



2020

BUSINESS PROGRESS REPORT

MARCH



Northern California Power Agency
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Generation Costs & Reliability

Combustion Turbine Project

Unit Operation for February 2020

Unit	Availability		Production			Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	96.1	MWh	CAISO / CAISO
	96.1%	96.1%	Unit 2	115.0	MWh	
Curtailments, Outages, and Comments:						
Unit 1:	2/9 @ 1342 - 2/10 @ 1411 - Unit 1 o/s OMS 8268144, wind storm damage. 2/10 1727-1830 - Unit 1 o/s OMS 8272110, failed start; gas compressor.					
Unit 2:	2/9 @ 1342 - 2/10 @ 1411 - Unit 2 o/s OMS 8268146, wind storm damage. 2/10 @ 1727-1830 - Unit 2 o/s OMS 8272112, failed start; vibration.					
Unit	Availability		Production			Reason for Run
CT1 Lodi	100.0%		0.0 MWh			CAISO
Curtailments, Outages, and Comments:						
Normal operation.						
Unit	Availability		Production			Reason for Run
CT2 STIG	100.0%		0.0 MWh			CAISO
Curtailments, Outages, and Comments:						
Normal operation.						
Unit	Availability		Production			Reason for Run
LEC	0.0%		0 MWh			CAISO
Curtailments, Outages, and Comments:						
2/1 - 2/29 - LEC CT Failure, OMS 8187485.						

Maintenance Summary – Specific per asset above.

Geothermal Facilities

Availability/Production for February 2020

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
Unit 1	60.55 %	14,308 MWh	U1 was off line 0445 2/10 until 1500 2/21 for Gen UV relay and 230kv line jumper removal
Unit 2	84.91 %	*20,739 MWh	U2 was off line 0600 2/17 until 1500 2/21 for 230kv line jumper removal
Unit 3	N/A %	N/A	Unit 3 remains out of service.
Unit 4	56.03 %	17,736 MWh	U4 was off line 0600 2/17 through 2/29 for 230kv line jumper removal and PG&E line outage.
Southeast Geysers Effluent Pipeline	1.73 %	48.9.4 mgallons	Average flow rate: 2,000 gpm
Southeast Solar Plant	N/A	0 KWh	Year-to-date KWh: 2,598,995
Bear Canyon Pump Station Zero Solar	N/A	64,285 KWh	Year-to-date KWh: 3,856,876

* Accounts for an additional 430 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

Hydroelectric Project

Availability/Production for February 2020

Units	Availability	Net Electricity Generated	Out-of-Service
Collierville Unit 1	99.71 %	852 MWh	CV1 was out of service on 2/3/20 from 0921 to 1123 for upper guide bearing oil level switch replacement.
Collierville Unit 2	100 %	11364 MWh	No Outages to Report.
Spicer Unit 1	100 %	1 MWh	No Outages to Report.
Spicer Unit 2	100 %	140 MWh	No Outages to Report.
Spicer Unit 3	100 %	243 MWh	No Outages to Report.

Operations & Maintenance Activities:

- CMMS work orders
- Changed out Upper Guide Bearing Oil Level Switch on CV1
- Produced Oct-Dec 2019 water records to CCWD
- Completed USGS water record audit
- Held mandatory pre-bid meeting for 230 KV insulator replacement project

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

- There were no Cal OSHA recordable, Lost Time, or vehicle accidents in the month of February.
- 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 February 29, 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.

February 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	255	585	1,790	6,774
Work Hours Since Last Recordable	22,775	122,456	264,979	2,501,261
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	4,524	1,653	9,694	5,787
Work Hours without LTA	411,672	339,431	675,523	2,123,279
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 February 29, 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

	February 2020		Calendar Year 2020	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	330.79 2/3 @1900	177,189	336.72 1/16 @1900	374,721
SVP	484.02 2/27 @1600	296,647	484.02 2/27 @1600	613,476
MSSA	791.4 2/3 @ 1900	473,836	804.23 1/16 @ 1200	988,197

Last Year 2019 Data*

	February 2019		Calendar Year 2019	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	335.8 2/4 @1900	180,866	478.77 8/15 @ 1700	378,494
SVP	450.01 2/7 @1400	277,100	587.78 6/11 @1600	586,985
MSSA	782.47 2/12 @ 1900	457,966	1057.99 8/15 @ 1700	965,479

*Last year's data added for comparison purposes only

System Peak Data

	All Time Peak Demand	2020 Peak Demand
NCPA Pool	517.83 MW on 7/24/06 @ 1500	336.72 1/16 @ 1900
SVP	587.78 MW on 6/11/19 @ 1600	484.02 2/27 @1600
MSSA	1070.79 MW on 9/1/17 @ 1700	804.23 1/16 @ 1200

- NCPA MSSA has a Deviation Band with the CAISO, which is used as a performance measure by the CAISO. The ability to stay within this Deviation Band is a measure of NCPA Dispatch's ability to balance the MSSA Loads and Resources on a 5-minute basis. The following NCPA Deviation Band Performance table includes all deviations, including deviations from unit forced outages, metering and load outages, COTP, Western, and WECC curtailments.

NCPA Deviation Band Performance		
	February 2020	Calendar Year 2020
MSSA % Within the Band	99.50%	94.61%

- Spicer Meadows:
 - No curtailments

- Geothermal Units:
 - February 10 - 17, Unit 1 o/s due to generator trouble
 - February 17 @ 0600, Unit 2 and 4 shut down, Unit 1 remaining o/s, to allow WAPA line crews to remove shoo-fly connecting the NCPA #1 and #2-230kV taps.
 - February 21 @ 1454 and 1508 respectively, Unit 1 and 2 returned to service
 - Unit 4 remained o/s due to PG&E Geysers 12 – Fulton 230kV line outage

- Lodi Energy Center:
 - February 1 - 29, Unit remains o/s due to combustion turbine failure

- Alameda CTs:
 - February 9 – 10, Unit 1 and 2 o/s due to differential relay action caused by wind event
 - February 10 @ 1727, Unit 1 failed start due to gas compressor trouble
 - February 10 @ 1727, Unit 2 failed start due to vibration indication

- Lodi CT:
 - No curtailments

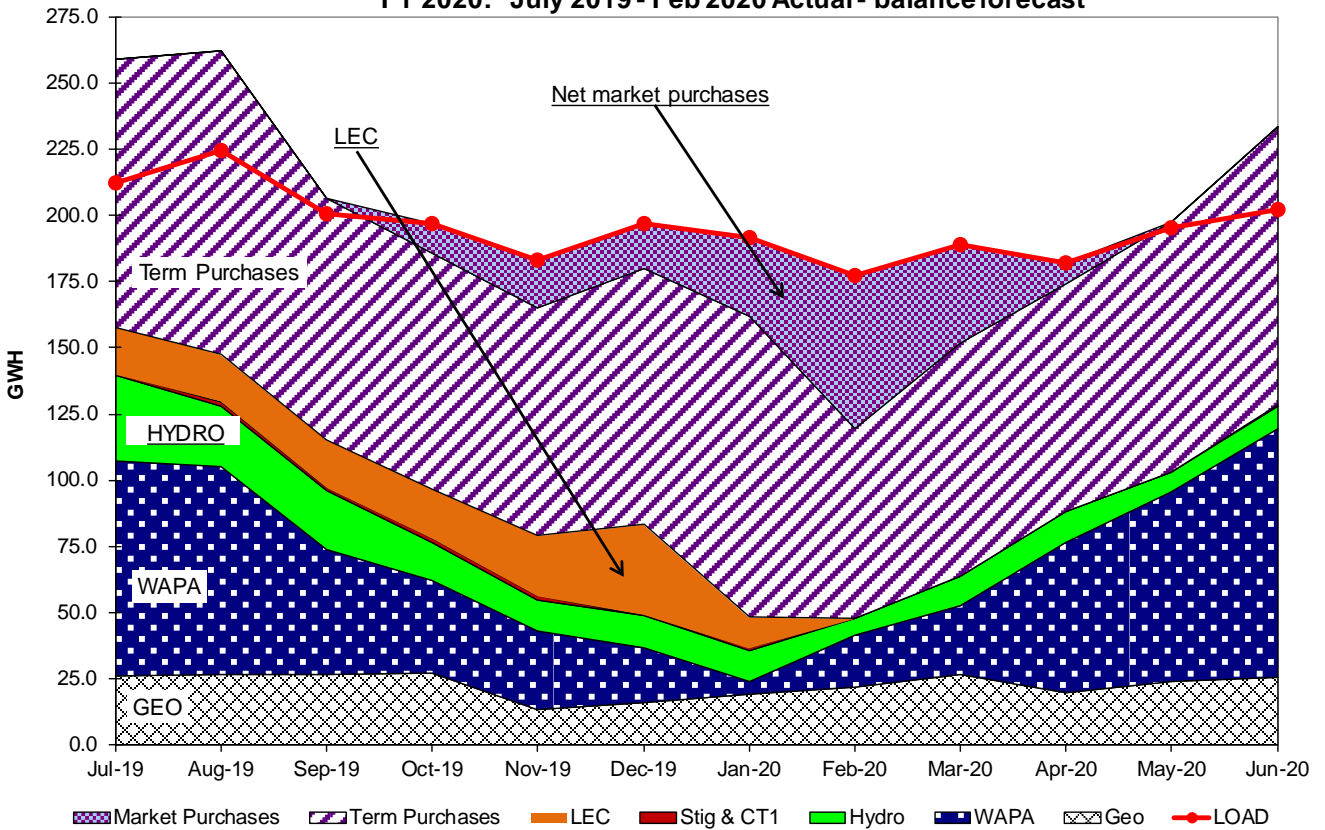
- Collierville Units:
 - February 3 @ 0921 - 1123, Unit 1 o/s to replace oil level switch

