



# 2020

## BUSINESS PROGRESS REPORT

### JULY



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

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# Generation Costs & Reliability

## Combustion Turbine Project

### Unit Operation for June 2020

Unit	Availability		Production			Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	144.4	MWh	CAISO / CAISO
	100.0%	1.3%	Unit 2	24.0	MWh	
Curtailments, Outages, and Comments:						
Unit 1: Normal operation.						
Unit 2: 6/1 - 6/30: Alameda CT U2 o/s for annual maintenance, OMS 8492990						
Unit	Availability		Production			Reason for Run
CT1 Lodi	100.0%		226.8 MWh			CAISO
Curtailments, Outages, and Comments:						
Normal operation.						
Unit	Availability		Production			Reason for Run
CT2 STIG	91.4%		1,768.4 MWh			CAISO
Curtailments, Outages, and Comments:						
6/1 - 6/3: STIG o/s for annual maintenance, OMS 8657660						
Unit	Availability		Production			Reason for Run
LEC	40.00%		36,729 MWh			CAISO
Curtailments, Outages, and Comments:						
6/1 - 6/18: LEC turbine failure, OMS 8344635						

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

## Geothermal Facilities

### Availability/Production for June 2020

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
<b>Unit 1</b>	99.10 %	18,487 MWh	U1 was off line 6/23/20 from 0200 until 1930 for PG&E line outage
<b>Unit 2</b>	99.10 %	*19,820 MWh	UU1 was off line 6/23/20 from 0200 until 1930 for PG&E line outage
<b>Unit 3</b>	N/A %	N/A	Unit 3 remains out of service.
<b>Unit 4</b>	98.96 %	26,853 MWh	U4 was off line 6/25/20 from 0200 until 2030 for PG&E line outage
<b>Southeast Geysers Effluent Pipeline</b>	94.0 %	179.0 mgallons	Average flow rate: 4,102 gpm
<b>Southeast Solar Plant</b>	N/A	117,960 KWh	Year-to-date KWh: 2,842,892
<b>Bear Canyon Pump Station Zero Solar</b>	N/A	117,398 KWh	Year-to-date KWh: 4,193,838

\* Accounts for an additional 1,687 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

## Hydroelectric Project

### Availability/Production for June 2020

Units	Availability	Net Electricity Generated	Out-of-Service
<b>Collierville Unit 1</b>	95.46%	10026 MWh	CV Unit 1 was out of service on 6/16/20 from 0731 to 1431 for Maintenance and on 6/16/20 to 6/17/20 from 1821 to 2007 for 230KV line trips due to fire under the lines.
<b>Collierville Unit 2</b>	96.38%	9898 MWh	CV Unit 2 was out of service on 6/16/20 to 6/17/20 from 1821 to 2027 for 230KV line trips due to fire under the lines.
<b>Spicer Unit 1</b>	100 %	276 MWh	No Outages to report.
<b>Spicer Unit 2</b>	97.53 %	1184 MWh	NSM2 was out of service on 6/1/20 to 6/2/20 from 2225 to 1612 for governor hydraulic system trouble.
<b>Spicer Unit 3</b>	100 %	254 MWh	No Outages to report.

### Operations & Maintenance Activities:

- CMMS work orders
- NSM Unit 2 governor oil pressure instrumentation repair
- 230 KV Insulator replacement project preparation
- NSM recreation opened for business

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

- There were no Cal OSHA recordable, Lost Time, or vehicle accidents in the month of March.
- Find below a Safety Report that highlights the following areas: recordable incidents and lost time accidents (LTAs) reported this period and this calendar year; the number of days since last recordable or LTA; the number of work hours since last recordable or LTA; and vehicle accidents reported this month and this calendar year. In September of 2012, Generation Services completed an internal audit of its records with the results reflected in this report and was updated through the payroll period ended June 20, 2020.
- 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 2020 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	367	697	1,902	6,886
Work Hours Since Last Recordable	32,542	146,208	284,895	2,546,388
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	4,636	1,765	9,806	5,899
Work Hours without LTA	422,439	363,183	695,439	2,168,406
Vehicle Incident (month)	0	0	0	0
Vehicle Incident (calendar year)	0	0	1	0

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

\*\* NCPA HQ: Roseville employees at the Main Office

Data originates from OSHA logs, HR records and payroll information.  
Days and Hours are calculated through pay period ended June 20, 2020.

## 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 2020 Data**

	<b>June 2020</b>		<b>Calendar Year 2020</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	415.68 6/3 @1800	191,529	417.87 5/26 @1800	1,092,275
SVP	560.35 6/3 @1600	319,355	560.35 6/3 @1600	1,855,063
MSSA	971.45 6/3 @ 1700	510,884	971.45 6/3 @ 1700	2,947,338

#### **Last Year 2019 Data\***

	<b>June 2019</b>		<b>Calendar Year 2019</b>	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	470.07 6/11 @1700	198,726	478.77 8/15 @ 1700	1,126,924
SVP	587.78 6/11 @1600	313,448	587.78 6/11 @1600	1,810,513
MSSA	1052.58 6/11 @ 1700	512,174	1057.99 8/15 @ 1700	2,937,437

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

#### **System Peak Data**

	<b>All Time Peak Demand</b>	<b>2020 Peak Demand</b>
NCPA Pool	517.83 MW on 7/24/06 @ 1500	417.87 5/26 @ 1800
SVP	587.78 MW on 6/11/19 @ 1600	560.35 6/3 @1600
MSSA	1070.79 MW on 9/1/17 @ 1700	971.45 6/3 @ 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.

<b>NCPA Deviation Band Performance</b>		
	<b>June 2020</b>	<b>Calendar Year 2020</b>
MSSA % Within the Band	96.25%	96.47%

- Dispatch and SC group continue operating in split mode occupying both Roseville HQ and DRC
- Spicer Meadows:
  - June 1 – 2, Unit 2 o/s due to governor hydraulic system trouble
- Geothermal Units:
  - June 23, Unit 1 and 2 off line for PG&E Geysers 9 – Lakeville 230kV line outage
  - June 25, Unit 4 off line for PG&E Geysers 12 – Fulton 230kV line outage
- Lodi Energy Center:
  - June 19, Unit returned to service from combustion turbine replacement outage
- Alameda CTs:
  - June 7, Unit 1 unavailable for 2 hours due to 115kV line outage
  - June 30, Unit 2 returned to service from annual maintenance outage
- Lodi CT:
  - June 25, unit unavailable for 6 hours due to 60kV line breaker operation and subsequent troubleshooting
- Collierville Units:
  - June 16, Unit 2 o/s for 7 hours for planned maintenance
  - June 16 – 17, Unit 1 and 2 o/s due to Collierville – Bellota #1 & #2-230kV line relay due to the Walker fire in the vicinity of the lines
- STIG:
  - June 1 - 3, Unit return to service from annual maintenance outage was delayed due to delay in receiving replacement LEC CTG GSU transformer



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

- NCPA Pool load during June 2020 was 191,530 MWh, or 97.4% of forecast. The stay-at-home mandate issued in March continued to change load patterns across the state despite the recent partial loosening of restrictions. Pool load through July is expected to be closer to normal compared to the same period a year ago, as weather-related demand increases.
- Lodi Energy Center (LEC) returned from its nearly five-month outage during June 2020 and produced 6,605 MWh for the pool. Due to the current market pricing structure and resulting low implied heat rates, LEC is projected to generate 10,707 MWh for the pool in July.
- During June 2020, 0.18" of rain was recorded at the Big Trees gauge. Average June Big Trees precipitation is 0.80".
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been reduced from \$60/MWh to \$55/MWh.
- NSMR storage as of June 30, 2020 was at 139,372 acre feet. The historical average NSMR storage at the end of June is 148,185 acre feet. As of July 14, 2020 NSMR storage is 133,358 acre feet. The current NCPA Pool share of NSMR storage is 68,167 acre feet.
- Combined Calaveras Project generation for the Pool in June 2020 totaled 11.1 GWh, down from 29.0 GWh in May 2020. The Pool's 11.1 GWh in June 2020 was in line with the pre-month forecast of 11.4 GWh.
- Western Base Resource (BR) deliveries for the Pool during June 2020 were 87,558 MWh, including Displacement energy totaling 21,384 MWh. Energy received was 97.6% of the pre-month forecast as runoff hit maximum levels and began to decline. Western's forecast for the pool's share of July generation is 75,518 MWh.
- The PG&E Citygate gas index averaged \$2.685/MMBtu for delivery on July 10, 2020, well above the average PG&E gas price during June of \$2.37/MMBtu. Gas prices have risen recently as production curtailments have cut into storage additions. The July 2020 PG&E Citygate Bidweek price is \$2.46/MMBtu, down 8.5 cents from the June Bidweek price.
- Day-Ahead NP15 electricity prices averaged \$25.61/MWh (HLH) and \$20.61 (LLH) during June 2020, with evening ramp hour prices reaching as high as \$135 at TH\_NP15 and falling below zero on most weekends as low demand and heavy renewables generation, wind in particular, pushed prices lower.

NCPA Pool Loads & Resources Value Summary								
Peak and Energy Summary				Estimated Production Costs		Cost of Serving Demand		
Jun-20								
Demand	Coincident		Pre-Month Forecast		NCPA Pool		Totals	Avg (\$/MWh)
	Peak (MW)	Total MWh	Values	Avg. MW	Cost/Revenue (Estimate)	Variable Cost (\$/MWh)		
	Jun-03-20 Hour 18							
	415.7	191,530	196,553	266.0	N/A	N/A		
			69,152				<b>at Market Clearing Price</b>	
WAPA	-	87,558	89,678	121.6	\$ 1,826,020	\$ 20.85	\$ 5,035,454	\$ 26.29
Geothermal	-	26,980	25,462	37.5	512,618	19.00		
Hydro	-	11,031	12,133	15.3	66,187	6.00		
Stig & CTs	-	1,294	-	1.8	61,495	47.54	<b>at Variable Cost of Pool Generation</b>	
LEC	-	6,605	-	9.2	213,863	32.38		
Contracts	-	97,760	108,461	135.8	5,867,468	60.02	\$ 7,080,179	\$ 36.97
Market - Net (Net Sales = Negative)	415.7	(39,697)	(39,181)	(55.1)	(981,572)	24.73		
<b>Net Total</b>	<b>415.7</b>	<b>191,530</b>	<b>196,553</b>	<b>266.0</b>	<b>\$ 7,566,080</b>	<b>\$ 36.97</b>		

