

BUSINESS PROGRESS REPORT

AUGUST



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Generation Costs & Reliability

Combustion Turbine Project

Unit Operation for July 2020

Unit	Availa	Availability		Production		Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	361.3	MWh	CAISO / CAISO
CTTAlameda	98.9%	98.7%	Unit 2	300.6	MWh	CAISO / CAISO

Curtailments, Outages, and Comments:

Unit 1: 7/22 @ 0600-1400: Alameda CT1 o/s for PGE gas outage, OMS 8865413

Unit 2: 7/2 @ 15:00 - 16:26 Failed Start

7/22 @ 06:00 - 14:00 Alameda CT2 o/s for PGE gas outage OMS 8865419

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	95.3%	1,956.5 MWh	CAISO

Curtailments, Outages, and Comments:

7/11 @ 18:00 - 7/12 @ 16:00: Failed Start, OMS 8853806 7/13 @ 22:38 - 7/14 @ 11:12: Hydraulic System Trouble, OMS 8862181

Unit	Availability	Production	Reason for Run
LEC	#N/A	#N/A MWh	#N/A

Curtailments, Outages, and Comments:

7/11 @ 00:00 - 7/12 @13:00: Combustion Turbine Balancing, OMS 8783959 7/26 @ 13:42 - 17:45: CTG Trip During Startup, OMS 8915141

Maintenance Summary - Specific per asset above.

Geothermal Facilities

Availability/Production for July 2020

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
Unit 1	100 %	19,022 MWh	U1 had no outages for the month
Unit 2	100 %	*20,468 MWh	U2 had no outages for the month
Unit 3	N/A %	N/A	Unit 3 remains out of service.
Unit 4	100 %	28,595 MWh	U4 had no outages for the month
Southeast Geysers Effluent Pipeline	87.0 %	186.6 mgallons	Average flow rate: 4,143 gpm
Southeast Solar Plant	N/A	101,179 KWh	Year-to-date KWh: 2,944,071
Bear Canyon Pump Station Zero Solar	N/A	130,106 KWh	Year-to-date KWh: 4,323,944

^{*} Accounts for an additional 1,789 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

Hydroelectric Project

Availability/Production for July 2020

Units	Availability	Net Electricity Generated	Out-of-Service
Collierville Unit 1	100%	14660 MWh	No Outages to Report.
Collierville Unit 2	85.79%	5979 MWh	CV Unit 2 was out of service on 7/23/20 to 7/27/20 from 0702 to 1640 for Unit Maintenance and CCVT Replacement.
Spicer Unit 1	99.21 %	628 MWh	NSM1 was out of service on 7/11/20 from 1132 to 1726 for microwave comm failure.
Spicer Unit 2	99.22 %	1484 MWh	NSM2 was out of service on 7/11/20 from 1132 to 1720 for microwave comm failure.
Spicer Unit 3	99.25 %	260 MWh	NSM3 was out of service on 7/11/20 from 1132 to 1706 for microwave comm failure.

Operations & Maintenance Activities:

- CMMS work orders
- 230 KV Line 2 CCVT Replacement
- 230 KV Insulator replacement project continuation
- CV Unit 2 Vapor Extraction System tuning

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

- There were no Cal OSHA recordable, Lost Time, or vehicle accidents in the month of July.
- 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 July 18, 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.

July 2020 Generation Services Safety Report

Generation Generates Galety 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	395	725	1,930	6,914
Work Hours Since Last Recordable	35,062	151,903	289,123	2,557,876
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	4,664	1,793	9,834	5,927
Work Hours without LTA	424,959	368,878	699,667	2,179,894
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

Data originates from OSHA logs, HR records and payroll information. Days and Hours are calculated through pay period ended July 18, 2020.

^{**} NCPA HQ: Roseville employees at the Main Office

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

	July 2020		Calendar Year 2020		
	Peak MW	MWh	Peak MW	MWh	
NCPA Pool	379.58 7/9 @1800	203,609	417.87 5/26 @1800	1,295,884	
SVP	512.48 7/10 @1600	330,443	560.35 6/3 @1600	2,185,506	
MSSA	884.97 7/10 @ 1700	534,052	971.45 6/3 @ 1700	3,481,390	

Last Year 2019 Data*

	July 2019		Calendar Year 2019		
	Peak MW	MWh	Peak MW	MWh	
NCPA Pool	420.42 7/24 @1800	212,438	478.77 8/15 @ 1700	1,339,385	
SVP	541.31 7/24 @1600	324,957	587.78 6/11 @1600	2,135,478	
MSSA	959.85 7/24 @ 1700	537,395	1057.99 8/15 @ 1700	3,474,863	

^{*}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	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.