- STIG:
 - No curtailments

Pooling, Portfolio Planning & Forecasting

- NCPA Pool load during February 2020 was 177,169 MWh, or 99.9% of forecast. Pool load through March 11th was 65,495 MWh; or 4.6% lower than the same period during March 2019 due to mild temperatures and reduced demand related to COVID-19 impacts.
- Lodi Energy Center (LEC) did not operate in February. LEC is expected to be offline through June 30, 2020.
- During February 2020, 0.16” of rain was recorded at the Big Trees gage. Average February Big Trees precipitation is 10.00”.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been maintained at \$55/MWh.
- NSMR storage as of February 29, 2020 was at 81,337 acre feet. The historical average NSMR storage at the end of February is 75,691 acre feet. As of March 17, 2020 NSMR storage is 84,456 acre feet. The current NCPA Pool share of NSMR storage is 43,236 acre feet.
- Combined Calaveras Project generation for the Pool in February 2020 totaled 6.3 GWh, down from 12.3 GWh in January 2020. The Pool’s 6.3 GWh in February 2020 was slightly above the pre-month forecast of 6.1 GWh.
- Western Base Resource (BR) deliveries for the Pool during February 2020 were 19,458 MWh, including Displacement energy totaling 1,063 MWh. Energy received was 103% of Western’s pre-month forecast. Through March 11th the Pool received 13,968 MWh: the Pool’s portion of Western’s latest rolling forecast for March 2020 is 26,127 MWh.
- The PG&E Citygate gas index averaged \$2.84/MMBtu for delivery on March 12, 2020, well above the average PG&E gas price during February of \$2.637/MMBtu as Western gas prices soared on an impending cold spell just as regional pipeline maintenance season begins. The March 2020 PG&E Citygate Bidweek price is \$2.68/MMBtu, or 5 cents lower than the February Bidweek price – and \$1.35 lower than last December’s \$4.025/MMBtu.
- Day-Ahead NP15 electricity prices averaged \$27.65/MWh (HLH) and \$26.30 (LLH) during February 2020, with only one hour that month topping \$50 at TH_NP15 and three February days – all Sundays – seeing negative prices mid-day.

NCPA POOL RESOURCES FY 2020: July 2019 - Feb 2020 Actual - balance forecast



NCPA Pool Loads & Resources Value Summary								
	Peak and Energy Summary				Estimated Production Costs		Cost of Serving Demand	
	Feb-20				NCPA Pool			
	Coincident Peak (MW)	Total MWh	Pre-Month Forecast Values	Avg. MW	Cost/Revenue (Estimate)	Variable Cost (\$/MWh)	Totals	Avg (\$/MWh)
Demand	330.8	177,169	177,294	254.6	N/A	N/A		
WAPA	-	19,458	18,880	28.0	\$ 962,107	\$ 49.45	\$ 4,885,790	\$ 27.58
Geothermal	-	21,844	21,809	31.4	415,034	19.00		
Hydro	-	6,300	6,100	9.1	37,800	6.00		
Stig & CTs	-	122	164	0.2	1,721	14.10		
LEC	-	-	-	-	-	32.38		
Contracts	-	71,483	81,367	102.7	4,144,427	57.98	\$ 8,265,061	\$ 46.65
Market - Net (Net Sales = Negative)	330.8	57,962	48,974	83.3	1,570,677	27.10		
Net Total	330.8	177,169	177,294	254.6	\$ 7,131,766	\$ 46.65		

Monthly Market Summary							
	Pool Energy (MWh)	HLH Avg (\$/MWh)	MCP (\$/MWh)	Avg Variable Cost of Pool Generation (\$/MWh)	Forward Prices (EOX NP15 HLH Ask Prices)		
					NP15 2/3/2020 (\$/MWh)	3/12/2020 (\$/MWh)	
Jul-19	212,102	\$ 33.30	\$ 56.98		Apr-20	\$ 25.00	\$ 25.95
Aug-19	224,328	\$ 34.79	\$ 37.80		May-20	\$ 22.75	\$ 24.36
Sep-19	200,894	\$ 37.46	\$ 40.97		Jun-20	\$ 31.78	\$ 32.75
Oct-19	186,955	\$ 38.43	\$ 33.39		Q3 2020	\$ 45.57	\$ 47.24
Nov-19	182,993	\$ 43.69	\$ 40.97		Q4 2020	\$ 40.08	\$ 40.75
Dec-19	182,993	\$ 43.69	\$ 48.09		Q1 2021	\$ 37.65	\$ 38.94
Jan-20	191,771	\$ 32.76	\$ 39.71		CY2021	\$ 38.79	\$ 38.57
Feb-20	177,169	\$ 27.58	\$ 46.65		CY2022	\$ 38.27	\$ 36.68
Mar-20					CY2023	\$ 36.33	\$ 35.57
Apr-20					CY2024	\$ 35.61	\$ 34.67
May-20					CY2025	\$ 35.29	\$ 34.34
Jun-20					CY2026	\$ 35.07	\$ 34.17

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

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 May 2020:
 - Monthly System Resource Adequacy Demonstration (filed March 17, 2020)
 - Monthly Supply Plan (filed March 17, 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

- 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 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

- 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.
- CAISO published a Third Revised Straw Proposal and scheduled a stakeholder meeting for 1/7/2020. Maximum import capability calculation and allocation portions were moved to a separate and distinct placeholder initiative. CAISO removed long and fast ramp proposals. However, CAISO failed to adequately address NCPA's concerns regarding jurisdiction, hydro counting, and the UCAP deficiency tool, among others. NCPA will continue to advocate at meetings and in comments.

- A fourth revised straw proposal is due this month however it could be delayed due to the fact that NCPA won its appeal of CAISO's Proposed Revision Request 1122 and in the decision, CAISO stated that planned to forced outage issues need to be addressed in this initiative after CAISO explicitly state such issues would not be addressed.

Day-Ahead Market Enhancements

- 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 Energy: replaces RUC process used to address gaps between bid in demand and forecast demand.
- CAISO reviewed two options for applying IRP and REN:
 - Option 1 – Financial
 - Co-optimizes bid-in demand, ancillary services and imbalance reserves
 - Imbalance reserves cover historical uncertainty between IFM cleared net load and FMM net load
 - Exceptional dispatch if IFM clears inconsistent with operational needs
 - Option 2 – Financial + Forecast
 - Co-optimizes bid-in demand, ISO reliability capacity, ancillary services and imbalance reserves
 - Imbalance reserves cover historical uncertainty between ISO's Day-Ahead net load forecast and FMM net load
 - Reliability capacity covers differences between ISO net load and cleared net load
 - Exceptional dispatch if IFM/RUC clears inconsistent with operational needs

- CAISO reviewed policy alignment and relationships among Day-Ahead Market Enhancements, Extending Day-Ahead Market to EIM, and Resource Adequacy Enhancements. Fall 2021 target.
- NCPA Comments included tentative support of Option 2 along with requests for special Load Following MSS cost allocation netting.
- March stakeholder meetings were contentious with significant opposition to the Reliability Energy/Capacity products. NCPA's cost allocation concerns still have not yet been addressed and we will express such concerns in the next round of comments. Fall 2021 implementation is unlikely for this initiative as well. Seems as if all timelines should be reassessed once the new CAISO CEO is onboard.

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 determinate consisting of volumetric and peak demand functions in order to address costs 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. 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.

Western

Western Base Resource Tracking (NCPA Pool)

Western Base Resource Tracking - NCPA Pool							
	Actual			Costs & Rates			
	BR Forecast ¹ (MWh)	BR Delivered (MWh)	Difference (MWh)	Base Resource & Restoration Fund (\$)	Monthly Cost of BR ² (\$/MWh)	CAISO LMP Differential ³ (\$/MWh)	12-Mo Rolling Avg. Cost of BR ⁴ (\$/MWh)
Jul-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	-	(27,643)	\$962,107	\$ 34.80	\$ -	\$ 29.10
Apr-20	52,877	-	(52,877)	\$2,167,410	\$ 40.99	\$ -	\$ 28.97
May-20	84,464	-	(84,464)	\$2,167,410	\$ 25.66	\$ -	\$ 29.70
Jun-20	90,039	-	(90,039)	\$2,167,410	\$ 24.07	\$ -	\$ 30.13
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 19,458 MWh Base Resource (BR) energy in February 2020. This includes 1,063 MWh of Displacement Energy for an estimated savings of \$6,050 or about \$5.70/MWh.
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) for Pool Members was approximately \$(60) in February 2020. FY 2020 so far shows a net MEEA savings of negative \$450 due to lower congestion prices for import at COTP as opposed to MEEA prices. Despite MEEA Benefits are negative June 2019 through September 2019 and February 2020, there are significant benefits for MEEA prices since the program started in December 2015. NCPA will continue to closely monitor MEEA Benefits.

Western Base Resource Scheduling Flexibility

- WAPA and BOR implemented Base Resource Min-Take Experiment 1 and Experiment 2 late February 2019. Experiment 1 allows for lower minimum takes in daylight low-value hours; while Experiment 2 allows for reduction in minimum takes in surrounding hours by raising minimum takes in the morning on-peak hours. These two experiments became the standard operating process for the BR allocation process in September 2019.
- Experiment 3 customer pre-disclose energy started on operating date July 11, 2019. The intent is to potentially lower the Base Resource Min-Take even more for all Base Resource customers during the low value hours. Experiment 3 was suspended effective operating date December 16, 2019 due to decrease in BR availability.

- NCPA performed an analysis using the initial min-take data (without experiments) WAPA provided. Our analysis show NCPA Pool Members has an added value of \$255,000 total from the three experiments combined, from February 2019 through December 2019.

2025 Base Resource Contract

- The contract service period beings 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.
- WAPA plans to send out the final contract in March 2020. WAPA's tentative schedule show each entity will have six months to sign the contract. NCPA has reached out to WAPA about allowing Base Resource customers more time for contract execution.