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 6/1/2020 (\$/MWh)	7/13/2020 (\$/MWh)	
Jul-19	212,102	\$ 33.30	\$ 56.98	Jul-20	\$ 36.84	\$ 32.43
Aug-19	224,328	\$ 34.79	\$ 37.80	Aug-20	\$ 42.87	\$ 38.93
Sep-19	200,894	\$ 37.46	\$ 40.97	Sep-20	\$ 38.19	\$ 36.56
Oct-19	186,955	\$ 38.43	\$ 33.39	Q3 2020	\$ 39.30	\$ 35.97
Nov-19	182,993	\$ 43.69	\$ 40.97	Q4 2020	\$ 41.75	\$ 40.14
Dec-19	182,993	\$ 43.69	\$ 48.09	Q1 2021	\$ 41.98	\$ 38.91
Jan-20	191,771	\$ 32.76	\$ 39.71	CY2021	\$ 41.85	\$ 39.03
Feb-20	177,169	\$ 27.58	\$ 46.65	CY2022	\$ 39.32	\$ 37.54
Mar-20	181,339	\$ 27.90	\$ 40.59	CY2023	\$ 38.12	\$ 36.41
Apr-20	165,033	\$ 22.78	\$ 35.05	CY2024	\$ 37.32	\$ 35.74
May-20	178,601	\$ 20.85	\$ 37.53	CY2025	\$ 37.07	\$ 35.53
Jun-20	191,530	\$ 26.29	\$ 36.97	CY2026	\$ 36.91	\$ 35.02

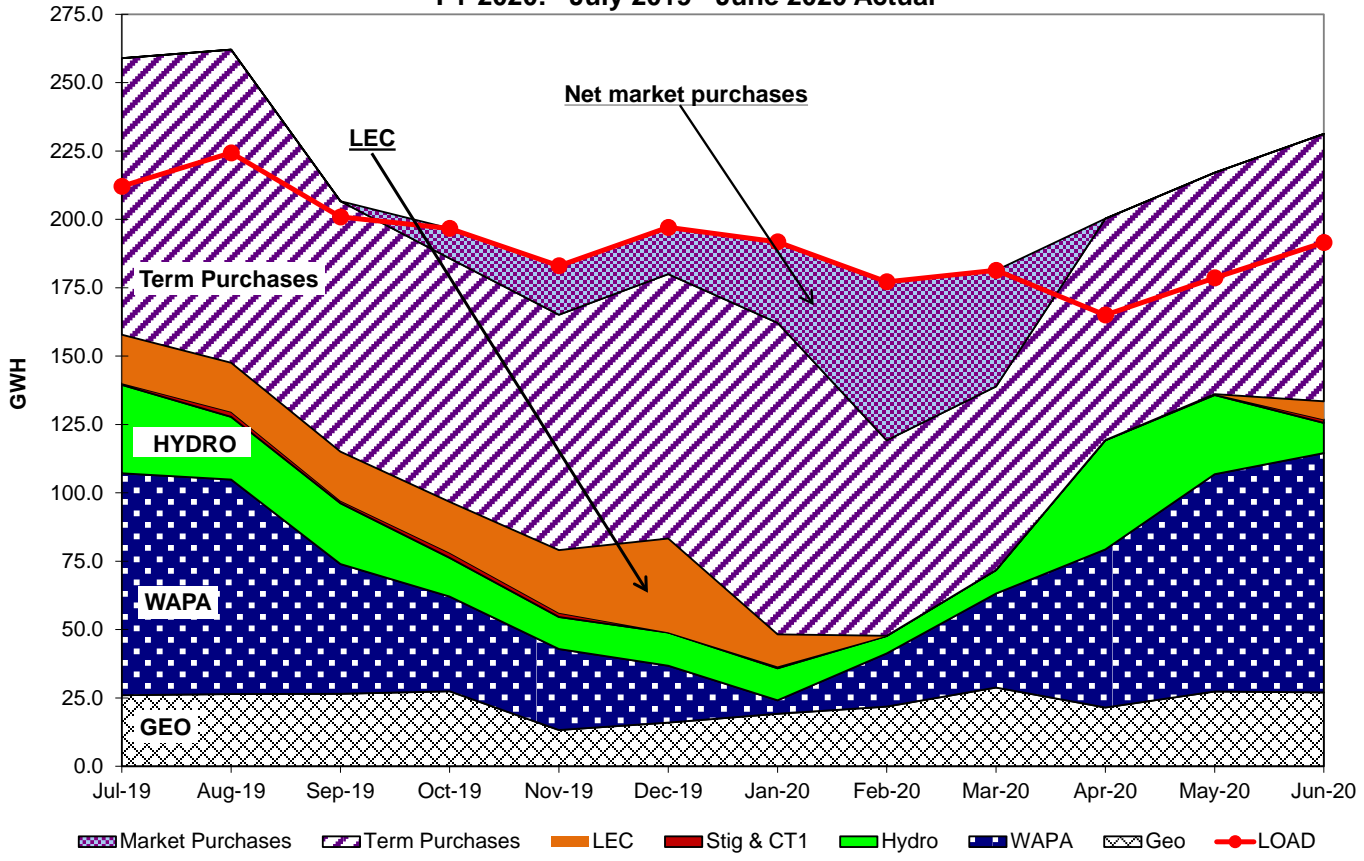
NOTES TO SUMMARY TABLE:

**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  
 FY 2020: July 2019 - June 2020 Actual



## **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 September 2020:
  - Monthly System Resource Adequacy Demonstration (filed July 18, 2020)
  - Monthly Supply Plan (July 18, 2020)

### **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:

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

- Pending Day Ahead Enhancements initiative developments.
- This initiative will develop an approach to extend participation in the Day-Ahead market to the Western Energy Imbalance Market (EIM) entities in a framework similar to the existing EIM approach for the real-time market, rather than requiring full integration into the California ISO balancing area. The extended Day-Ahead market (EDAM) will improve market efficiency by integrating renewable resources using Day-Ahead unit commitment and scheduling across a larger area.
- CAISO responded to stakeholder concerns and is extending the process to include more workshops to deal with issues such as transmission cost allocation.
- February workshops focused on transmission provisions, resource sufficiency evaluations, and congestion revenue rights. The package of topic was described as bucket 1. With two more contentious buckets to follow, a fall 2021 go live is unlikely.
- CAISO and EIM participants continue to discuss terms and products conceptually without offering much detail and discussion of implementation costs is non-existent.

#### **Resource Adequacy Enhancements**

- June 10<sup>th</sup> meeting reviewed:
  - Portfolio analysis and UCAP needs assessment methodology
  - Transition to UCAP paradigm effective 2023 RA year
  - Aligning CAISO BA outage tracking with existing RC outage definitions
  - “Forced” and “Urgent” outages during top 20% tightest supply cushion hours will count against UCAP with minimal forced majeure exemptions such as wildfire.
  - UCAP calculations for existing and new resources
- NCPA will submit comments generally in support of proposals with exception to removal of blanket “Transmission Induced” outage type exemption
- July 7 – 5<sup>th</sup> revised straw proposal
- July 14 - meeting
- Due to the rapid transformation of the resource mix in California, the CAISO is currently re-examining the CAISO Resource Adequacy requirements and rules. This initiative will explore changes to the CAISO’s Resource Adequacy requirements and rules to ensure the resources providing reserve services are effectively supporting reliable operations of the grid.

- CAISO is proposing massive overhauls to its RA program in conjunction with CPUC changes. Specific areas the CAISO is looking at are termination of the Resource Adequacy Availability Mechanism for System capacity and replacing it with “less complicated” counting rules similar to eastern RTOs, import eligibility, exemptions, and redefining Planned and Forced outages.
- The fourth revised straw proposal was published last month and a stakeholder meeting took place. New components are two options for modifying the planned outage process:
  - Option 1: CalCCA Proposal - Develop Planned Outage Planning Reserve Margin for off peak months and allow all planned outages without substitution.
  - Option 2: SCE - CAISO develops substitution market
 CAISO seemed to favor option 1 by expressing concerns with complexity and lack of incentives to show capacity under option 2. NCPA’s primary issue with current process is CAISO’s ability to cancel outages and then refer SCs to FERC if resubmitting outage as forced. The primary issue is that “forced” designation is set by the fact that it was submitted seven or fewer days prior to a given trade date. SCs should be able to submit forced outages that further out and not be subject to denial, rather only be subject to reduced UCAP.
- NCPA will continue to advocate for must offer obligation exemption due to existing LF-MSS balancing requirements.

#### Day-Ahead Market Enhancements

- In latest proposal, CAISO is dropping new Reliability Energy product due to cost formation issues with bid in energy while retaining Reliability Up and Down Capacity. This is an improvement over current Residual Unit Capacity process in that it allows for procurement of downward capacity. Latest proposal does not address Load Following Metered Subsystem specific issues such as Reliability Capacity exemption and Imbalance Reserve Product settlements netting. We will continue to press on those issues.
- This initiative will explore new Day-Ahead products that will address ramping needs between intervals and uncertainty that can occur between the Day-Ahead and real-time markets.
- CASIO reviewed the need for new products along with data supporting uncertainty concerns:
  - Uncertainty between Day-Ahead and real-time market has increased from 2017 to 2019 and CAISO operators are addressing this development with out of market actions which disrupts market efficiency
  - Historically, generators had higher certainty to know if they would be scheduled in real-time
  - Due to uncertainty and changing resource fleet, commitment decisions are no longer necessarily known
  - Gas, hydro, storage, and imports need to cover costs to be available for dispatch in real-time – this will be accomplished with imbalance reserves
- Two new products:
  - Imbalance Reserve Product (IRP) will be designed to address granularity and uncertainty between Day-Ahead and real-time markets:
    - Hourly product; 15-minute dispatchable; Biddable; Covers granularity difference and uncertainty between DAM and FMM; All awards are co-optimized and settled simultaneously; DAM has no energy price formation

- issue because the market solves all hours in a single optimization; Stepped relaxation parameters (proposed)
- Reliability Capacity: replaces RUC process used to address gaps between bid in demand and forecast demand.

#### Maximum Import Capability Stabilization

- In latest round of comments, NCPA advocated for the need to increase MIC allocations due to pending significant losses of capacity internal generation retirements. NCPA also advocated that a resource aggregation such as CVP should meet resource specification import RA requirement.
- MIC required for resource adequacy imports. NCPA Load-Following MSS is exempt from MIC, however, CAISO assigns NCPA's pre-RA contracts MIC in order to force it to fit its model. In comments, NCPA is advocating for pre-RA contracts and extension of such contracts to maintain grandfathering treatment in MIC allocation process.

