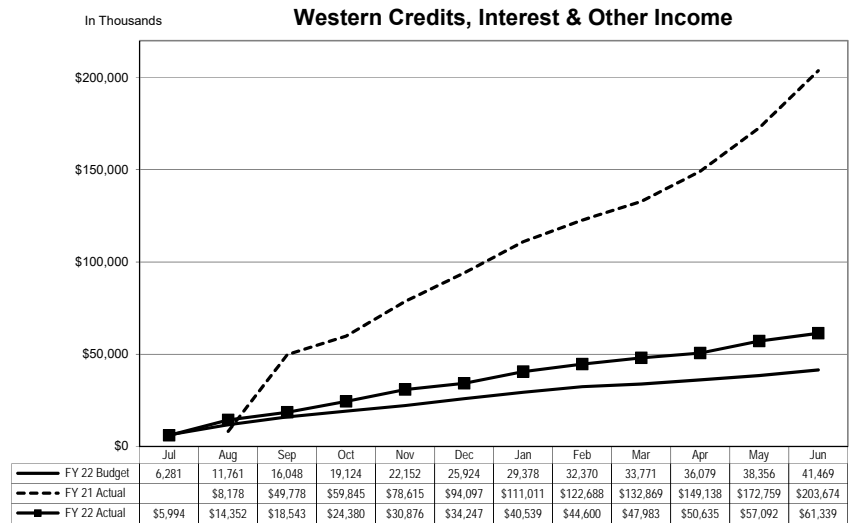
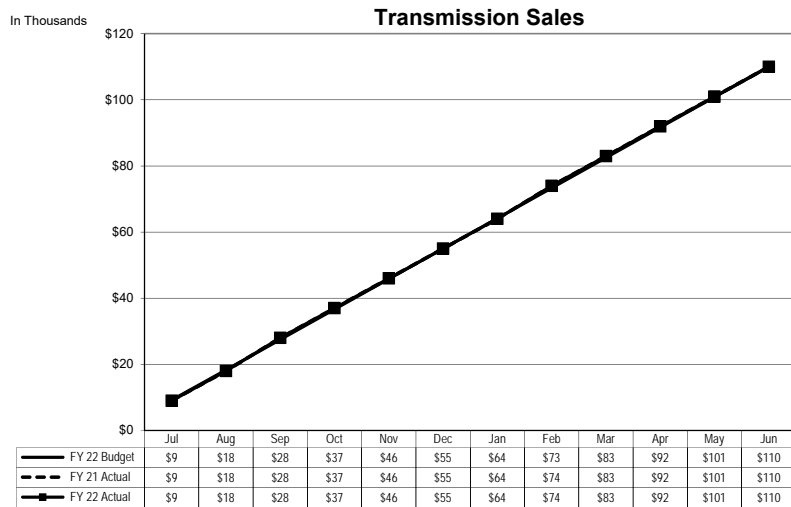
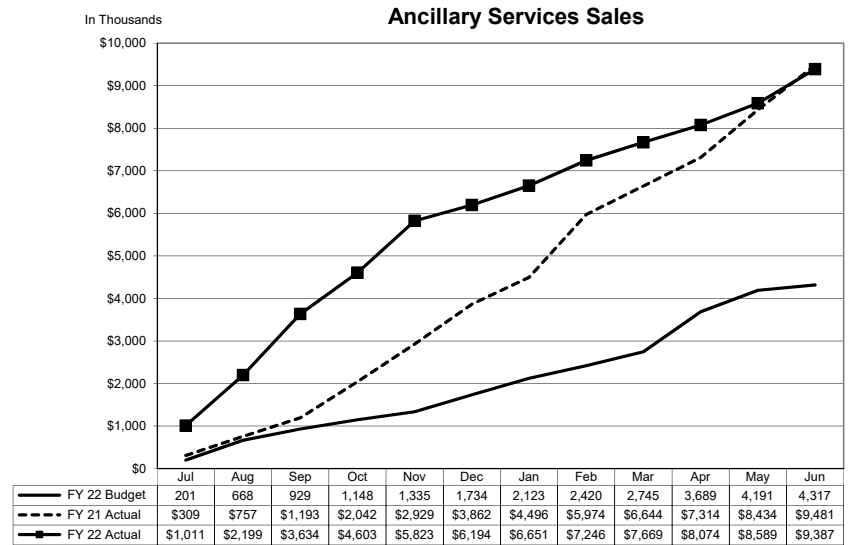
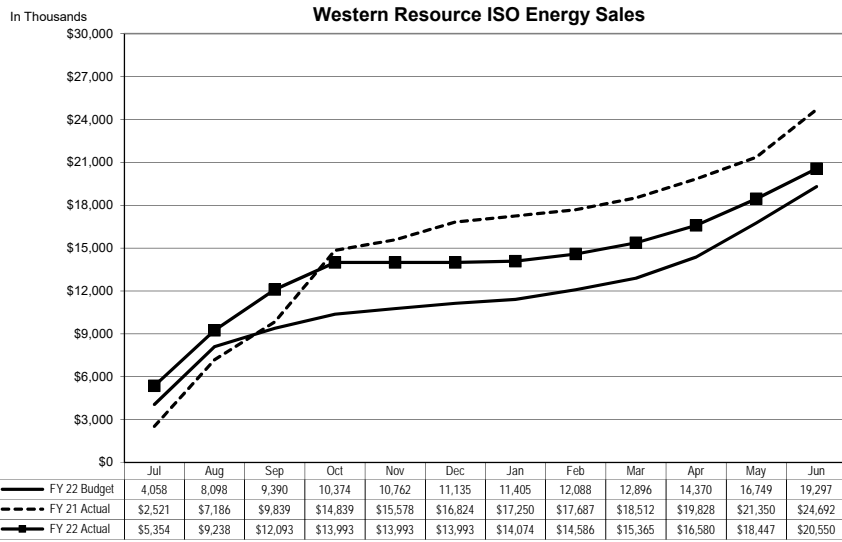