Interconnection Affairs

PG&E Update

Permanent Inter-Tie switch Between Geo Plants 1 and 2

- NCPA has approached the CAISO to discuss a long term solution to mitigate frequency of transmission induced outages at Geo. NCPA proposes to install a permanent no load intertie switch between Geo Plants 1 and 2 to use when either the Fulton or Lakeville line is out of service. NCPA will discuss with CAISO first to see if this scheme is a possibility. If the CAISO agrees, NCPA will then approach PG&E to seek by-in and amend the three (NCPA-CAISO-PG&E) party Generator Interconnection Agreements.

TO-20 Rate Case

- This case is close to partial settlement. Key items not settled are ROE, Capital Structure, and Depreciation. Partial settlement is planned to be filed at FERC by March 31, 2020 or sooner.
- FERC 890 case/PG&E's self-approved projects case is now part of the TO-20 settlement. CPUC and Joint Interveners have proposed a Stakeholder Transmission Asset Review (STAR) Process as an appendix to the TO-20 settlement. STAR will be will part of the partial settlement scheduled to be filed by March 30, 2020.

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 they become available.

Transmission Planning BPM Updated Modeling Data Submittal

- CAISO is requiring Generators to submit updated modeling data to ensure CASIO has current and accurate system information.
- NCPA has submitted updated data and power flow models for all Hydro and Geo Units, along with Alameda CT's and STIG. LEC is on schedule to be completed and submitted to the CAISO by March 30, 2020.

Debt and Financial Management

- The world is facing a pandemic and these are extraordinary times. On March 2nd, the Federal Reserve took the emergency step of cutting interest rates by half a percentage point in an attempt to limit the economic and financial fallout from the coronavirus. The Fed had not made a cut like that since late 2008, shortly after the collapse of Lehman. Unfortunately, this move was not enough and less than two weeks later, the Federal Reserve made an extraordinary move to safeguard the economy by slashing its benchmark interest rate to near 0%. In addition, the Fed has relaunched its quantitative easing program and will buy \$700 billion worth of assets that entail Treasuries and mortgage-backed securities.
- This financial turmoil will start to impact the reset rates on the 2008A Hydroelectric bonds. Similar to 2008, liquidity issues are beginning to impact the financial markets causing the reset rates to climb higher in order to attract investors. If there are no investors, the bonds are 'put' back to the letter of credit bank (Bank of America). Per the agreement, the rate charged will be approximately 7% and can climb as high as 12% with a prolonged disruption. NCPA staff will continue to monitor.

Schedule Coordination Goals

Software Development

- Technology upgrade and development of the NADS application is in progress. The go-live date is scheduled to coincide with the MSG rollout for LEC.
- IS Staff is providing support for activities related to the COVID-19 to ensure that all schedule apps remain accessible for both internal and external access.
- IS Staff continues to work on enhancements pertaining to the Risk Management application. New capabilities are being developed for RPS reporting.
- Review of the current Accounting Business Process may be delayed again due to the COVID-19 activities but the intended upgrade of the main accounting system, Microsoft Dynamics GP is still anticipated to be completed middle of next year.

Network

- Progress continues to be made upgrading staff to Windows 10 with over 85% 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.
- 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.

- IS is working with Generation Services, Power Management and CAISO to implement needed changes to accommodate the shoofly work being performed at the Geothermal plant. This includes modeling changes to our SCADA system along with how meter data values are represented within our business applications.
- IS has begun to work alongside Compliance to prepare to meet the CIP medium impact requirements. Policy and procedures are being drafted in preparation for first review by the Compliance Working Group by spring of this year.

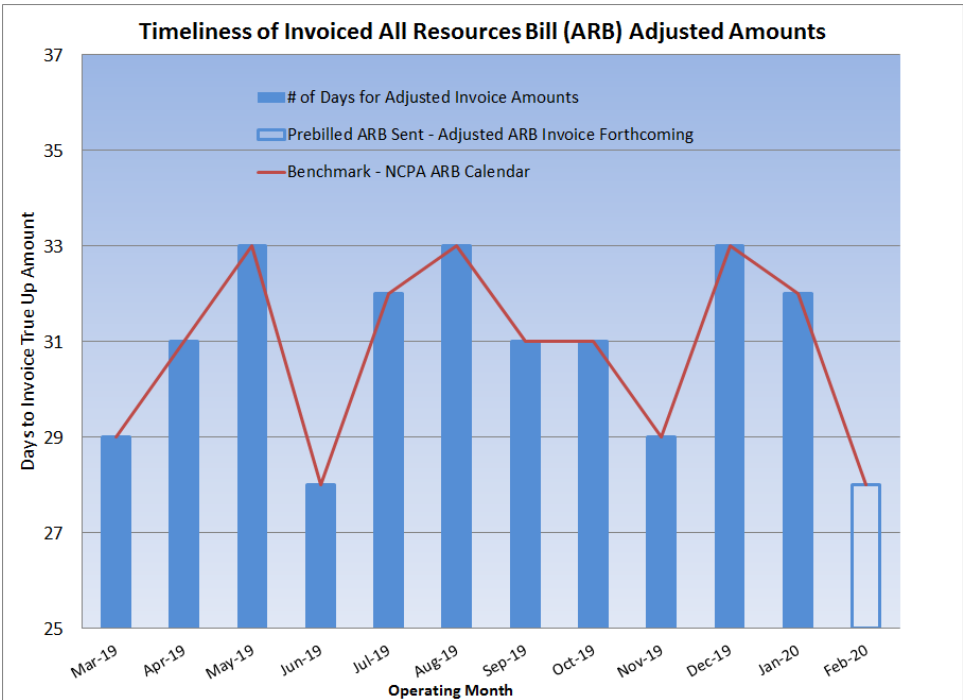
NCPA Bills & Settlements

Progress Against the Strategic Plan

Adjusted Power bills, which include CAISO transactions, invoiced to members the following month subsequent to the monthly pre-billed ARB month. Timely ARB settlements adjustments help improve members' cash flow and reconciliation of their budget performance.

The February 2020 NCPA All Resources Bill (ARB) monthly invoice sent to members on January 26, 2020 contains:

- February 2020 monthly pre-billed budget/forecast amounts;
- December 2019 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- November 2019 (2nd Adjustment) NCPA Project settlement true-up and T+12 business day recalculated CAISO settlement true-up allocations;
- September 2019 (3rd Adjustment) T+55 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- March 2019 (4th Adjustment) T+9 month recalculated CAISO settlement true-up allocations;
- May 2018 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- February 2017 (6th Adjustment) T+33 month recalculated CAISO settlement true-up;
- November 2016 (7th Adjustment) T+35 month CAISO settlement true-up;



Legislative & Regulatory

Political Arena State/Federal/Western Programs

- As of mid-March and in light of the COVID-19 emergency, the State Legislature stands in joint recess until April 13th unless called-back by their respective house leadership. The timing of the Legislature's return may be further extended if the state guidance and/or orders to isolate continue for a prolonged period of time. The Capitol Building is currently closed to the public; however, legislative staff continue to conduct business via conference call and email. Given the unplanned legislative recess, and the inconsistent ability to conduct voting remotely, policy hearings will not occur until the Legislature returns. This will truncate the legislative process, as state law requires this year's session to end by midnight on August 31st. NCPA continues to analyze legislation and collect feedback to inform positions, as well as discuss concerns about pending legislation with legislative staff.
- The L&R team recently hosted an NCPA Member Workshop addressing the latest developments regarding California wildfire policy and the state's Renewables Portfolio Standard (RPS) program. Significant attention was paid to the emergence of a CPUC Wildfire Maturity Model that will be used to evaluate progress associated with the Wildfire Mitigation Plans of the investor-owned utilities. The model is likely to be a starting point for the newly-created Wildfire Safety Advisory Board, as it considers how it will eventually review the WMPs developed by publicly-owned utilities. During the RPS portion of the workshop, members received a template that can be used to update their respective RPS Procurement/Enforcement Plans, an activity that must be completed by the end of 2020.
- APPA Rally: In February, NCPA and representatives from several member utilities including Silicon Valley Power, Redding Electric, Roseville Electric, and the City of Healdsburg, traveled to Washington, DC, to attend the American Public Power Association's annual Legislative Rally. The Rally brings together hundreds of public power entities from across the country each year to establish association policy positions and to advocate on behalf of the public power community. NCPA and its members participated in meetings with a total of 17 congressional and agency offices over three days to seek action on four priority issues: addressing threats to CVP power, improving forest management to prevent wildfires, protecting California's clean energy investments in the event federal climate legislation is enacted, and relocating sediment from NCPA's hydropower project on Forest Service lands. Our advocacy efforts included meetings with staff from the House Energy and Commerce Committee, Senate Energy and Natural Resources Committee, and NCPA's entire congressional delegation. The group also met with staff from the Federal Energy Regulatory Commission, the Smart Electric Power Alliance, the North American Electric Reliability Corporation, and the U.S. Forest Service.
- Federal Policy Conference: As a result of the outbreak of the COVID-19 virus, NCPA, in conjunction with the Northwest Public Power Association, has cancelled the 2020 Federal Policy Conference scheduled for April 19-23 in Washington, DC.

NCPA and NWPPA will consider rebooking the event later this year if possible. NCPA's Annual Conference in September remains on schedule.