#### Transmission Access Charge Structure Enhancements

- This initiative considers changes to the CAISO's current volumetric Transmission Access Charge (TAC) structure for recovering participating transmission owners' costs of owning, operating and maintaining transmission facilities under CAISO operational control. The CAISO will consider stakeholder input on the initiative scope, which will include possible changes to reflect the benefits of distributed resources in reducing future transmission needs.
- CAISO's draft final proposal includes a hybrid billing determinant consisting of volumetric and peak demand functions in order to address cost shifts as well as the full impact of high coincident peak demand, low load factor UCD areas that have relatively lower volumetric use compared to high load factor areas. It received general support from the market and will be presented to the CAISO board in Q4 2020 or 2021, and targeted implementation in October 2021. The CAISO is working to align the TAC Board consideration with the Extended Day-Ahead Market (EDAM) process so they are aligned to the extent possible. The TAC proposal may possibly need to be updated if the EDAM proposal aspects related to transmission issues drive changes to the TAC initiative.
- NCPA performed an impact analysis and determined that NCPA members would mostly benefit or be indifferent to the new billing determinant so long as certain LFMSS benefits remain in place.
- Initiative is currently on hold pending developments from EDAM 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-19	95,615	81,155	(14,460)	\$2,134,816	\$ 26.31	\$ (0.02)	\$ 30.98
Aug-19	75,245	78,474	3,229	\$2,134,816	\$ 27.20	\$ (0.02)	\$ 30.65
Sep-19	46,290	47,422	1,133	\$2,049,840	\$ 43.23	\$ (0.17)	\$ 31.31
Oct-19	23,193	54,290	31,097	\$962,107	\$ 17.72	\$ 0.06	\$ 30.64
Nov-19	7,602	29,611	22,009	\$962,107	\$ 32.49	\$ 0.04	\$ 30.47
Dec-19	6,564	20,786	14,222	\$582,148	\$ 28.01	\$ 0.11	\$ 29.95
Jan-20	9,331	7,749	(1,582)	\$582,148	\$ 75.13	\$ 0.15	\$ 29.75
Feb-20	17,163	19,458	2,295	\$769,511	\$ 39.55	\$ (0.00)	\$ 29.59
Mar-20	27,643	34,397	6,754	\$962,107	\$ 27.97	\$ 0.03	\$ 28.70
Apr-20	52,877	57,797	4,920	\$1,826,020	\$ 31.59	\$ 0.09	\$ 27.68
May-20	84,464	79,422	(5,042)	\$1,826,020	\$ 22.99	\$ 0.47	\$ 28.01
Jun-20	90,039	87,558	(2,481)	\$1,826,020	\$ 20.85	\$ 0.15	\$ 27.87
1/ As forecasted in NCPA 19/20 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 87,558 MWh Base Resource (BR) energy in June 2020. This includes 21,384 MWh of Displacement Energy for an estimated savings of \$122,788 or about \$5.70/MWh.
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) for Pool Members was approximately \$10,000 in June 2020. FY 2020 has a net MEEA savings of \$49,344. There has been a few months with negative savings due to lower congestion prices for import at COTP as opposed to MEEA prices.

### 2025 Base Resource Contract

- The contract service period begins January 1, 2025 and shall remain in effect through December 31, 2054, subject to prior termination. The contract permits termination or reduction of Base Resource share for any reason through June 30, 2024.
- Publication of the final contract has been delayed due to the COVID-19 work interruption. WAPA recently decided to publish the contract in September 2020. Each entity will have six months to execute the contract.
- NCPA inquired WAPA about a 10-year Power Revenue Requirement (PRR) forecast (FY 2021 – FY 2030). WAPA's latest update indicated the forecast will be shared by early September 2020.

## Energy Imbalance Market (EIM)

- WAPA will participate in the CAISO Energy Imbalance Market (EIM) effective April 1, 2021. WAPA will file new formula rate schedules to capture the costs and benefits associated with EIM. The effective date of the new rate schedules is April 1, 2021. Now that WAPA has completed its informal customer meetings on the 2021 rate case, they are moving onto the formal rate process. The expected Federal Register Notice (FRN) publication is between July 20, 2020 – July 24, 2020.

## Interconnection Affairs

### PG&E Update

#### 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.
- Next step is to seek buy in from PG&E, propose and finalize an operating procedure, and amend the GIA's if necessary.

#### TO-20 Rate Case

- Partial settlement was filed at FERC towards the end of March, 2020. Key items not settled are ROE, Capital Structure, and Depreciation.
- Joint Interveners and FERC Trial Staff are exploring ways to settle the outstanding monetary issues and have sent a settlement offer to PG&E.

#### 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. Pending the outcome of the capacity discussion, NCPA and SVP will look at next steps. More updates will be provided to members as they become available.

#### Transmission Planning BPM Updated Modeling Data Submittal

- CAISO is requiring Generators to submit updated modeling data to ensure CAISO has current and accurate system information.
- NCPA has submitted updated data and power flow models for all Hydro, Geo, and CT units. The Alameda CTs have been deemed compliant by the ISO, however CAISO pointed out a few quality issues which NCPA is working to address. NCPA is still waiting review and comments from CAISO on the remaining units.

### Public Safety Power Shutoff (PSPS)

- On June 3, CAISO held an out of cycle TPP meeting to inform stakeholders CAISO will be performing a Wildfire Mitigation Assessment in the 2020-2021 Planning Cycle. The ISO Plans to look at facilities de-energized in 2019, evaluate current hardening PG&E is performing, and see if there is any other mitigation which may be performed. Different scenarios will be evaluated by taking out/turning off a combination of various facilities within fire zones. Additional scenarios may be created based on 2019 PSPS events. CAISO plans to identify new upgrades and critical facilities within local areas (ISO Study Pockets) which can potentially reduce risk of fire impact. Assessment of impacts and potential mitigations will be presented in the September 2020 stakeholder meeting.
- The CAISO faces a few challenges – 1) There currently are no Planning or NERC standards, which guide ISO on how to evaluate contingency events related to PSPS; and 2) Due to the urgency to perform studies prior to the wildfire season, ISO has no time to have a separate stakeholder call to develop a study of methodology.
- NCPA filed comments in support and encouraged CAISO to perform this assessment in every planning cycle. Stakeholder meeting in September will discuss preliminary findings.

### Stakeholder Transmission Asset Review (STAR) Process

- NCPA's objective in PG&E's Stakeholder Transmission Asset Review process is to participate and influence lower cost alternatives where possible, identify projects which may benefit members, and introduce Member Specific Projects.
- On June 1, PG&E submitted a 10-year capital plan to all stakeholders. The list included 1,209 total projects (equal to or greater than \$1M), 989 total Non-ISO Approved/Self Approved Projects, 120 total Self Approved Projects that have not started construction, and over 600 supporting documents (Project Authorizations/Business Cases).
- NCPA filtered self-approved member specific projects and sent to all UD's for review and feedback, drafted stakeholders comments with more emphasis on projects which are in planning (i.e. not in construction phase), projects which fall under the "work requested by others" category, and projects which might be related to non-Casio controlled facilities.



## **Debt and Financial Management**

- The Federal Reserve did not meet since the last update but their next scheduled meeting is at the end of July. In addition, the unemployment rate for June was released reflecting a drop to 11.1% which is a notable improvement from 14.7% in April and 13.3% in May. Despite this improvement, the bond market continues to trade at or near historic lows.
- In June, PERS released the preliminary 2021 health rates. The draft premiums were provided to the Board while the PERS rates team continued to analyze and validate plan submitted claims experience against their financial reports and data warehouse. The estimated increase from 2020 to 2021 is approximately 6% for Kaiser and 9% for PERS Choice/Select while PERSCare is 14%. In regards to the FY21 budget, staff estimated this approximate increase therefore no budget augmentation is necessary.
- NCPA's Other Post-Employment Benefits (OPEB) actuarial report for the period ending June 30, 2019 was completed by the Agency's consultant Milliman and the report reflected a funding ratio of 94%. In addition to market returns and contributions after June 2019, our funding ratio is closer to 100%. Staff plans to update the Finance Committee at the August meeting and provide some options for using the OPEB Trust to pay future retiree medical expenses.
- NCPA continues to monitor L&R's legislation efforts for the restoration of tax-exempt advance refunding of bonds in order to capture lower interest rates. If the proposal is passed, the 2012 Hydro bonds are still a refunding candidate to take advantage of an advance refunding. A recent debt service analysis reflected an estimated savings of almost \$20 million. Staff will continue to monitor this activity.

## **Schedule Coordination Goals**

### **Software Development**

- Technology upgrade and development of the new Market Instruction Dispatch System (MIDS) application is in progress that will replace NCPA's legacy NADS application. IS staff in coordination with NCPA Power Management, Consultant and CAISO is preparing for Market Simulation during the month of July to incorporate CAISO modifications for further automation of solar curtailment logic and unannounced tests of ancillary services (i.e. Spin, Non-Spin, contingency dispatch instructions). The deployment date is scheduled for July. Development is in progress and on track.
- PCWA expressed interest in utilizing NCPA's Deal Manager App and Risk Manager App. IS, in coordination with Power Management, provided a test environment for PCWA staff. PCWA staff is now testing in preparation for a January 2021 GoLive.
- The test upgrade of GP to the latest version 2018 and the ReQlogic procurement software to the latest version 12 were successful. User Acceptance Testing is now on-going through July 23<sup>rd</sup>, in which the production upgrade immediately follows. User Training on GP and ReQLogic are provided as well. Go live anticipated for July 27<sup>th</sup>.

- New applications under development
  - ABISS (*Accounting, Budget, Information and Settlements System*) is under development. It is a new Business Intelligence Reporting to provide financial information to both NCPA and Members.
  - Renewable Portfolio Standard Reporting app will be added as an enhancement to the Risk Management app. The report will provide members an automated RPS Balance Sheet of their RECs in a Compliance Period.

## **Network**

- Operations and Support completed the Enterprise wireless upgrade with Hydro being the last location.
- Progress continues to be made upgrading staff to Windows 10 with over 87% of the Agency on the new Operating System. IS staff are working with individual departments to upgrade the few remaining Windows 7 machines and anticipate to be completed in the coming weeks.
- IS continues to work with NID technical staff to implement remote control shutoff of the South Combie Power Plant. Remote Desktop has been established and we are working with Dispatch and NID operations to finalize procedures for HMI shut off.
- The Ops and Support group has been working alongside Power Management and Settlements in preparation for the CAISO MSG market simulation later this year. Part of this effort will include enhancements to SCADA control logic for LEC configurations along with updating dispatch control center screens.
- The Network and System administration staff have been working with Accounting staff to provide new servers in preparation for a Financial system upgrade. The new workstation and server environments have been provisioned and testing has begun with an anticipated Go Live by end of July 2020.
- Operations and Support staff are working with Santa Clara to enable Dispatching capability of the Rosamond Solar project. First round of setpoint testing has shown some additional modifications are needed to move forward. We are anticipating a Go Live into production by August 2020.
- SCADA IS Staff have been working with PCWA to update new alarm limits to comply with FERC regulations to differentiate wet vs. dry year conditions. The alarm limits have been manually adjusted for the dry months with anticipation of automating these settings based on time of year by October of 2020.