NCPA Deviation Band Performance						
	July 2020	Calendar Year 2020				
MSSA % Within the Band	97.33%	96.60%				

- Dispatch and SC group continue operating in split mode occupying both Roseville HQ and DRC
- Dispatch and SC group training with SVP via Teams for eventual NCPA assumption of SVP weekend nights scheduling duties
- Spicer Meadows:
 - July 11, Units separated from the grid for about 6 hours due to microwave communications trouble. Unit 3 remained on providing station service.
- Geothermal Units:
 - o No curtailments
- Lodi Energy Center:
 - July 11 12, Unit o/s to perform CTG balancing
 - July 26, CTG trip on startup caused unit late to Pmin
- Alameda CTs:
 - July 2, Unit 2 late paralleling to the system
 - July 22 @ 0600 1400, Unit 1 and 2 unavailable due to PG&E gas supply outage.
- Lodi CT:
 - o No curtailments
- Collierville Units:
 - o July 23 27, Unit 2 o/s for CCVT replacement and bi-monthly maintenance
- STIG:
 - July 11 12, Unit o/s for troubleshooting after failed start July 13 14, Unit o/s due to hydraulic system trouble

Pooling, Portfolio Planning & Forecasting

- NCPA Pool load during July 2020 was 203,610 MWh, or 95.4% of forecast. The stay-at-home mandate issued in March continued to change load patterns across the state despite partial loosening of restrictions and now summer heat Pool load through August is expected to be closer to normal compared to the same period a year ago, as weather-related demand increases during the last half of the month.
- Lodi Energy Center (LEC) returned from its nearly five-month outage during June 2020 and produced 13,497 MWh for the pool during July. Due to the current market pricing structure and resulting low implied heat rates, LEC is projected to generate 20,674 MWh for the pool in August.
- During July 2020, 0.00" of rain was recorded at the Big Trees gauge. Average July Big Trees precipitation is 0.13".
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has been maintained at \$55/MWh.
- NSMR storage as of July 31, 2020 was at 125,300 acre feet. The historical average NSMR storage at the end of July is 135,881 acre feet. As of August 17, 2020 NSMR storage is 115,446 acre feet. The current NCPA Pool share of NSMR storage is 59,043 acre feet.
- Combined Calaveras Project generation for the Pool in July 2020 totaled 11.5 GWh, slightly up from 11.1 GWh in June 2020. The Pool's 11.5 GWh in July 2020 was lower than the pre-month forecast of 15.3 GWh.
- Western Base Resource (BR) deliveries for the Pool during July 2020 were 81,392 MWh, including Displacement energy totaling 25,478 MWh. Energy received was 108% of the pre-month forecast. Western's forecast for the pool's share of August generation is 61,359 MWh.
- The PG&E Citygate gas index averaged \$2.955/MMBtu for delivery on August 14, 2020, well above the average PG&E gas price during July of \$2.435/MMBtu. Gas prices have risen recently as production curtailments cut into storage additions, power burns increase, and Europe decides to buy winter LNG. The August 2020 PG&E Citygate Bidweek price is \$2.53/MMBtu, up seven cents from the July Bidweek price.
- Day-Ahead NP15 electricity prices averaged \$28.11/MWh (HLH) and \$22.64 (LLH) during July 2020, with evening ramp hour prices reaching only as high as \$119 at TH_NP15 and not falling below a dollar as low demand and heavy renewables generation, wind in particular, pushed prices lower than normal for the month.