Human Resources

Hires:

None

Intern Hires:

Andrew Encinas, Assistant Student II, Information Service, Headquarters effective February 20, 2020

Promotions/Position Changes:

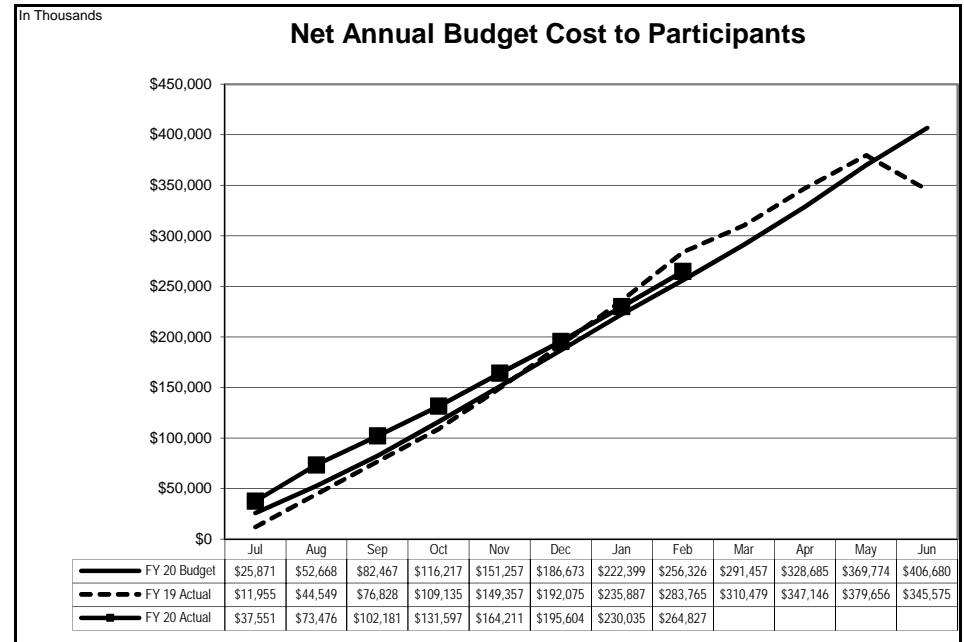
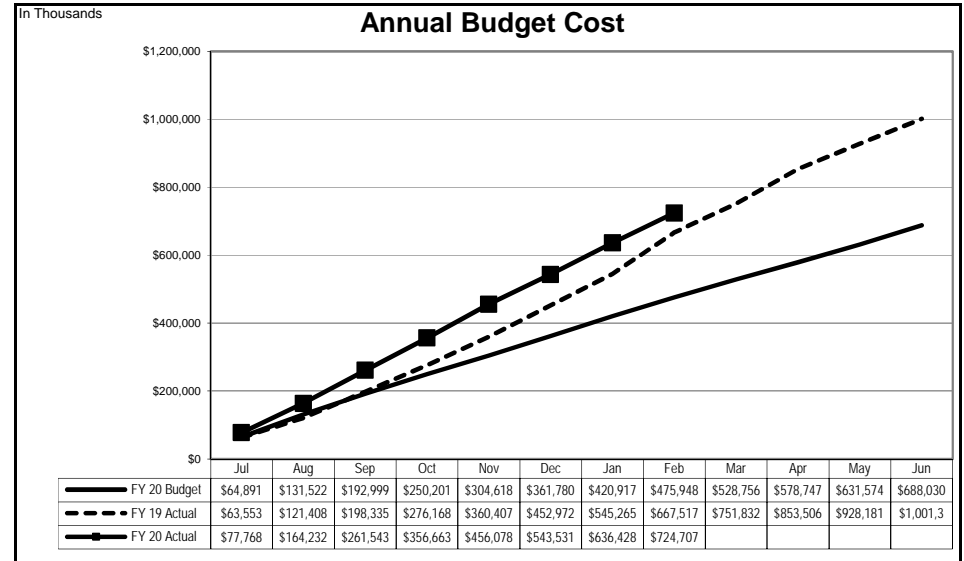
Lauren Bellnap promoted to System Dispatcher, NCPA Dispatch Center, effective March 15, 2020. Lauren has been with NCPA since 2015 starting work as a Schedule Coordinator II. Prior to NCPA, Lauren worked for Aces as a Senior Real Time Hourly Energy Trader in Benson, AZ. Lauren is a graduate of California State University, Sacramento, and is a NERC Certified System Operator in Reliability.

Separations:

None

**Annual Budget
2019-2020 Fiscal Year To Date
As of February 29, 2020**

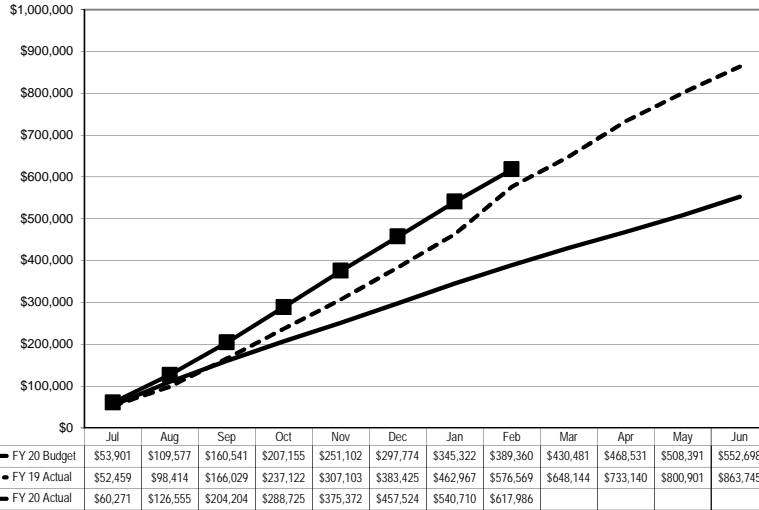
In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
GENERATION RESOURCES				
NCPA Plants				
Hydroelectric	54,074	34,836	\$ 19,238	36%
Geothermal Plant	35,311	23,905	11,406	32%
Combustion Turbine No. 1	6,170	3,891	2,278	37%
Combustion Turbine No. 2 (STIG)	9,438	6,182	3,257	35%
Lodi Energy Center	92,960	53,609	39,351	42%
	197,953	122,423	75,530	38%
Member Resources - Energy	56,229	41,179	15,050	27%
Member Resources - Natural Gas	3,541	3,150	391	11%
Western Resource	23,325	13,119	10,206	44%
Market Power Purchases	15,123	15,977	(854)	-6%
Load Aggregation Costs - ISO	256,030	419,582	(163,552)	-64%
Net GHG Obligations	497	2,556	(2,059)	-414%
	552,698	617,986	(65,288)	-12%
TRANSMISSION				
Independent System Operator	117,089	94,930	22,159	19%
MANAGEMENT SERVICES				
Legislative & Regulatory				
Legislative Representation	2,132	1,311	821	39%
Regulatory Representation	748	435	313	42%
Western Representation	745	398	347	47%
Customer Programs	424	181	243	57%
	4,049	2,325	1,724	43%
Judicial Action	625	370	255	41%
Power Management				
System Control & Load Dispatch	6,082	4,021	2,062	34%
Forecasting & Prescheduling	2,934	1,638	1,296	44%
Industry Restructuring	414	244	170	41%
Contract Admin, Interconnection Svcs & Ext. Affairs	954	621	333	35%
Gas Purchase Program	77	43	35	45%
Market Purchase Project	111	59	52	47%
	10,573	6,626	3,947	37%
Energy Risk Management	212	107	105	49%
Settlements	980	523	457	47%
Integrated System Support	243	39	205	84%
Participant Pass Through Costs	1,560	783	777	50%
Support Services	-	1,019	(1,019)	
	18,243	11,791	6,452	35%
TOTAL ANNUAL BUDGET COST	688,030	724,707	(36,677)	-5%
LESS: THIRD PARTY REVENUE				
Plant ISO Energy Sales	127,624	61,524	66,100	52%
Member Resource ISO Energy Sales	29,156	19,528	9,628	33%
Member Owned Generation ISO Energy Sales	67,108	46,606	20,502	31%
NCPA Contracts ISO Energy Sales	15,623	12,530	3,093	20%
Western Resource ISO Energy Sales	18,304	14,076	4,228	23%
Load Aggregation Energy Sales	-	238,595	(238,595)	
Ancillary Services Sales	4,197	4,499	(302)	-7%
Transmission Sales	110	64	46	42%
Western Credits, Interest & Other Income	19,227	62,457	(43,229)	-225%
	281,350	459,880	(178,530)	-63%
NET ANNUAL BUDGET COST TO PARTICIPANTS	406,680	264,827	\$ 141,853	35%