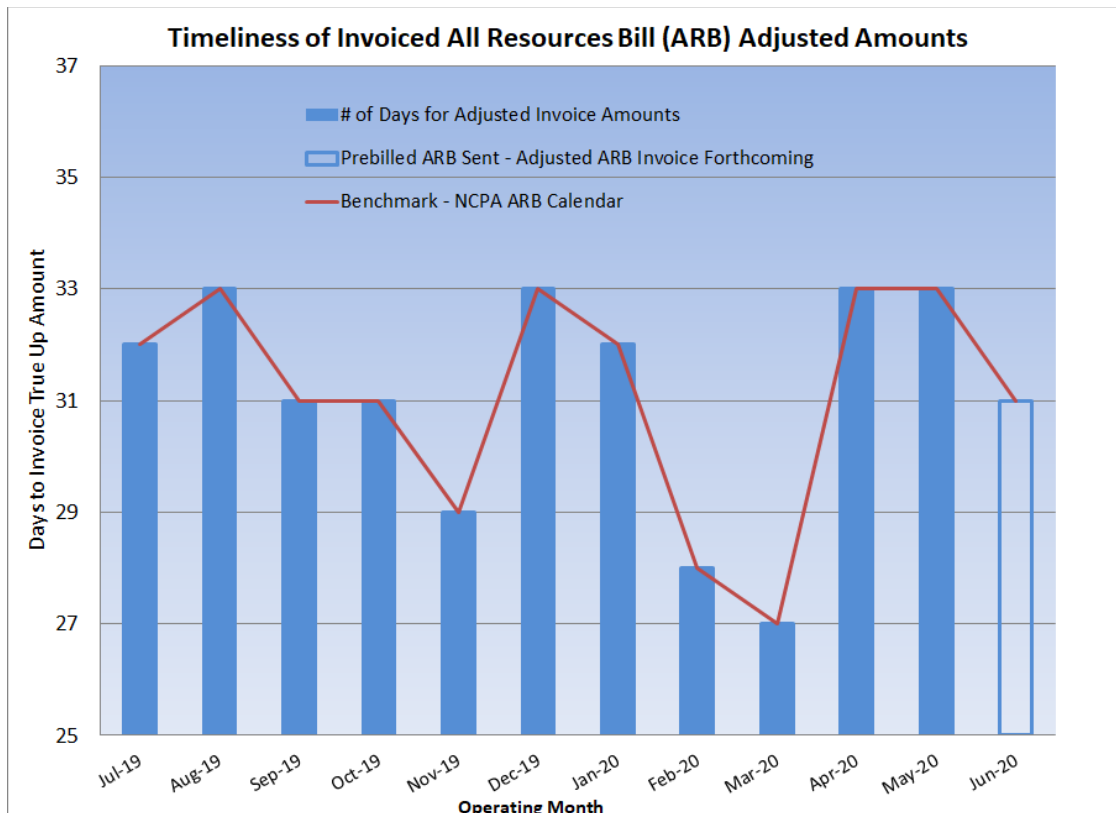
# **NCPA Bills & Settlements**

## **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 June 2020 NCPA All Resources Bill (ARB) monthly invoice sent to members on May 26, 2020 contains:

- June 2020 monthly pre-billed budget/forecast amounts;
- April 2020 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- March 2020 (2nd Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
- January 2020 (3rd Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- July 2019 (4th Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
- September 2018 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- June 2017 (6th Adjustment) T+33 month recalculated CAISO settlement true-up;
- March 2017 (7th Adjustment) T+36 month CAISO settlement true-up;



# Legislative & Regulatory

## Political Arena State/Federal/Western Programs

### State Legislative Update

- The State Legislature has adjourned for a second unanticipated recess after confirmed positive cases of COVID-19 amongst a handful of legislators and staff in the Capitol. Legislators are anticipated to return on July 27 or after, leaving just one month for policymakers to conclude their business before the August 30 constitutional deadline for end-of-session. This will likely result in even further refinement of the number of bills considered by the body this session. NCPA continues to engage with legislative offices on key proposals of interest regarding microgrids, energy efficiency and transportation electrification, and pumped hydroelectric storage.
- As part of its role in supporting agency communications, staff re-initiated an employee newsletter to provide timely COVID-19-related updates on a regular basis. The newsletter is a valuable tool for ensuring that employees have the latest information on developments that can affect the workplace and employees' personal lives.
- NCPA staff continue to refresh information available on the NCPA website to ensure it reflects the latest agency happenings. Updates include information related to agency advocacy during the ongoing COVID-19 emergency and updated financial information for NCPA and members, among other issues.

### Federal Legislative Update

- **NCPA Speakers Series:** Over the past several months, NCPA has launched a new initiative aimed at bridging the gap between advancing policy objectives through our advocacy efforts and adhering to the travel and meeting restrictions as a result of the COVID-19 pandemic. The NCPA Speakers Series provides a virtual forum where our members can collectively engage legislators, regulators, and key stakeholders on the development of new policy proposals and have the opportunity to educate and inform thought-leaders regarding the implications for public power systems. To date, we have had nearly a dozen speakers join our series for a fascinating discussion on issues related to COVID-19 impacts and relief proposals, clean energy infrastructure packages, wildfire preparedness, and the federal power program, among other critical topics. Past speakers include State Assemblymember Jim Wood (representing Healdsburg and Ukiah), Congressman Doug LaMalfa (R-CA) (representing Redding, Shasta Lake, Truckee Donner PUD, and Plumas-Sierra Rural Electric Cooperative), Federal Energy Regulatory Commission Chairman Neil Chatterjee, Congressman Ro Khanna (D-CA) (representing Santa Clara), State Senator Jerry Hill (representing Palo Alto), and several other notable leaders in shaping federal or state policy for electric utilities. Next week, we will feature Congressman Jared Huffman (D-CA) representing the City of Healdsburg and the City of Ukiah.

## **Human Resources**

### **Hires:**

Stephanie Eggen was hired as an Accounting Clerk II at our Headquarters office effective June 15, 2020. Stephanie comes to NCPA from the private sector where she gained a strong accounting background, with over 13 years of experience.

James Mearns was hired as an Engineer V at our Headquarters office effective June 15, 2020. James' brings over 30 years of electrical engineering experience in the electric utility. James has spent the last 14 years with PG&E in a consulting role as a Senior Electrical Engineer for PG&E's Hydro engineer division, as well as, a Professor in Sacramento State's Engineering department. He holds a Bachelor of Science Degree from San Francisco State University and is a registered professional engineer with the State of California.

Natalie Persons was hired as an Accounting Clerk II at our Headquarters offices effective June 29, 2020. Natalie has worked in Payroll related positions for close to ten years, having most recently worked as a Full Charge Bookkeeper at JM Environmental. Natalie graduated with a Bachelor of Arts in Liberal Studies from CSU Sacramento.

### **Intern Hires:**

Hailey Almond, Student Intern IV, Gen. Svs., HQ

Mark Webster, Student Intern II, Power Settlements, HQ

Callahan Charleton, Student Intern III, City of Healdsburg

Elizabeth Oliphant, Student Intern IV, City of Palo Alto

Eric Oliver, Student Intern III, City of Redding

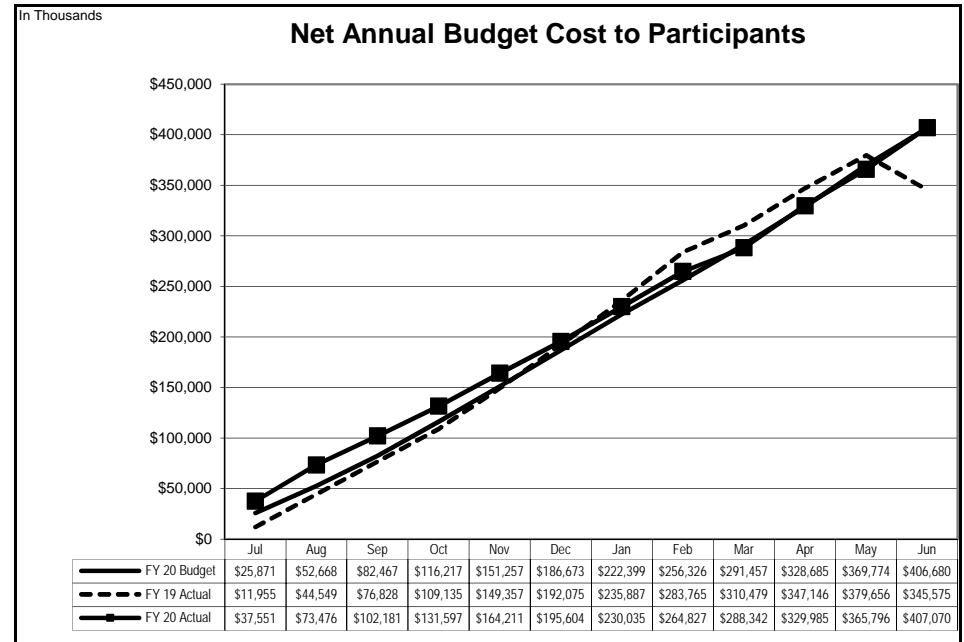
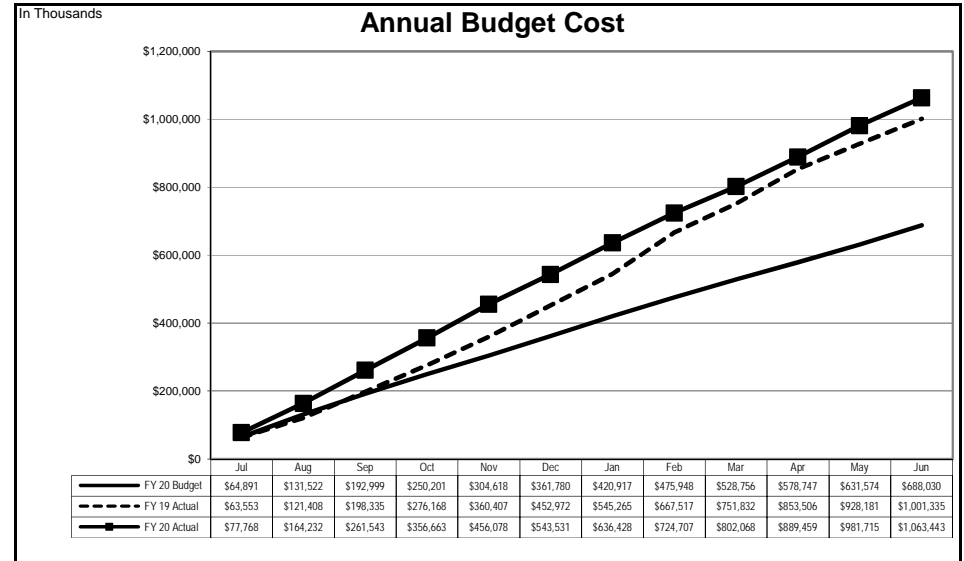
### **Promotions/Position Changes:**

### **Separations:**

Sandy Rainey, Supervisor II, retired from his position at our Murphy's Hydroelectric Facility after over 18 years of service with NCPA, effective June 30, 2020.