	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 22 Budget	\$26	\$51	\$77	\$102	\$128	\$154	\$179	\$205	\$230	\$256	\$281	\$307
FY 21 Actual	\$52	\$71	\$81	\$84	\$99	\$104	\$119	\$129	\$133	\$183	\$138	\$146
FY 22 Actual	\$75	\$97	\$113	\$159	\$210	\$220	\$223	\$228	\$232	\$235	\$483	\$493

**Annual Budget Cost  
Third Party Revenue Analysis By Source  
As of June 30, 2022**



**Annual Budget Cost  
Third Party Revenue Analysis By Source  
As of June 30, 2022**





**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2022**

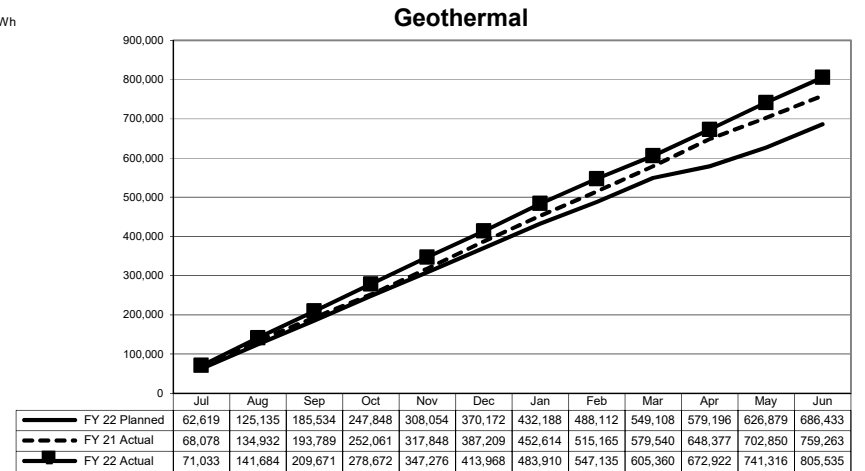
**Generation Cost Analysis**

\$ in thousands

	Geothermal				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 17,803	\$ 16,955	\$ 21.05	\$ 848	5%
Capital Assets/Spare Parts Inventories	6,205	5,060	6.28	1,145	18%
Other Costs	11,197	12,031	14.94	(834)	-7%
CA ISO Charges	504	1,038	1.29	(535)	-106%
Debt Service	4,953	3,695	4.59	1,258	25%
Annual Budget	40,662	38,780	48.14	1,883	5%
Less: Third Party Revenue					
Interest Income	382	94	0.12	288	75%
ISO Energy Sales	27,578	52,505	65.18	(24,927)	-90%
Ancillary Services Sales	-	-	-	-	-
Effluent Revenues	750	892	1.11	(142)	-19%
Misc	113	116	0.14	(3)	-3%
	28,823	53,606	66.55	(24,783)	-86%
Net Annual Budget Cost to Participants	\$ 11,839	\$ (14,826)	\$ (18.41)	\$ 26,666	225%
Net Generation--MWh @ Meter	686,433	805,535			
\$/MWh (A)	\$ 10.03	\$ (22.99)			