		NC	PA Pool Lo	oads & R	esources Value	Summary			
	Pea	ak and Energ	y Summary		Estimated Pro	duction Costs	Cost of Serving Demand		
		Jul-20							
	Pre-Month								
	Coincident		Forecast						
	Peak (MW)	Total MWh	Values	Avg. MW	NCPA	A Pool			
	Jul-09-20 Hour				Cost/Revenue Variable Cost				
	18				(Estimate)	(\$/MWh)	Totals	Avg (\$/MWh)	
Demand	379.6	203,610	213,372	273.7	N/A	N/A			
			69152				at Market (Clearing Price	
WAPA	-	81,392	75,518	109.4	\$ 1,826,020	\$ 22.43	\$ 5,661,039	\$ 27.80	
Geothermal	-	28,182	26,564	37.9	535,451	19.00			
Hydro	-	11,731	15,211	15.8	70,388	6.00			
Stig & CTs	-	1,721	3,131	2.3	86,551	50.29	at Variable Cost	of Pool Generation	
LEC	-	13,497	10,707	18.1	437,047	32.38			
Contracts	-	112,700	114,601	151.5	6,327,442	56.14	\$ 7,583,919	\$ 37.25	
Market - Net	379.6	(45,614)	(32,360)	(61.3)	(1,213,732)	26.61			
(Net Sales = Negative)						\			
Net Total	379.6	203,610	213,372	273.7	\$ 8,069,167	\$ 37.25			

			Mon	thl	y Market	Summar	ry			
					g Variable ost of Pool	Forwa	rd	Prices (EOX NP15	NO	
	Pool Energy	HL	H Avg MCP	G	eneration			NP15 7/1/2020	8/14/2020 (\$/MWh)	
	(MWh)		(\$/MWh)		(\$/MWh)			(\$/MWh)		Peak and Energy Summ
Jan-2	191,771	\$	32.76	\$	39.71	Aug-20	\$	38.74	\$ 60.76	* Monthly generation sum
Feb-2	177,169	\$	27.58	\$	46.65	Sep-20		35.81	46.77	total MWH for the month,
Mar-2	181,339	\$	27.90	\$	40.59	Oct-20		36.75	43.21	* Generation totals are for
Apr-2	165,033	\$	22.78	\$	35.05	Q4 2020	\$	40.59	\$ 45.91	* Hydro totals include Co
May-2	178,601	\$	20.85	\$	37.53	Q1 2021		41.25	41.68	Estimated Production C
Jun-2	191,530	\$	26.29	\$	36.98	Q2 2021		29.68	29.20	* Fixed project costs not
Jul-2	203,610	\$	27.80	\$	37.25	CY2021	\$	41.12	\$ 40.72	are used to calculate the a
Aug-2	O					CY2022		39.32	39.67	 STIG and CT costs inclu
Sep-2	O					CY2023		37.98	37.92	* STIG & CT costs reflect
Oct-2	O					CY2024		37.30	37.07	Cost of Serving Demand
Nov-2	O					CY2025		37.08	36.58	Compares price of meeting
Dec-2	0					CY2026		36.91	36.34	(2) Variable cost of pool g

OTES TO SUMMARY TABLE:

ımmary of Coincidental Peak (hour in which pool demand peaked), n, and pre-month forecasted values for report period.

for POOL SHARE of the projects.

Costs:

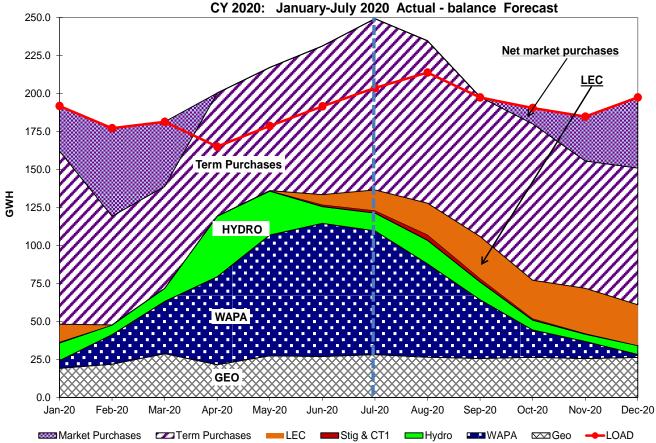
ot included except for WAPA, where total month's project costs e average unit cost.

clude forward natural gas and basis hedge transactions.

ect \$2.60 and \$1.62/MWH variable O&M costs per 6-12-06 GSCA.

ing total monthly demand with (1) Hourly pool market clearing price; gen. Pool Gen is sum of estimated costs divided by sum of generation.