**Annual Budget  
2019-2020 Fiscal Year To Date  
As of June 30, 2020**

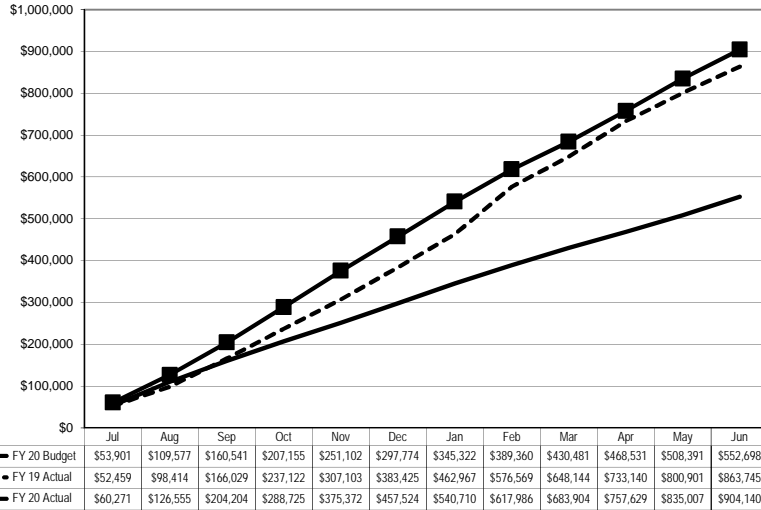
In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
<b>GENERATION RESOURCES</b>				
<b>NCPA Plants</b>				
Hydroelectric	54,074	52,998	\$ 1,076	2%
Geothermal Plant	35,311	37,596	(2,285)	-6%
Combustion Turbine No. 1	6,170	5,548	622	10%
Combustion Turbine No. 2 (STIG)	9,438	9,275	164	2%
Lodi Energy Center	92,960	116,183	(23,223)	-25%
	197,953	221,600	(23,646)	-12%
<b>Member Resources - Energy</b>	56,229	65,057	(8,828)	-16%
<b>Member Resources - Natural Gas</b>	3,541	3,822	(281)	-8%
<b>Western Resource</b>	23,325	24,844	(1,519)	-7%
<b>Market Power Purchases</b>	15,123	24,091	(8,967)	-59%
<b>Load Aggregation Costs - ISO</b>	256,030	562,171	(306,142)	-120%
<b>Net GHG Obligations</b>	497	2,556	(2,059)	-414%
	552,698	904,140	(351,442)	-64%
<b>TRANSMISSION</b>				
Independent System Operator	117,089	141,107	(24,018)	-21%
<b>MANAGEMENT SERVICES</b>				
<b>Legislative &amp; Regulatory</b>				
Legislative Representation	2,132	1,904	229	11%
Regulatory Representation	748	721	28	4%
Western Representation	745	649	96	13%
Customer Programs	424	284	139	33%
	4,049	3,558	491	12%
<b>Judicial Action</b>	625	610	15	2%
<b>Power Management</b>				
System Control & Load Dispatch	6,082	5,989	93	2%
Forecasting & Prescheduling	2,934	2,639	295	10%
Industry Restructuring	414	365	49	12%
Contract Admin, Interconnection Svcs & Ext. Affairs	954	920	34	4%
Gas Purchase Program	77	70	8	10%
Market Purchase Project	111	97	14	13%
	10,573	10,080	494	5%
<b>Energy Risk Management</b>	212	167	45	21%
<b>Settlements</b>	980	818	162	17%
<b>Integrated System Support</b>	243	120	124	51%
<b>Participant Pass Through Costs</b>	1,560	1,248	312	20%
<b>Support Services</b>	-	1,596	(1,596)	-
	18,243	18,196	47	0%
<b>TOTAL ANNUAL BUDGET COST</b>	688,030	1,063,443	(375,413)	-55%
<b>LESS: THIRD PARTY REVENUE</b>				
Plant ISO Energy Sales	127,624	75,115	52,509	41%
Member Resource ISO Energy Sales	29,156	25,125	4,031	14%
Member Owned Generation ISO Energy Sales	67,108	61,307	5,801	9%
NCPA Contracts ISO Energy Sales	15,623	16,669	(1,046)	-7%
Western Resource ISO Energy Sales	18,304	21,224	(2,920)	-16%
Load Aggregation Energy Sales	-	325,025	(325,025)	-
Ancillary Services Sales	4,197	5,081	(885)	-21%
Transmission Sales	110	110	-	0%
Western Credits, Interest & Other Income	19,227	126,715	(107,488)	-559%
	281,350	656,373	(375,022)	-133%
<b>NET ANNUAL BUDGET COST TO PARTICIPANTS</b>	406,680	407,070	\$ (390)	0%



## Annual Budget Budget vs. Actual By Major Area As of June 30, 2020

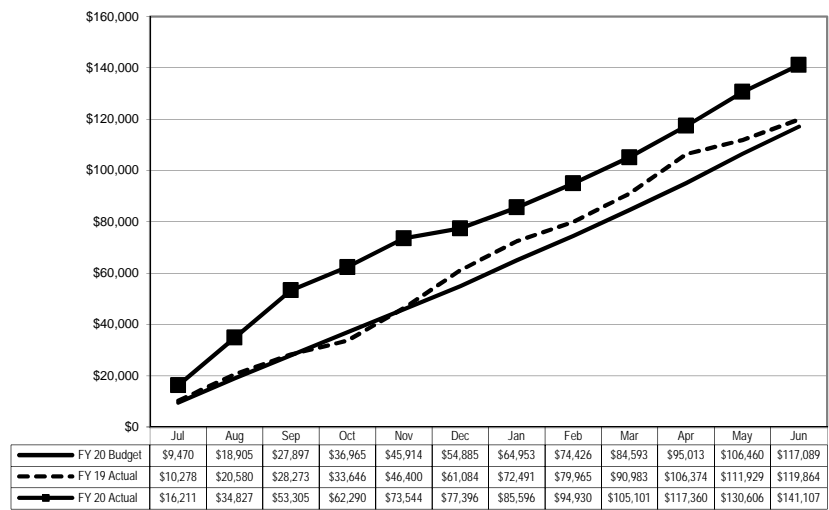
In Thousands

### Generation Resources



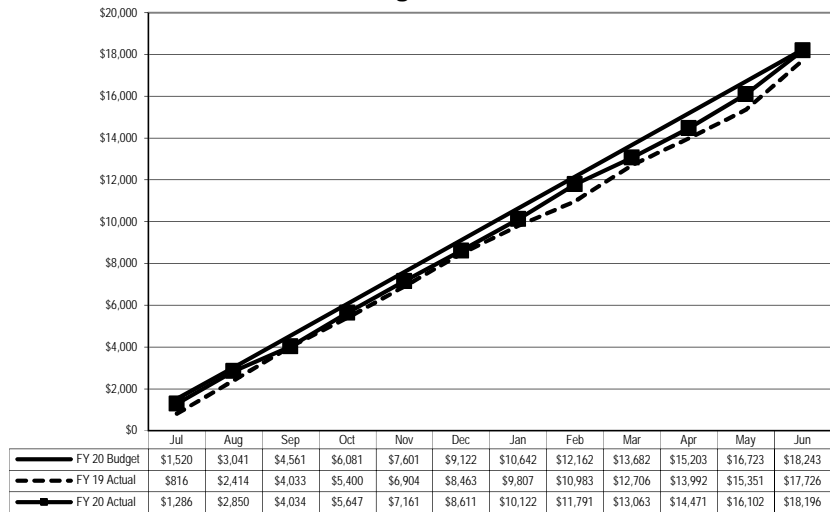
In Thousands

### Transmission-ISO



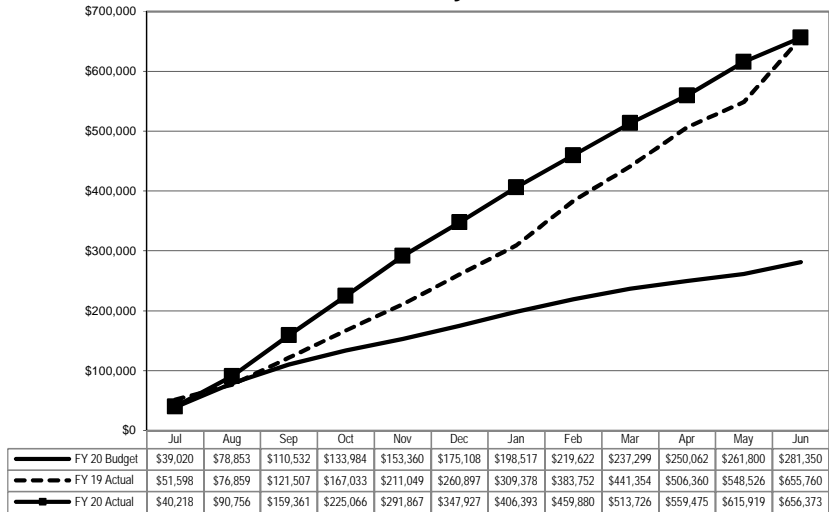
In Thousands

### Management Services



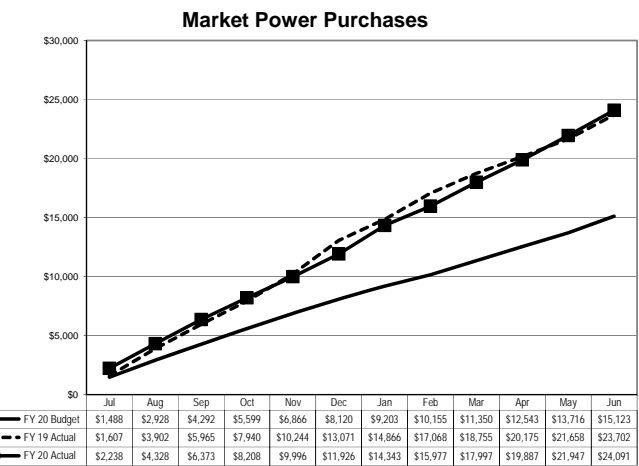
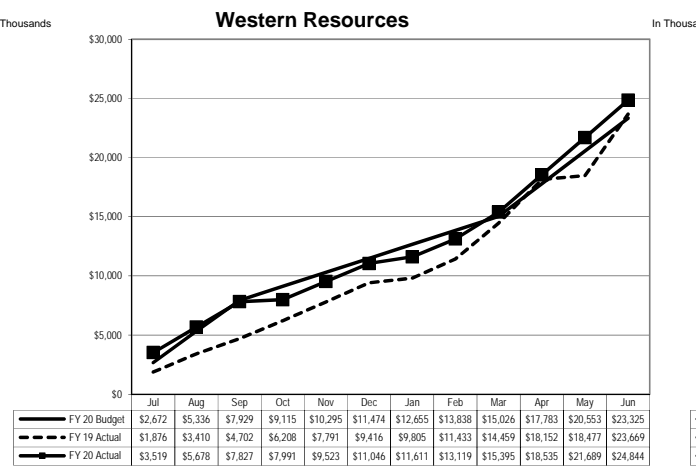
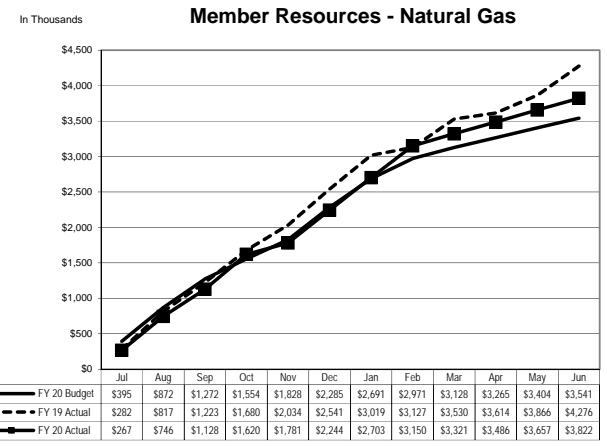
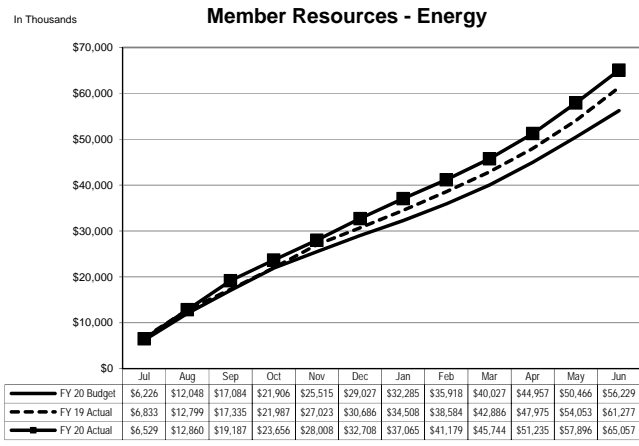
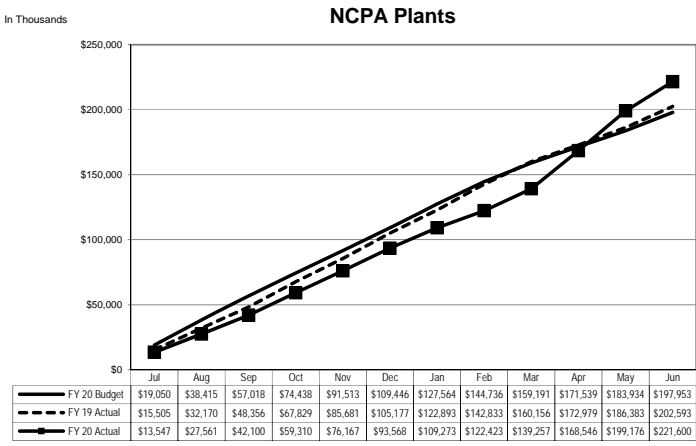
In Thousands