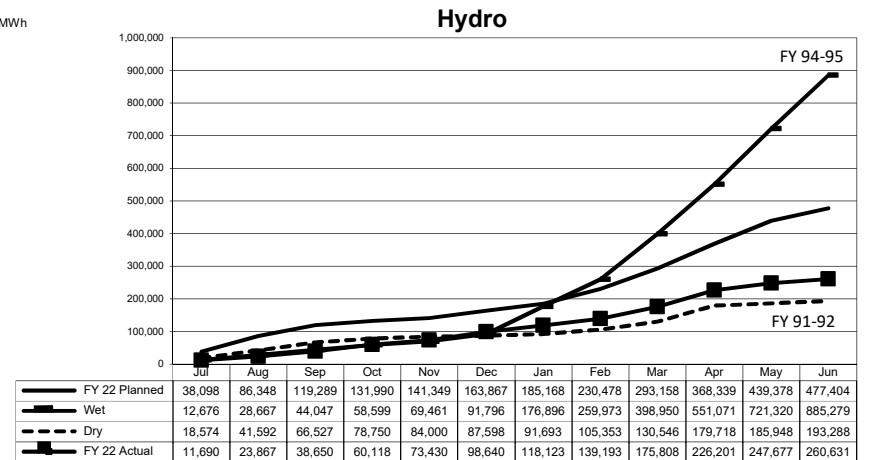
**MWhs Generated**

In MWh



	Hydroelectric				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 9,882	\$ 8,188	\$ 31.42	\$ 1,694	17%
Capital Assets/Spare Parts Inventories	3,465	3,292	12.63	173	5%
Other Costs	4,677	4,750	18.23	(73)	-2%
CA ISO Charges	2,635	4,878	18.72	(2,243)	-85%
Debt Service	33,422	33,422	128.23	-	0%
Annual Budget	54,081	54,530	209.22	(448)	-1%
Less: Third Party Revenue					
Interest Income	670	78	0.30	592	88%
ISO Energy Sales	22,047	27,426	105.23	(5,378)	-24%
Ancillary Services Sales	2,241	5,823	22.34	(3,582)	-160%
Misc	-	1	0.00	(1)	-
	24,959	33,328	127.87	(8,369)	-34%
Net Annual Budget Cost to Participants	\$ 29,123	\$ 21,202	\$ 81.35	\$ 7,920	
Net Generation--MWh @ Meter	477,404	260,631			
\$/MWh (A)	\$ (9.00)	\$ (46.88)			

In MWh



Footnotes:

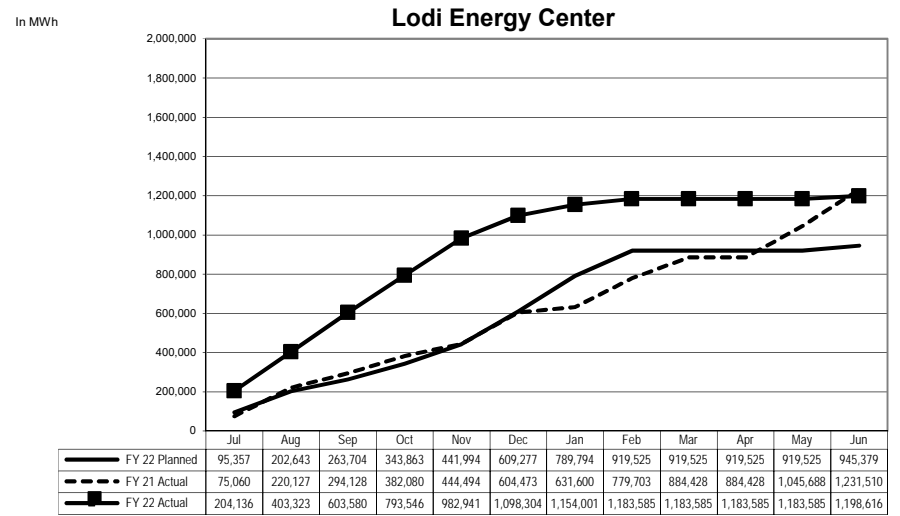
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2022**