NCPA POOL RESOURCES CY 2020: January-July 2020 Actual - balance Forecast



Industry Restructuring, Contracts and Interconnection Affairs

Resource Adequacy Compliance Filings

- NCPA made the following Resource Adequacy compliance filings with the CAISO for the compliance period October 2020:
 - Monthly System Resource Adequacy Demonstration (filed August 17, 2020)
 - Monthly Supply Plan (August 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

- CAISO published Bundle 1 Straw Proposal and held stakeholder meeting. Bundle consists of Resource Sufficiency Evaluations (RSE), Congestion and Transfer revenue allocation, and Transmission cost allocation.
- RSE is relatively uncontroversial and is similar in concept to ISO/CPUC RA program in that it is intended to ensure that EDAM participants have sufficient capacity, transmission, flexibility, and reserves to serve own loads and prevent leaning on other participants. RSE is currently active in EIM. Congestion and Transfer revenue allocations relatively uncontroversial as well. Congestion is intra-BAA and allocated to load that pays for transmission. Transfers occur inter-BAA and will be allocated to transmission owners. The controversial topic is transmission cost allocation. CAISO proposes to declare most transmission costs as sunk and only apply usage fee to incremental exports and EIM wheeling transfers. NCPA and others are concerned that those paying for transmission will not be fairly compensated.
- 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 2022 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

- July 14th meeting for 5th Revised Straw Proposal covered:
 - 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 force majeure exemptions such as wildfire.
 - UCAP calculations for existing and new resources

- CAISO's determination to establish Planned Outage Reserve Margin for offpeak months (Nov – May), restrict Planned Outages from occurring in peak months or else maintain status quo outage planning process.
- NCPA submitted the following comments:
 - Argued against CAISO's removal of wildfire, PSPS, and other outages outside a generator's control.
 - Expressed tentative support of only allowing Planned RA outages in off-peak month from November through May provided that October is reclassified as off-peak month and May is reclassified as peak month. This will allow generators to take Planned maintenance without substitution requirements. NCPA also expressed support for alignment of outage types with RC categories.
 - NCPA presented new concept of holding Participating Transmission Owners (PTOs) to same outage reporting standards as Generator Owners and Operators (GO/GOP) and commit to enhanced outage coordination among PTOs and GO/GOPs to mitigate unnecessary downtime.
- 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.
- NCPA will continue to advocate for must offer obligation exemption due to existing LF-MSS balancing requirements.

Day-Ahead Market Enhancements

- In the 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. The 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 realtime 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 cooptimized 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.
- Implementation is set to To Be Determined.

<u>Transmission Access Charge Structure Enhancements</u>

- 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 at an approximately 50/50 split 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 2021 and will be implemented at a to-be-determined point thereafter. 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)

		West	ern Base R	esource Tracking	g - NCPA Po	ool		
		Actual			Costs & F	Rates		
	BR	BR		Base Resource &	Monthly	CAISO LMP	12-Mo Rolling	
	Forecast ¹	Delivered	Difference	Restoration Fund	Cost of BR ²	Differential ³	Avg. Cost of BR ⁴	
	(MWh)	(MWh)	(MWh)	(\$)	(\$/MWh)	(\$/MWh)	(\$/MWh)	
Jul-20	91,457	81,392	(10,065)	\$1,825,459	\$ 22.43	\$ 0.13	\$ 27.37	
Aug-20	72,613	-	(72,613)	\$1,826,020	\$ 25.15	\$ -	\$ 27.24	
Sep-20	43,657	-	(43,657)	\$1,993,569	\$ 45.66	\$ -	\$ 27.41	
Oct-20	26,755	-	(26,755)	\$1,090,452	\$ 40.76	\$ -	\$ 29.02	
Nov-20	14,613	-	(14,613)	\$1,090,452	\$ 74.62	\$ -	\$ 30.08	
Dec-20	13,127	-	(13,127)	\$1,090,452	\$ 83.07	\$ -	\$ 31.47	
Jan-21	10,294	-	(10,294)	\$1,090,452	\$ 105.93	\$ -	\$ 32.28	
Feb-21	8,844	-	(8,844)	\$1,090,452	\$ 123.30	\$ -	\$ 33.55	
Mar-21	15,574	-	(15,574)	\$1,090,452	\$ 70.02	\$ -	\$ 35.06	
Apr-21	41,630	-	(41,630)		\$ 52.28	\$ -	\$ 36.98	
May-21	78,092	-	(78,092)		\$ 27.87	\$ -	\$ 37.87	
Jun-21	87,179	-	(87,179)		\$ 24.96	\$ -	\$ 38.76	
1/	As forecaste	d in NCPA 20	/21 Budget					
2/	= (Western (Cost + Restora	ation Fund)/B	R Delivered, for Pool	Participants of	only.		
3/	= (MEEA LMF	P - PG&E LAP	LMP) using pu	ıblic market informat	tion (i.e. not s	ettlement qua	ality).	
4/	Based on BR	Delivered (A	ctual) when a	available and BR Fore	cast in all oth	er cases. Inclu	des CAISO LMP	
	impact.							