### Third Party Revenue



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

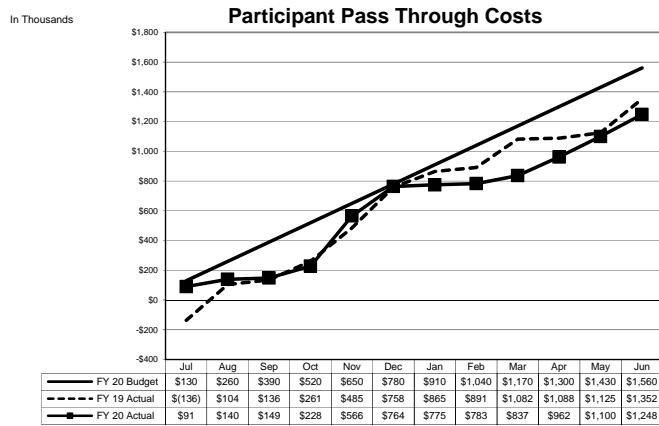
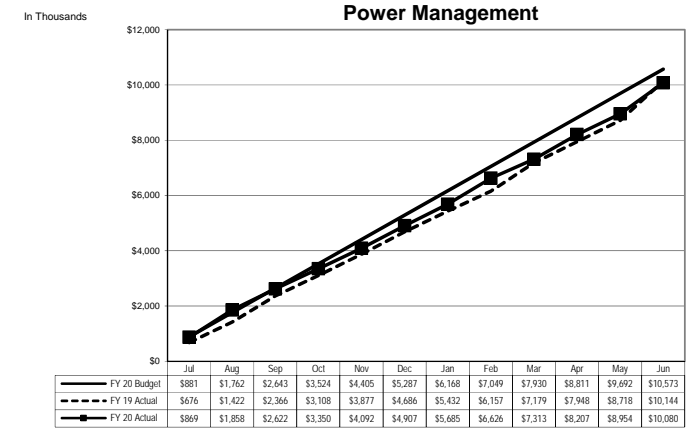
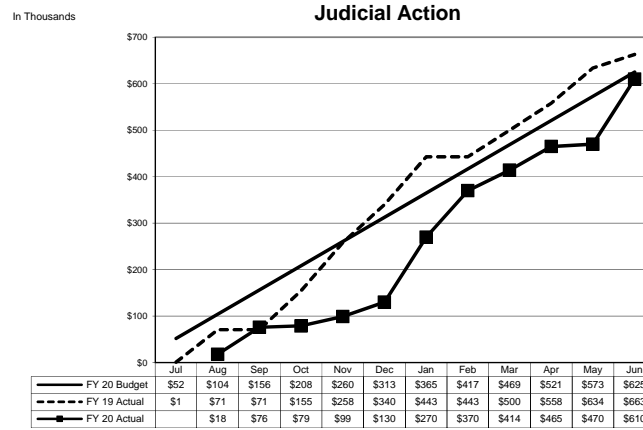
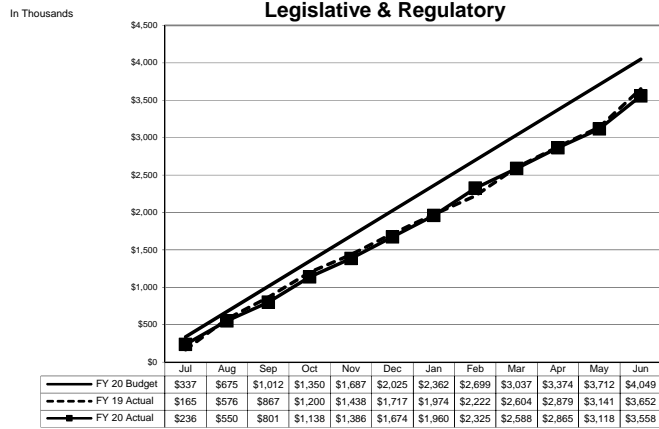
## Annual Budget Cost Generation Resources Analysis By Source As of June 30, 2020