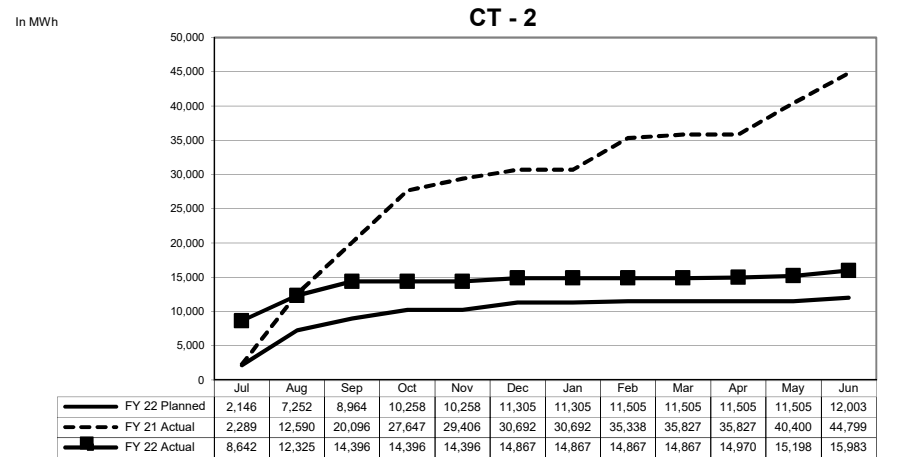
**Generation Cost Analysis**

	Lodi Energy Center				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 9,558	\$ 11,449	\$ 9.55	\$ (1,891)	-20%
Fuel	31,029	54,511	45.48	(23,481)	-76%
AB 32 GHG Offset	6,269	17,471	14.58	(11,202)	-179%
CA ISO Charges and Energy Purchases	3,137	4,046	3.38	(909)	-29%
Capital Assets/Spare Parts Inventories	5,007	5,141	4.29	(134)	-3%
Other Costs	7,805	8,222	6.86	(417)	-5%
Debt Service	26,008	26,365	22.00	(356)	-1%
<b>Annual Budget</b>	<b>88,813</b>	<b>127,204</b>	<b>106.13</b>	<b>(38,391)</b>	<b>-43%</b>
Less: Third Party Revenue					
Interest Income	386	231	0.19	155	40%
ISO Energy Sales	49,394	82,918	69.18	(33,524)	-68%
Ancillary Services Sales	1,152	3,260	2.72	(2,108)	-183%
Transfer Gas Credit	-	-	-	-	0%
GHG Allowance Credits	6,102	16,384	13.67	(10,282)	-169%
Misc	-	2	0.00	(2)	0%
	57,034	102,794	85.76	(45,761)	-80%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 31,779</b>	<b>\$ 24,410</b>	<b>\$ 20.36</b>	<b>\$ 7,370</b>	<b>23%</b>
Net Generation--MWh @ Meter	945,379	1,198,616			
<b>\$/MWh (A)</b>	<b>\$ 6.10</b>	<b>\$ (1.63)</b>			

**MWhs Generated**



	Combustion Turbine No. 2 (STIG)				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 1,627	\$ 1,532	\$ 95.84	\$ 96	6%
Fuel and Pipeline Transport Charges	1,265	1,774	111.02	(509)	-40%
Capital Assets/Spare Parts Inventories	46	42	2.66	4	8%
Other Costs	735	636	39.78	100	14%
CA ISO Charges	136	164	10.26	(28)	-21%
Debt Service	5,048	5,048	315.83	-	0%
<b>Annual Budget</b>	<b>8,858</b>	<b>9,196</b>	<b>575.37</b>	<b>(338)</b>	<b>-4%</b>
Less: Third Party Revenue					
Interest Income	109	27	1.66	82	76%
ISO Energy Sales	1,321	2,000	125.15	(679)	-51%
Ancillary Service Sales	-	-	-	-	0%
Fuel and Pipeline Transport Credits	1,788	2,376	148.64	(588)	-33%
GHG Allowance Credits	104	-	-	104	100%
Misc	-	-	-	-	0%
	3,322	4,403	275.45	(1,081)	-33%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 5,536</b>	<b>\$ 4,794</b>	<b>\$ 299.92</b>	<b>\$ 743</b>	<b>13%</b>
Net Generation--MWh @ Meter	12,003	15,983			
<b>\$/MWh (A)</b>	<b>\$ 40.69</b>	<b>\$ (15.91)</b>			



Footnotes:

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

**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2022**

**Generation Cost Analysis**

	Combustion Turbine No. 1				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 2,497	\$ 2,535	\$ 122.95	\$ (39)	-2%
Fuel and Pipeline Transport Charges	792	2,536	122.98	(1,744)	-220%
Capital Assets/Spare Parts Inventories	2,573	1,053	51.06	1,520	59%
Other Costs	1,104	1,075	52.15	28	3%
CA ISO Charges	90	762	36.95	(672)	-750%
Debt Service	-	-	-	-	-
Annual Budget	7,055	7,962	386.10	(907)	-13%
Less: Third Party Revenue					
Interest Income	-	37		(37)	
ISO Energy Sales	1,300	5,408	262.28	(4,109)	-316%
Ancillary Services Sales	-	-	-	-	0%
Misc	-	-	-	-	0%
	1,300	5,446	262.28	(4,146)	-319%
Net Annual Budget Cost to Participants	\$ 5,755	\$ 2,516	\$ 122.00	\$ 3,239	56%
Net Generation--MWh @ Meter	10,440	20,621			
\$/MWh (A)	\$ 551.26	\$ 122.00			

Footnotes:

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

**MWhs Generated**

In MWh

**CT - 1**