Annual Budget Budget vs. Actual By Major Area As of February 29, 2020

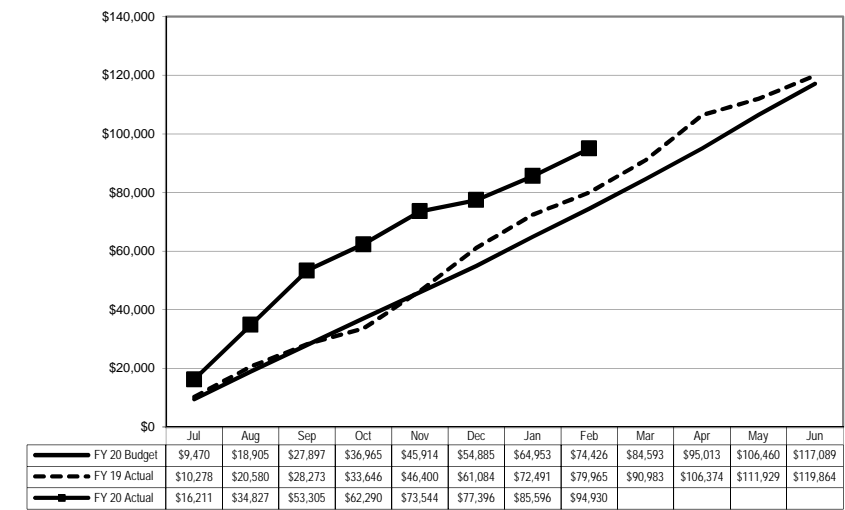
In Thousands

Generation Resources



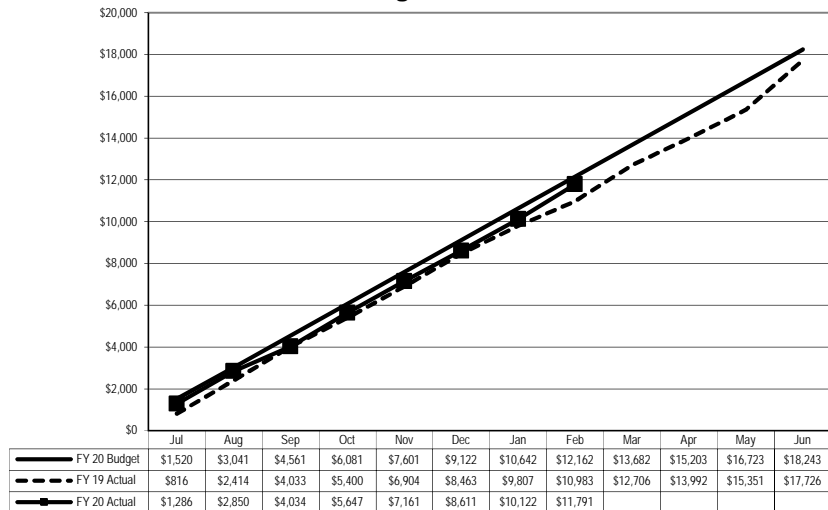
In Thousands

Transmission-ISO



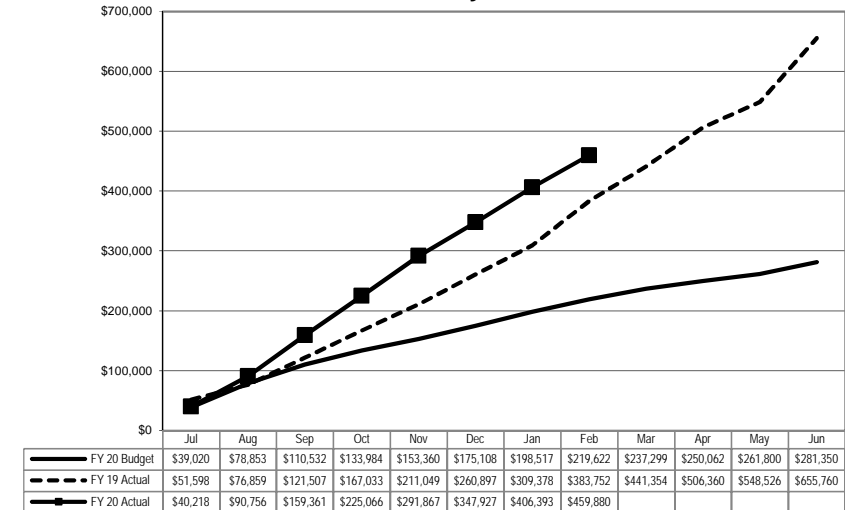
In Thousands

Management Services



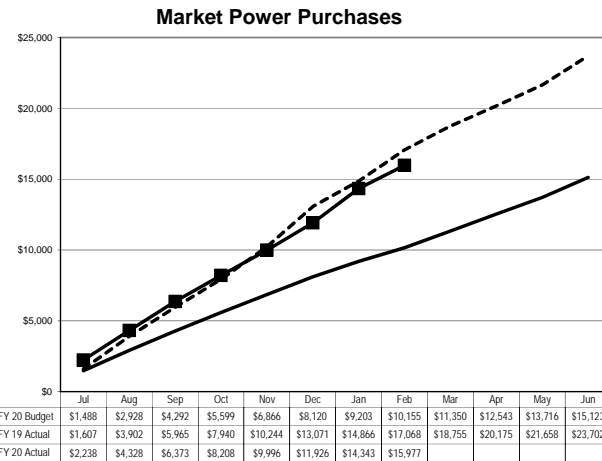
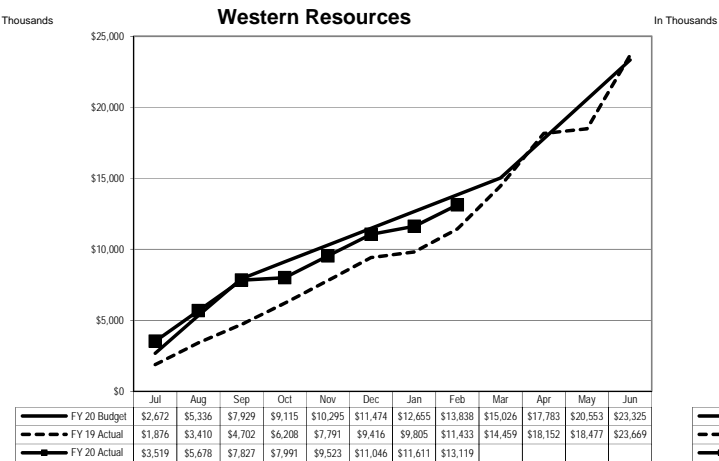
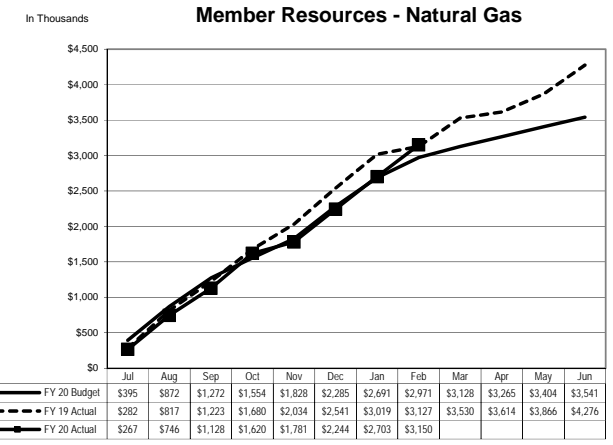
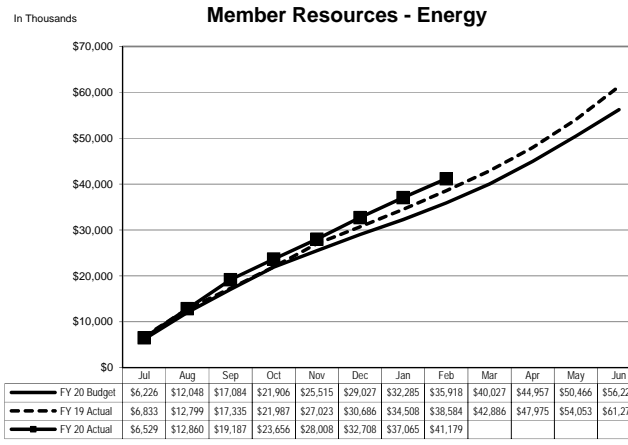
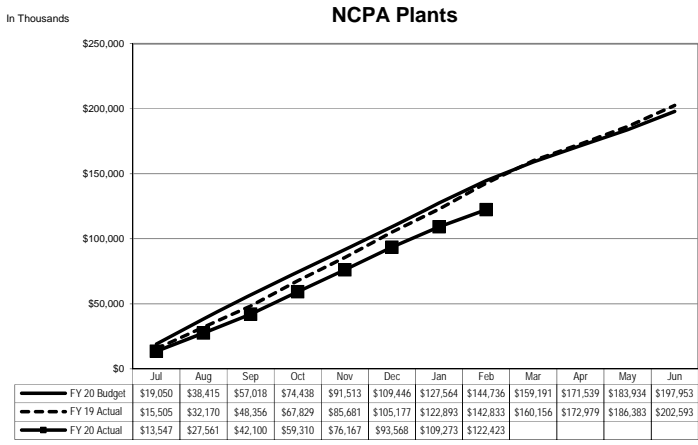
In Thousands