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, 2020

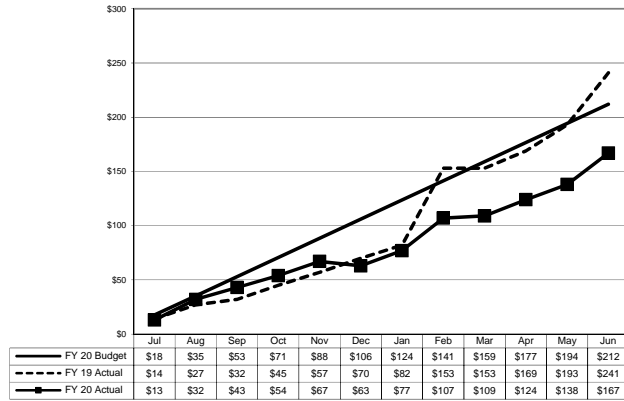


**Annual Budget Cost  
Management Services Analysis By Source  
As of June 30, 2020**

In Thousands

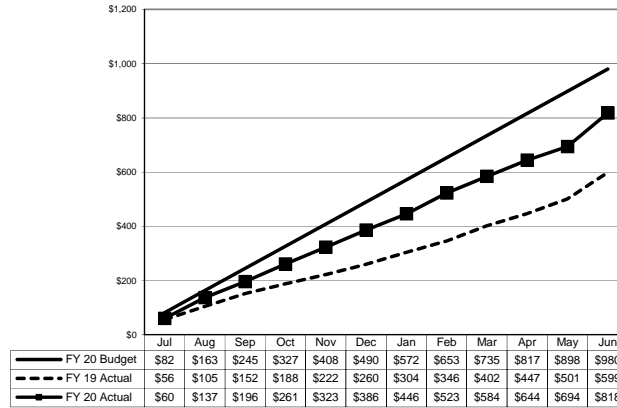
**Energy Risk Management**

In Thousands

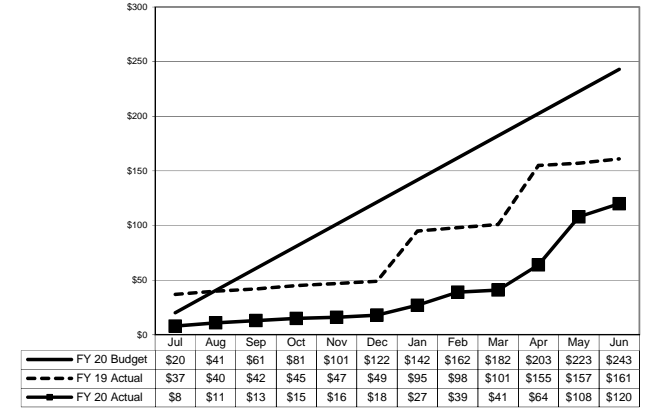


**Settlements**

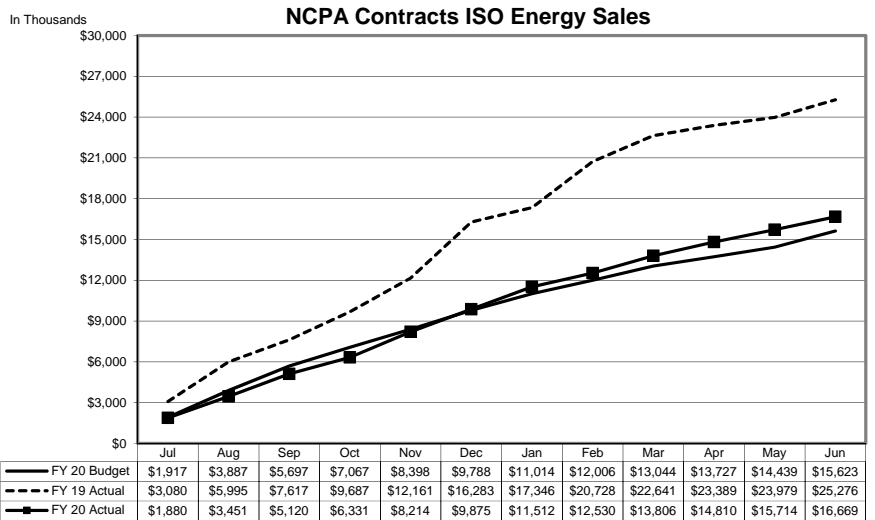
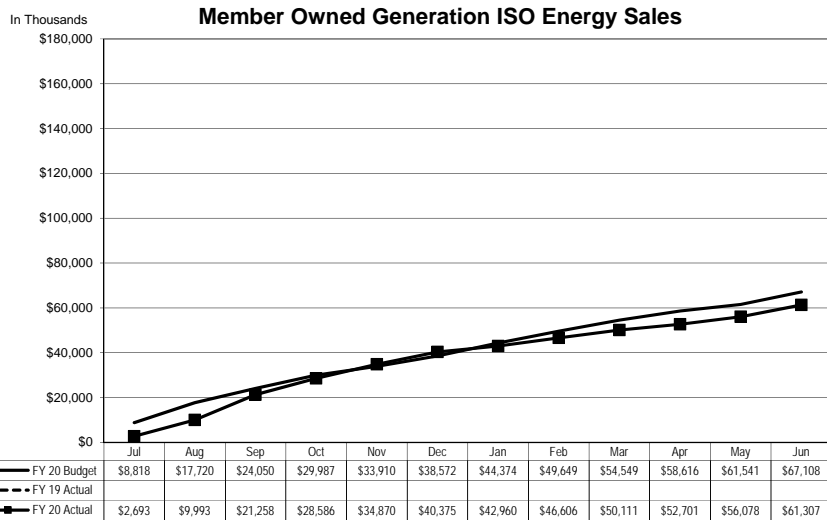
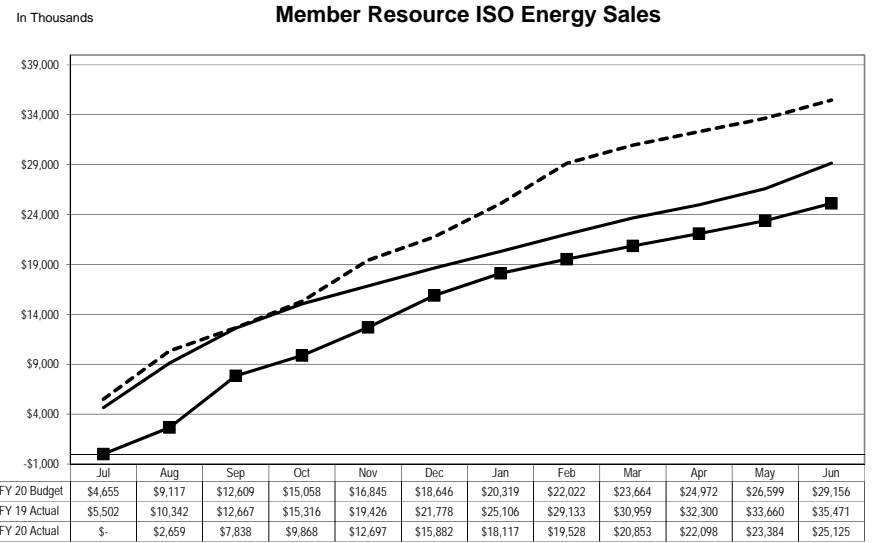
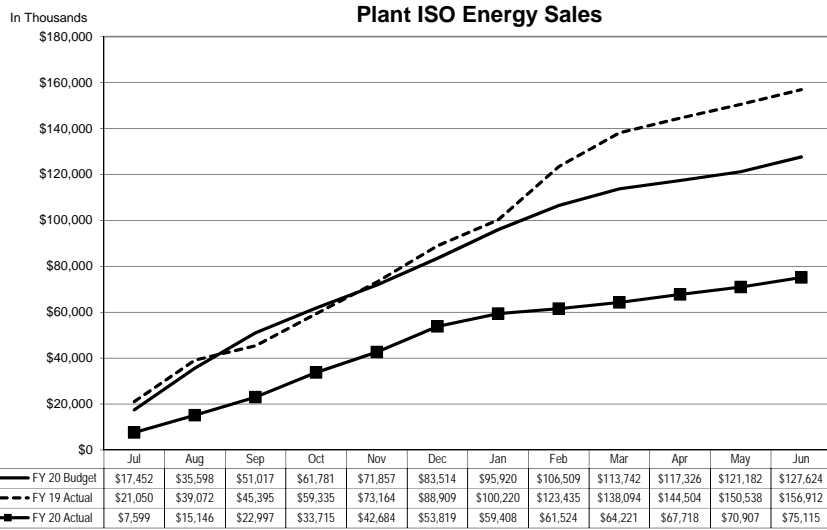
In Thousands



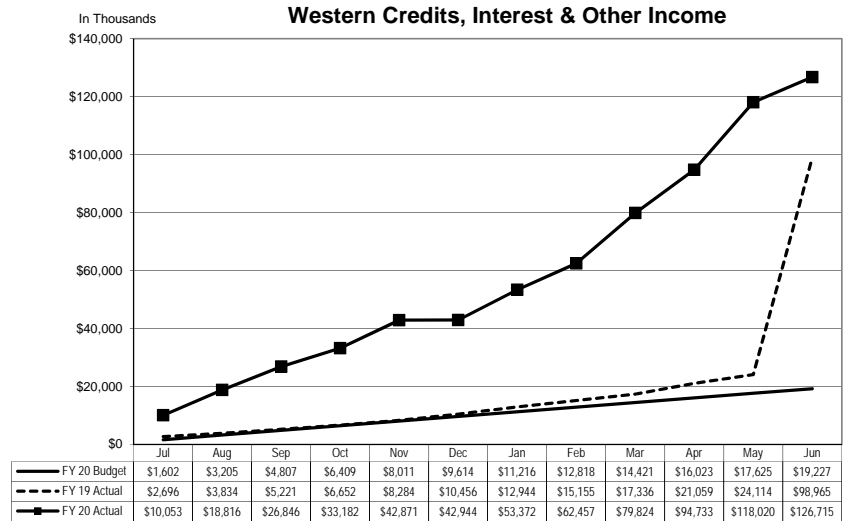
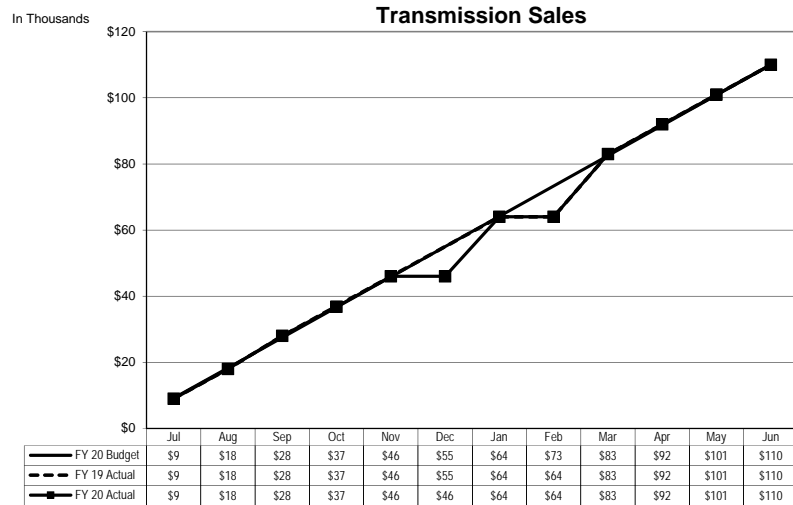
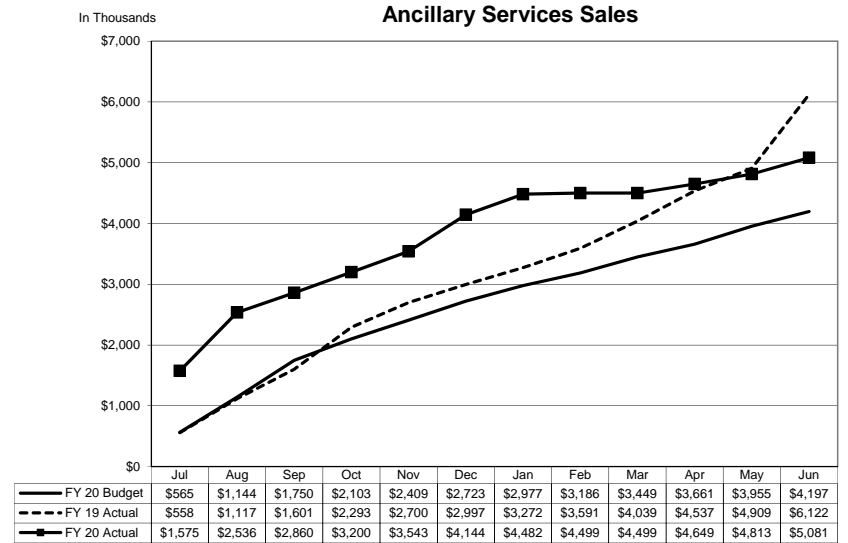
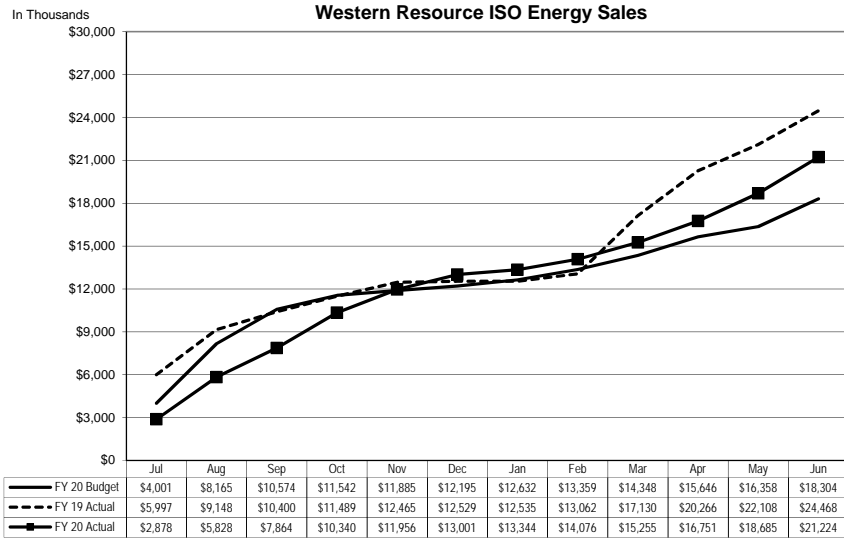
**Integrated Systems Support**



**Annual Budget Cost  
Third Party Revenue Analysis By Source  
As of June 30, 2020**



**Annual Budget Cost  
Third Party Revenue Analysis By Source  
As of June 30, 2020**



**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2020**

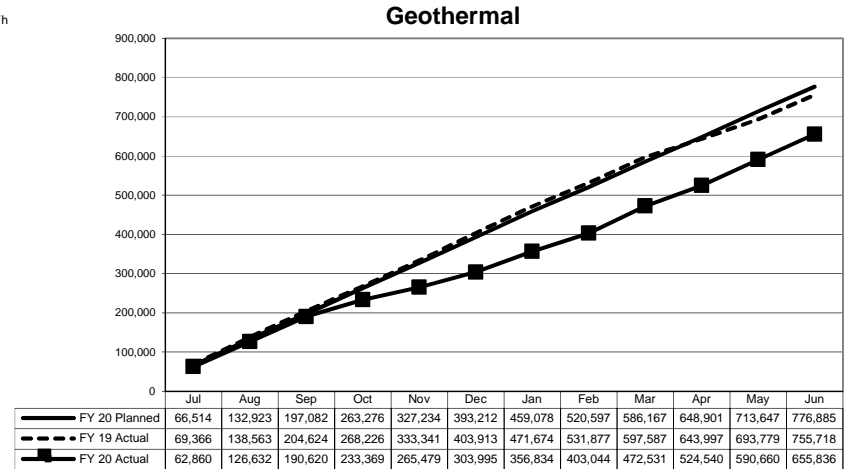
**Generation Cost Analysis**

\$ in thousands

	Geothermal				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 18,456	\$ 19,898	\$ 30.34	\$ (1,442)	-8%
Capital Assets/Spare Parts Inventories	3,645	4,430	6.75	(785)	-22%
Other Costs	7,640	7,424	11.32	216	3%
CA ISO Charges	625	899	1.37	(275)	-44%
Debt Service	4,946	4,946	7.54	-	0%
Annual Budget	35,311	37,596	57.33	(2,285)	-6%
Less: Third Party Revenue					
Interest Income	382	234	0.36	148	39%
ISO Energy Sales	29,481	20,090	30.63	9,390	32%
Ancillary Services Sales	-	-	-	-	-
Effluent Revenues	750	729	1.11	21	3%
Misc	110	88	0.13	23	20%
	30,723	21,141	32.23	9,583	31%
Net Annual Budget Cost to Participants	\$ 4,588	\$ 16,456	\$ 25.09	\$ (11,868)	-259%
Net Generation--MWh @ Meter	776,885	655,836			
\$/MWh (A)	\$ (0.46)	\$ 17.55			