Third Party Revenue



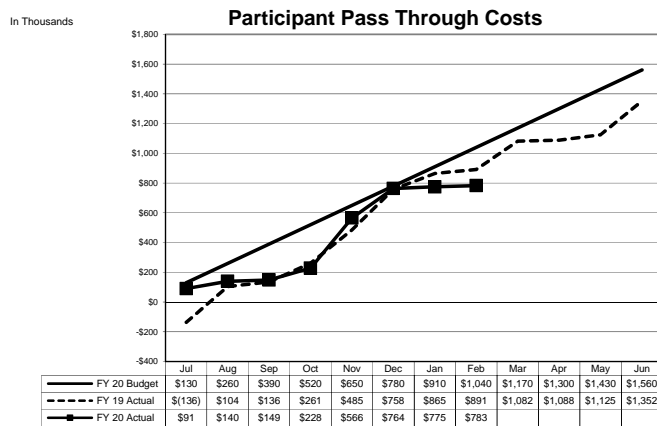
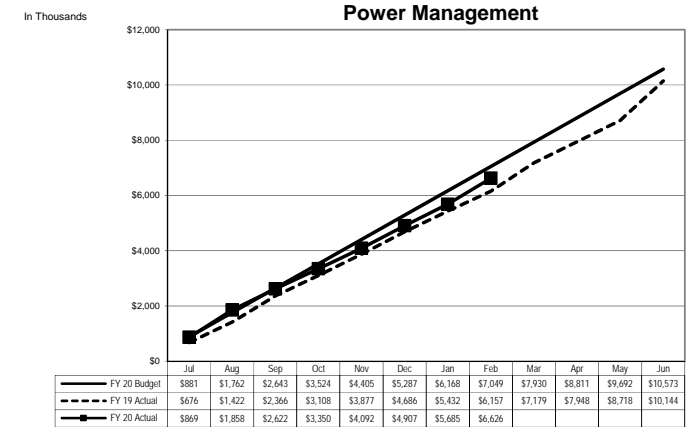
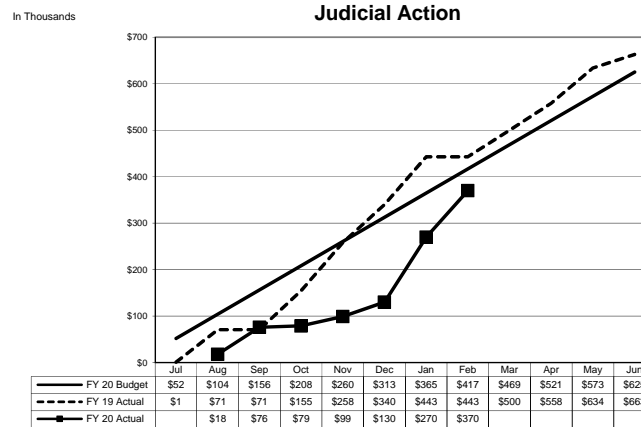
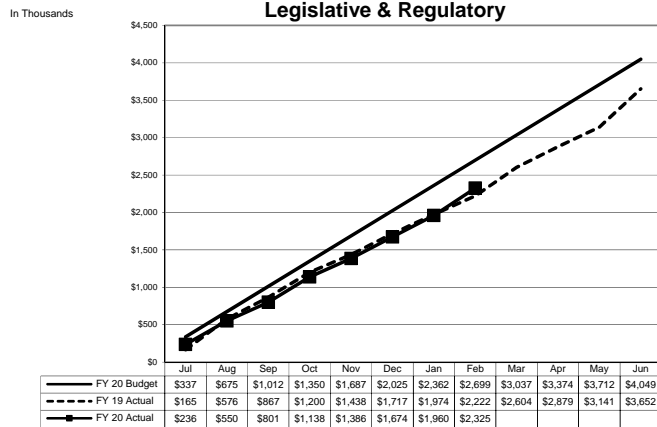
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

Annual Budget Cost Generation Resources Analysis By Source As of February 29, 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 February 29, 2020

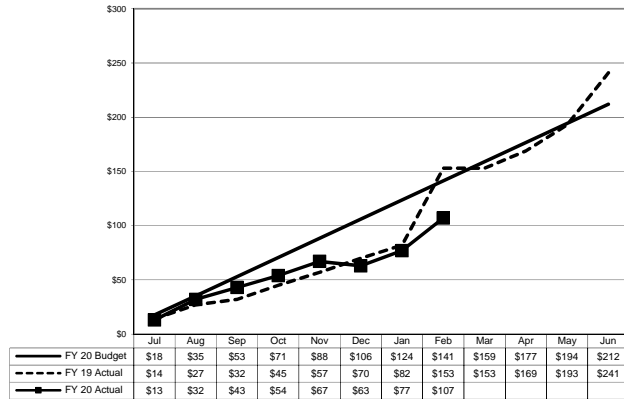


**Annual Budget Cost
Management Services Analysis By Source
As of February 29, 2020**

In Thousands

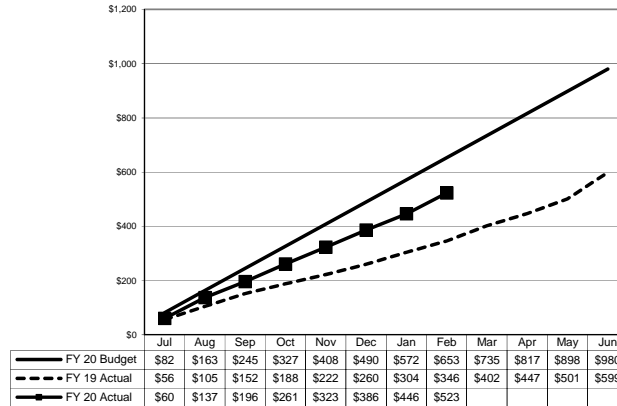
Energy Risk Management

In Thousands

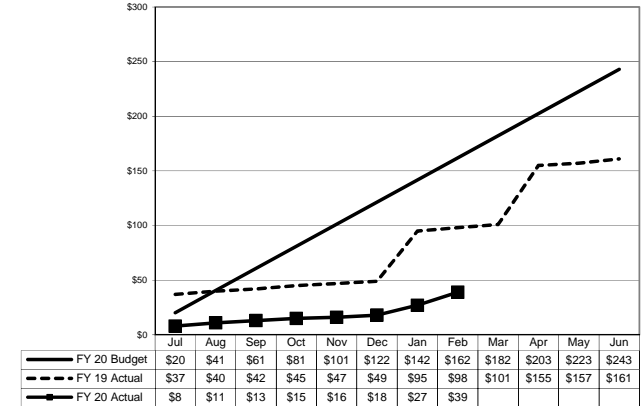


Settlements

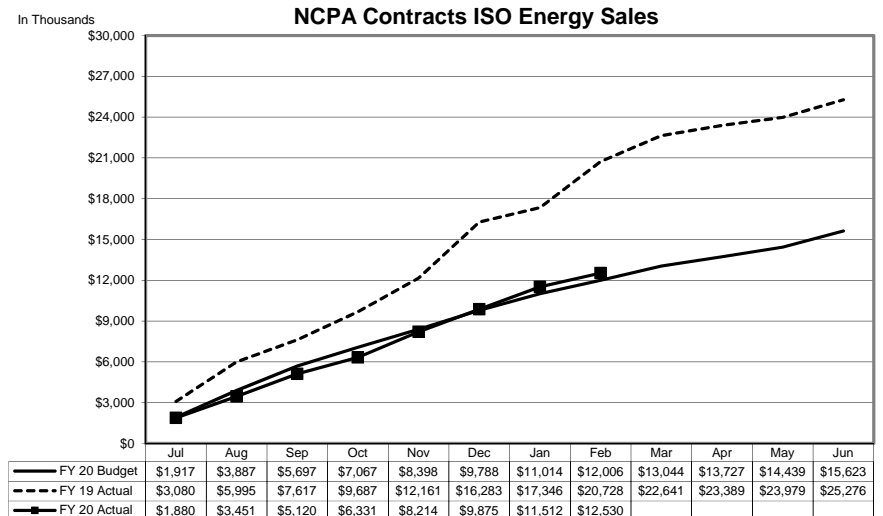
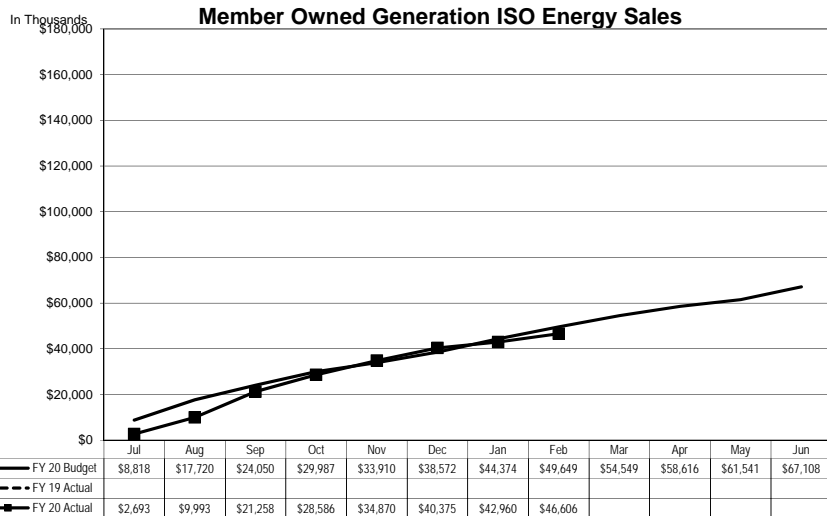
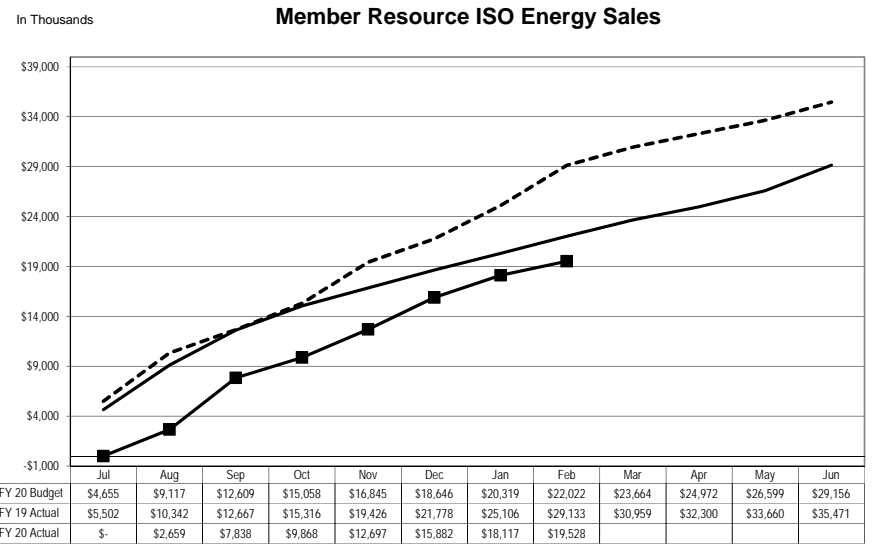
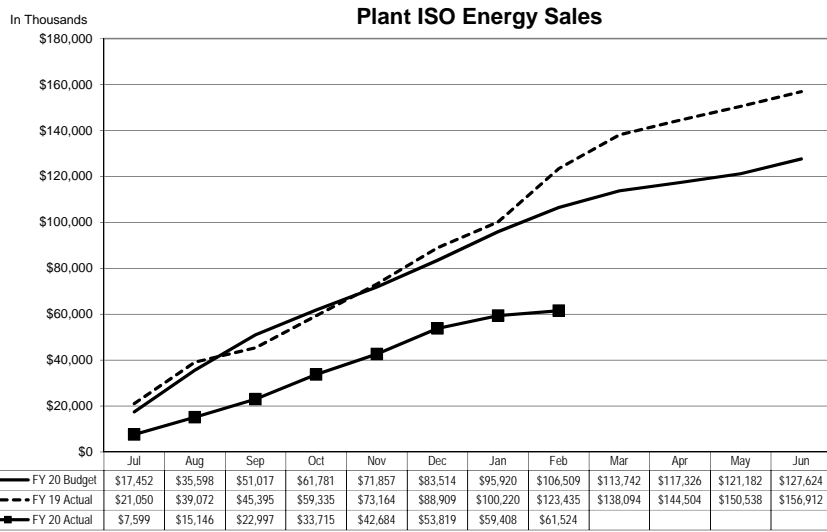
In Thousands