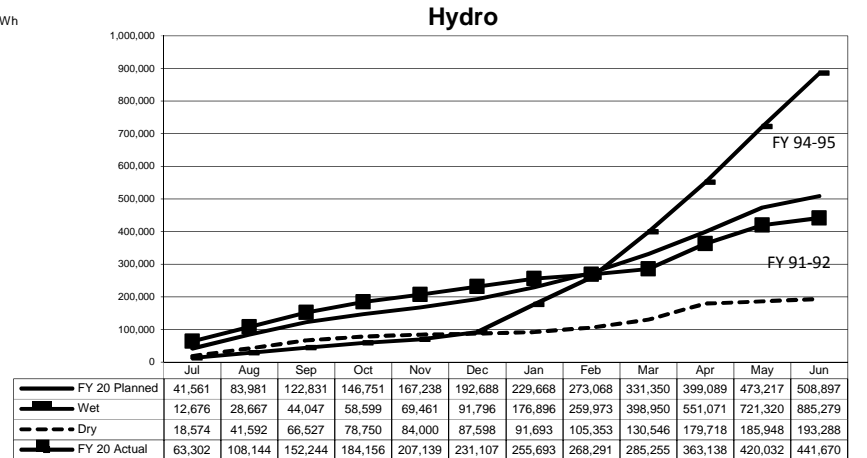
**MWhs Generated**

In MWh



	Hydroelectric				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 9,176	\$ 8,807	\$ 19.94	\$ 369	4%
Capital Assets/Spare Parts Inventories	4,775	4,638	10.50	137	3%
Other Costs	3,352	3,111	7.04	241	7%
CA ISO Charges	3,465	2,883	6.53	582	17%
Debt Service	33,307	33,560	75.98	(253)	-1%
Annual Budget	54,074	52,998	119.99	1,076	2%
Less: Third Party Revenue					
Interest Income	670	497	1.13	173	26%
ISO Energy Sales	23,455	17,344	39.27	6,111	26%
Ancillary Services Sales	2,539	3,622	8.20	(1,082)	-43%
Misc	-	466	1.06	(466)	-
	26,664	21,929	49.65	4,735	18%
Net Annual Budget Cost to Participants	\$ 27,410	\$ 31,069	\$ 70.34	\$ (3,659)	
Net Generation--MWh @ Meter	508,897	441,670			
\$/MWh (A)	\$ (11.59)	\$ (5.64)			

In MWh



Footnotes:

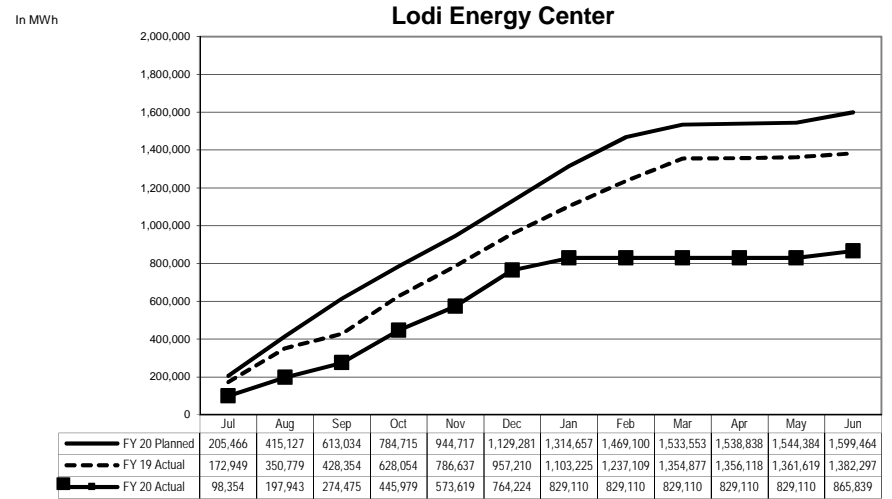
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2020**

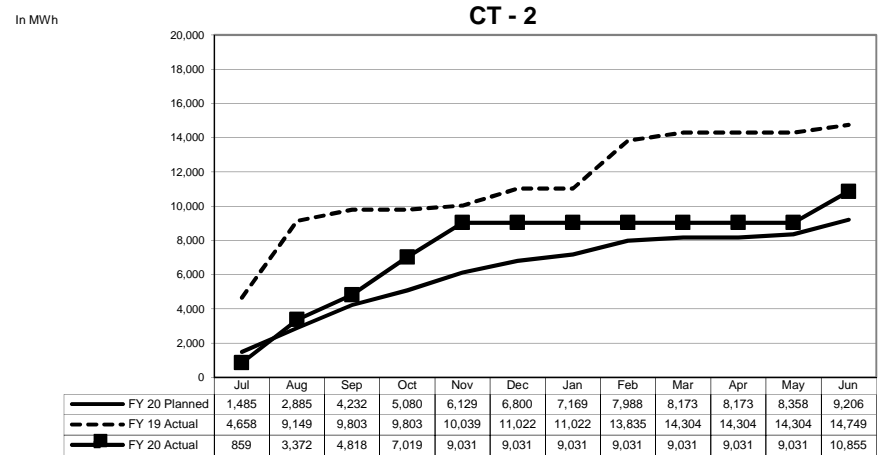
**Generation Cost Analysis**

	Lodi Energy Center				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 14,101	\$ 12,586	\$ 14.54	\$ 1,514	11%
Fuel	39,513	21,755	25.13	17,758	45%
AB 32 GHG Offset	-	-	-	-	0%
CA ISO Charges and Energy Purchases	4,710	2,806	3.24	1,905	40%
Capital Assets/Spare Parts Inventories	5,333	49,774	57.49	(44,441)	-833%
Other Costs	3,249	3,236	3.74	13	0%
Debt Service	26,054	26,026	30.06	28	0%
<b>Annual Budget</b>	<b>92,960</b>	<b>116,183</b>	<b>134.19</b>	<b>(23,223)</b>	<b>-25%</b>
Less: Third Party Revenue					
Interest Income	386	619	0.71	(233)	-60%
ISO Energy Sales	72,603	35,905	41.47	36,697	51%
Ancillary Services Sales	1,433	1,202	1.39	230	16%
Transfer Gas Credit	-	-	-	-	0%
Misc	-	36,402	42.04	(36,402)	0%
	74,421	74,128	85.61	293	0%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 18,539</b>	<b>\$ 42,055</b>	<b>\$ 48.57</b>	<b>\$ (23,516)</b>	<b>-127%</b>
<b>Net Generation--MWh @ Meter</b>	<b>1,599,464</b>	<b>865,839</b>			
<b>\$/MWh (A)</b>	<b>\$ (4.70)</b>	<b>\$ 18.51</b>			

**MWhs Generated**



	Combustion Turbine No. 2 (STIG)				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 1,595	\$ 1,570	\$ 144.66	\$ 25	2%
Fuel and Pipeline Transport Charges	1,089	984	90.62	105	10%
Capital Assets/Spare Parts Inventories	418	387	35.63	31	8%
Other Costs	486	455	41.95	31	6%
CA ISO Charges	53	82	7.57	(29)	-55%
Debt Service	5,796	5,796	534.00	-	0%
<b>Annual Budget</b>	<b>9,438</b>	<b>9,275</b>	<b>854.43</b>	<b>164</b>	<b>2%</b>
Less: Third Party Revenue					
Interest Income	109	101	9.31	8	7%
ISO Energy Sales	819	777	71.55	43	5%
Ancillary Service Sales	-	-	-	-	0%
Fuel and Pipeline Transport Credits	1,687	1,472	135.63	215	13%
Misc	-	0	0.00	(0)	0%
	2,615	2,350	216.49	265	10%
<b>Net Annual Budget Cost to Participants</b>	<b>\$ 6,823</b>	<b>\$ 6,925</b>	<b>\$ 637.94</b>	<b>\$ (101)</b>	<b>-1%</b>
<b>Net Generation--MWh @ Meter</b>	<b>9,206</b>	<b>10,855</b>			
<b>\$/MWh (A)</b>	<b>\$ 111.53</b>	<b>\$ 103.94</b>			



**Footnotes:**

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

**Annual Budget  
NCPA Generation Detail Analysis By Plant  
As of June 30, 2020**

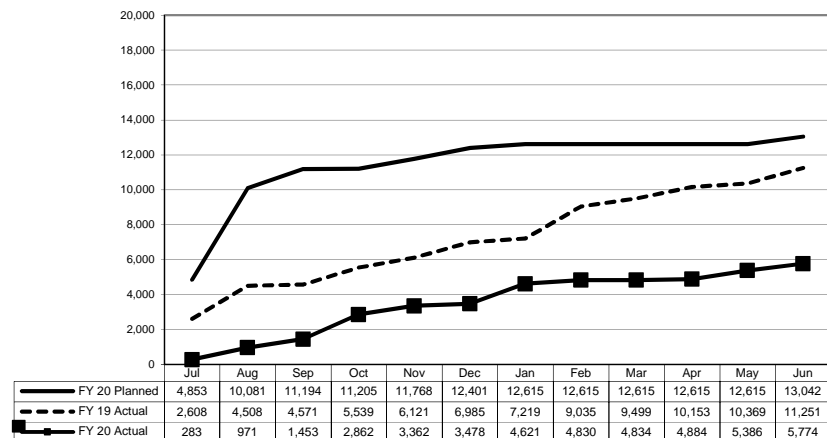
**Generation Cost Analysis**

	Combustion Turbine No. 1				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 2,268	\$ 2,321	\$ 401.98	\$ (53)	-2%
Fuel and Pipeline Transport Charges	975	439	75.98	537	55%
Capital Assets/Spare Parts Inventories	2,110	1,862	322.47	248	12%
Other Costs	747	725	125.62	21	3%
CA ISO Charges	69	201	34.75	(131)	-190%
Debt Service	-	-	-	-	-
Annual Budget	6,170	5,548	960.80	622	10%
Less: Third Party Revenue					
Interest Income	-	33		(33)	
ISO Energy Sales	1,266	998	172.88	268	21%
Ancillary Services Sales	-	-	-	-	0%
Misc	-	16	2.71	(16)	0%
	1,266	1,047	175.59	219	17%
Net Annual Budget Cost to Participants	\$ 4,904	\$ 4,501	\$ 779.44	\$ 403	8%
Net Generation--MWh @ Meter	13,042	5,774			
\$/MWh (A)	\$ 375.97	\$ 779.44			

**MWhs Generated**

In MWh

**CT - 1**



**Footnotes:**

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