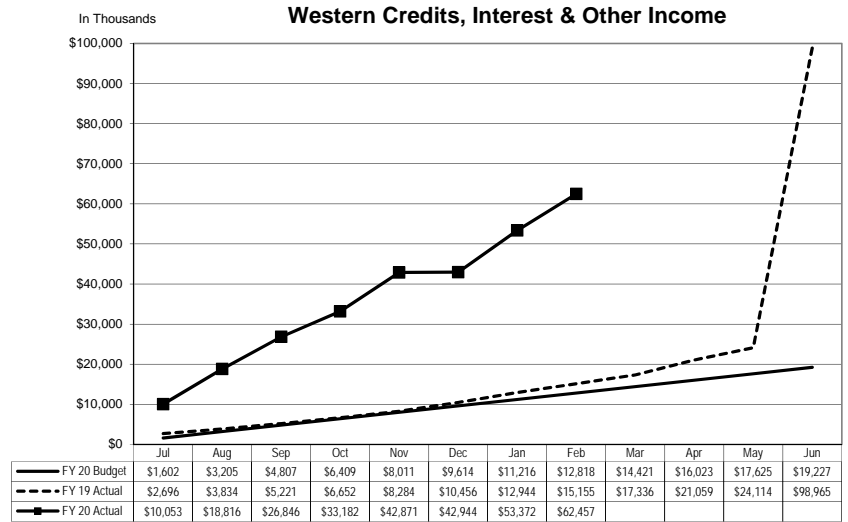
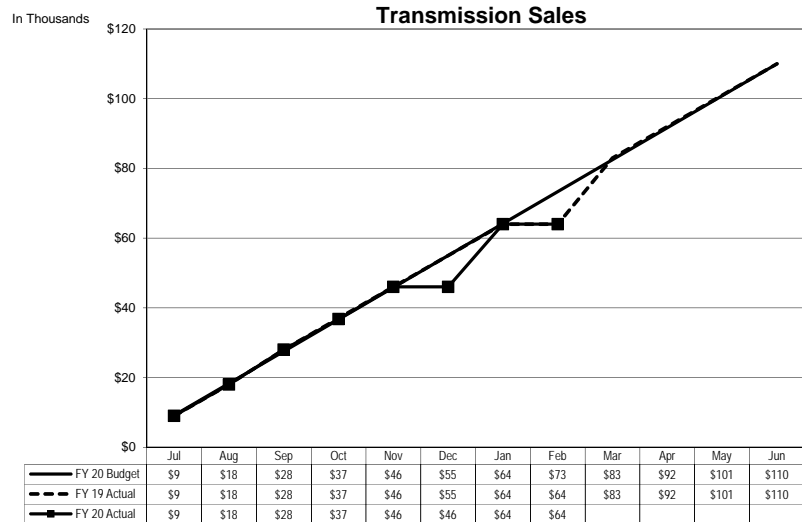
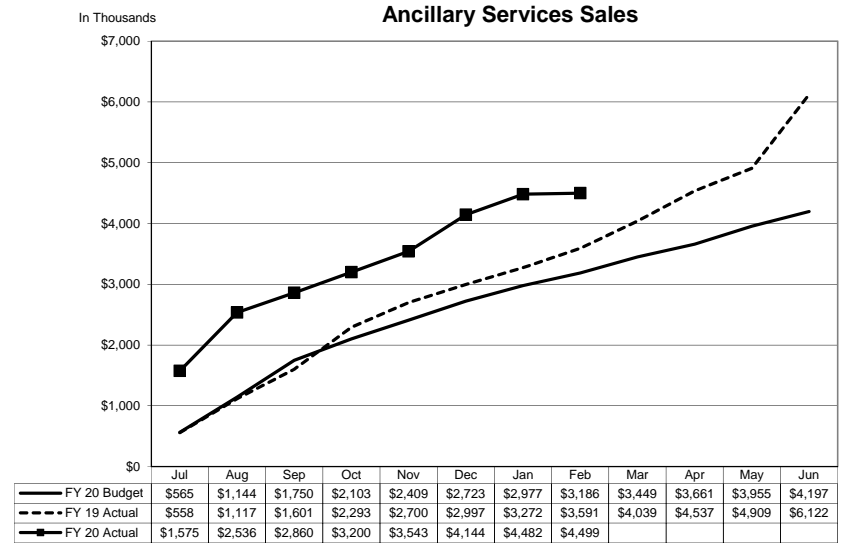
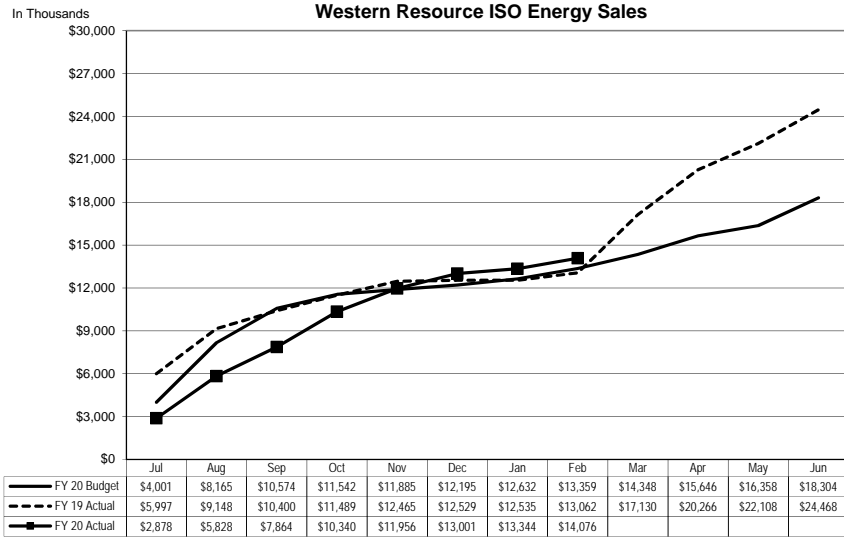
Integrated Systems Support



**Annual Budget Cost
Third Party Revenue Analysis By Source
As of February 29, 2020**



**Annual Budget Cost
Third Party Revenue Analysis By Source
As of February 29, 2020**



**Annual Budget
NCPA Generation Detail Analysis By Plant
As of February 29, 2020**

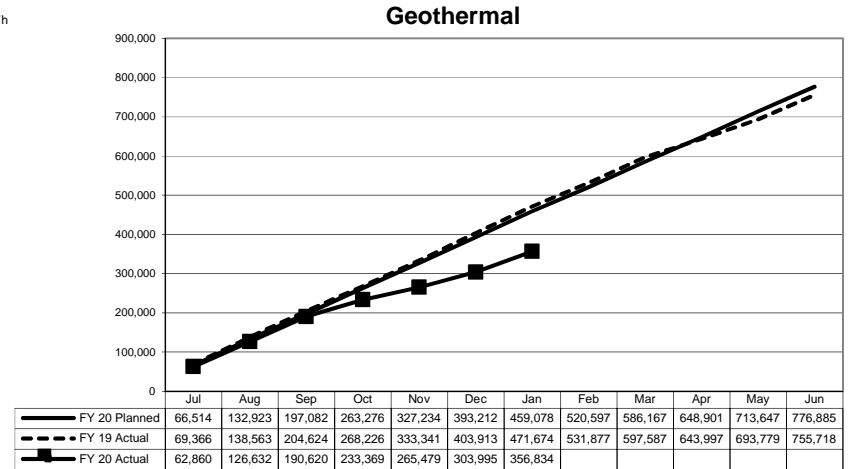
Generation Cost Analysis

\$ in thousands

	Geothermal				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 18,456	\$ 12,333	\$ 30.60	\$ 6,123	33%
Capital Assets/Spare Parts Inventories	3,645	2,789	6.92	856	23%
Other Costs	7,640	4,848	12.03	2,791	37%
CA ISO Charges	625	637	1.58	(13)	-2%
Debt Service	4,946	3,297	8.18	1,649	33%
Annual Budget	35,311	23,905	59.31	11,406	32%
Less: Third Party Revenue					
Interest Income	382	171	0.42	211	55%
ISO Energy Sales	29,481	13,904	34.50	15,576	53%
Ancillary Services Sales	-	-	-	-	-
Effluent Revenues	750	578	1.43	172	23%
Misc	110	66	0.16	45	41%
	30,723	14,719	36.52	16,004	52%
Net Annual Budget Cost to Participants	\$ 4,588	\$ 9,186	\$ 22.79	\$ (4,599)	-100%
Net Generation--MWh @ Meter	776,885	403,044			
\$/MWh (A)	\$ (0.46)	\$ 14.61			

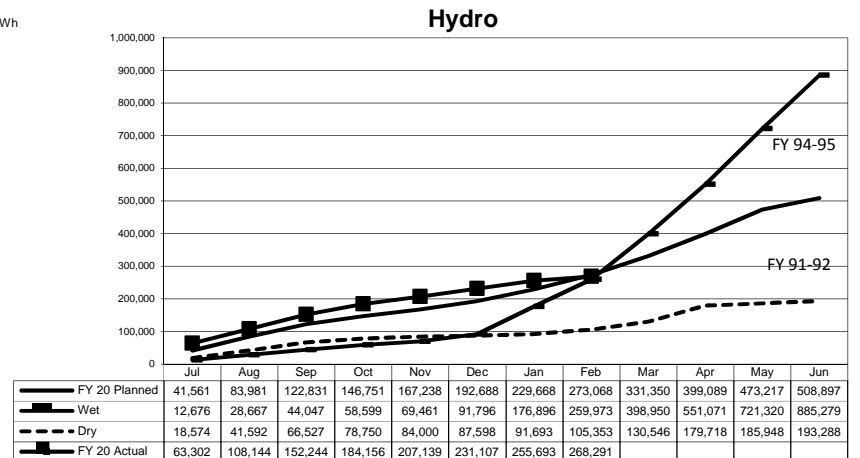
MWhs Generated

In MWh



	Hydroelectric				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 450	\$ 5,250	\$ 19.57	\$ (4,801)	-1067%
Capital Assets/Spare Parts Inventories	4,775	3,230	12.04	1,545	32%
Other Costs	12,078	2,076	7.74	10,001	83%
CA ISO Charges	3,465	2,075	7.73	1,390	40%
Debt Service	33,307	22,205	82.76	11,102	33%
Annual Budget	54,074	34,836	129.84	19,238	36%
Less: Third Party Revenue					
Interest Income	670	331	1.23	339	51%
ISO Energy Sales	23,455	11,576	43.15	11,879	51%
Ancillary Services Sales	2,539	2,891	10.77	(351)	-14%
Misc	-	128	0.48	(128)	
	26,664	14,926	55.63	11,739	44%
Net Annual Budget Cost to Participants	\$ 27,410	\$ 19,910	\$ 74.21	\$ 7,500	
Net Generation--MWh @ Meter	508,897	268,291			
\$/MWh (A)	\$ (11.59)	\$ (8.55)			

In MWh



Footnotes:

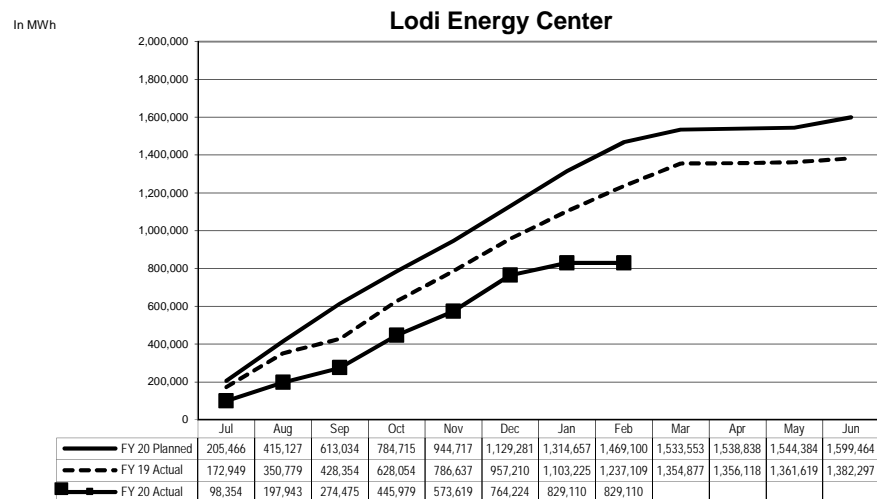
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

**Annual Budget
NCPA Generation Detail Analysis By Plant
As of February 29, 2020**

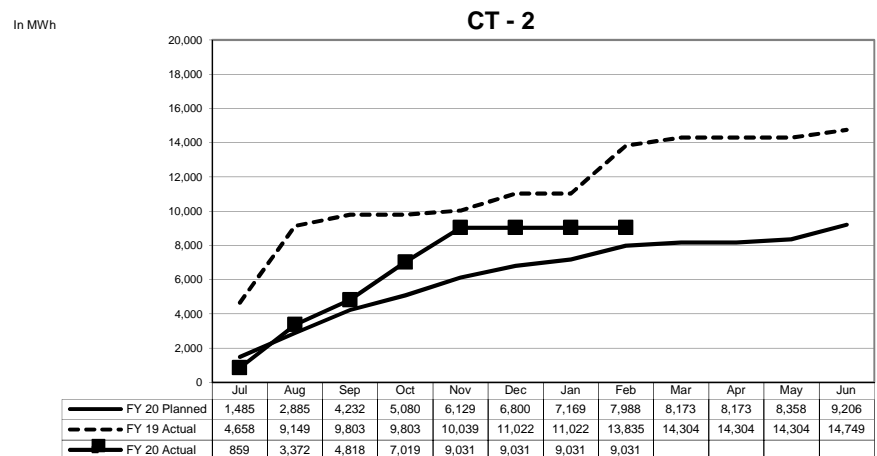
Generation Cost Analysis

	Lodi Energy Center				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 14,101	\$ 8,888	\$ 10.72	\$ 5,213	37%
Fuel	39,513	20,391	24.59	19,122	48%
AB 32 GHG Offset	-	-	-	-	0%
CA ISO Charges and Energy Purchases	4,710	2,409	2.91	2,302	49%
Capital Assets/Spare Parts Inventories	5,333	2,098	2.53	3,234	61%
Other Costs	3,249	2,454	2.96	795	24%
Debt Service	26,054	17,370	20.95	8,685	33%
Annual Budget	92,960	53,609	64.66	39,351	42%
Less: Third Party Revenue					
Interest Income	386	462	0.56	(76)	-20%
ISO Energy Sales	72,603	34,527	41.64	38,076	52%
Ancillary Services Sales	1,433	1,193	1.44	240	17%
Transfer Gas Credit	-	-	-	-	0%
Misc	-	2	0.00	(2)	0%
	74,421	36,183	43.64	38,237	51%
Net Annual Budget Cost to Participants	\$ 18,539	\$ 17,426	\$ 21.02	\$ 1,113	6%
Net Generation--MWh @ Meter	1,599,464	829,110			
\$/MWh (A)	\$ (4.70)	\$ 0.07			

MWhs Generated



	Combustion Turbine No. 2 (STIG)				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 1,595	\$ 938	\$ 103.89	\$ 657	41%
Fuel and Pipeline Transport Charges	1,089	756	83.73	333	31%
Capital Assets/Spare Parts Inventories	418	248	27.41	171	41%
Other Costs	486	298	33.05	188	39%
CA ISO Charges	53	77	8.54	(24)	-45%
Debt Service	5,796	3,864	427.90	1,932	33%
Annual Budget	9,438	6,182	684.53	3,257	35%
Less: Third Party Revenue					
Interest Income	109	77	8.50	32	29%
ISO Energy Sales	819	692	76.62	127	16%
Ancillary Service Sales	-	-	-	-	0%
Fuel and Pipeline Transport Credits	1,687	1,125	124.56	562	33%
Misc	-	-	-	-	0%
	2,615	1,894	209.68	722	28%
Net Annual Budget Cost to Participants	\$ 6,823	\$ 4,288	\$ 474.85	\$ 2,535	37%
Net Generation--MWh @ Meter	9,206	9,031			
\$/MWh (A)	\$ 111.53	\$ 46.94			



Footnotes:

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

**Annual Budget
NCPA Generation Detail Analysis By Plant
As of February 29, 2020**

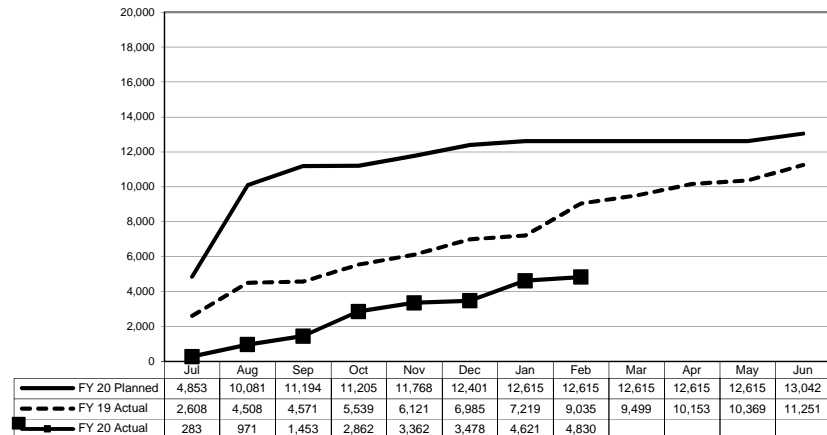
Generation Cost Analysis

	Combustion Turbine No. 1				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 2,268	\$ 1,386	\$ 286.91	\$ 882	39%
Fuel and Pipeline Transport Charges	975	375	77.54	601	62%
Capital Assets/Spare Parts Inventories	2,110	1,490	308.49	620	29%
Other Costs	747	476	98.48	271	36%
CA ISO Charges	69	165	34.18	(96)	-138%
Debt Service	-	-	-	-	-
Annual Budget	6,170	3,891	805.61	2,278	37%
Less: Third Party Revenue					
Interest Income	-	18		(18)	
ISO Energy Sales	1,266	825	170.84	441	35%
Ancillary Services Sales	-	-	-	-	0%
Misc	-	16	3.24	(16)	0%
	1,266	859	174.08	407	32%
Net Annual Budget Cost to Participants	\$ 4,904	\$ 3,033	\$ 627.86	\$ 1,871	38%
Net Generation--MWh @ Meter	13,042	4,830			
\$/MWh (A)	\$ 375.97	\$ 627.86			

MWhs Generated

In MWh

CT - 1



Footnotes:

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