- NCPA Pool received 81,392 MWh Base Resource (BR) energy in July 2020. This includes 25,478 MWh of Displacement Energy for an estimated savings of \$144,862 or about \$5.69/MWh.
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) for Pool Members was approximately \$7,000 in July 2020. FY 2020 had a net MEEA savings of \$49,344.

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.
- Publication of the final contract has been delayed due to the COVID-19 work interruption. WAPA will publish the contract in September 2020 and will be sent to the Utility Directors. Each entity will have six months to execute the contract (March 2021 Timeframe).
- NCPA will continue to work with WAPA to develop a 10-year forecast (FY 2021 FY 2030) to aid your BR Contract signing efforts. WAPA's latest update indicates the forecast will be shared by early September 2020.

Energy Imbalance Market (EIM)

 WAPA will participate in the CAISO Energy Imbalance Market (EIM) effective March 25, 2021. WAPA is in the process of filing the new formula rate schedule to capture the costs and benefits associated with EIM. The effective date of the new rate schedules is March 25, 2021. WAPA held its Public Information Forum & Comment Forum on August 17, 2020. The deadline to submit comments is October 29, 2020. WAPA expects to publish the Final Federal Register Notice (FRN) in February 2021.

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 CASIO 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. Hydro units have been deemed compliant and complete. ISO identified new deficiencies with the Geo Units which we are working to resolve.

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-CAISO controlled facilities.
- PG&E held a stakeholder meeting on August 4th to present their asset management process and risk metrics. PG&E did not directly address rate base questions, but did encourage stakeholders to submit questions in writing; due Sept 15, 2020.

PG&E Annual Formula Rate Update

• The following is a comparison of 2020 and the new proposed rates for 2021:

	Calculation of PG&E Wholesale Rates	Rate Year 2021	Rate Year 2020
<u>Line</u>	<u>Description</u>	<u>Values</u>	<u>Values</u>
	Calculation of High Voltage Access Charge		
100	High Voltage TRR	\$1,020,007,111	\$788,444,596
101	Gross Load (MWh)	83,846,544	85,012,937
102	High Voltage Access Charge (\$/MWh)	\$12.17	\$9.27
	Calculation of Low Voltage Access Charge		
200	Low Voltage TRR	\$1,527,679,602	\$1,199,254,803
201	Gross Load (MWh)	83,846,544	85,012,937
202	Low Voltage Access Charge (\$/MWh)	\$18.22	\$14.11

- 2021 increase is mostly due to forecasted capital additions, O&M expenses, ROE, and Depreciation.
- We expect the 2021 rates to be lower by January 1 as a result of TO-20 settlement (especially on ROE) and negotiations between PG&E and the Joint Intervenors from now till Nov 1st, 2020 on amounts that are excessive or unsupported. NCPA will monitor this and present final rates for 2021 to Members.

Debt and Financial Management

- At the Federal Reserve's July 2020 meeting, the Fed held interest rates steady keeping its benchmark overnight lending rate anchored near zero, where it has been since March 15 in the early days of the pandemic. In a move widely expected, the bond and stock market reacted little to the news.
- Along with keeping rates low, the committee expressed its commitment to maintain its bond purchases and the array of lending and liquidity programs also associated with the virus response.
- The U.S. Treasury yield curve drifted marginally lower by just one or two basis points in the month. They remain at historically low levels with the 10-year benchmark ending the month at 0.66%.
- As the Agency works to update to the five-year Strategic Plan, the Finance Committee has called a special meeting to discuss creating new goals focused on controlling costs, minimizing risks, and maintaining NCPA's financial strength. The meeting has been scheduled for September 2nd.

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 are participating in Market Simulation during the month of July-August 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). Development in progress and on track.
- Accounting Software upgrade has been completed. Great Plains 2018 and ReQLogic 12 is now in production.
- 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 Member.
 - Renewable Portfolio Standard Reporting app to 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

 Progress continues to be made upgrading staff to Windows 10 with over 90% 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. Draft procedures have been created and a meeting has been scheduled between NCPA Dispatch and NID Operations staff to finalize the procedures.
- IS met with EBCE and technical contractors to begin discussions on the upcoming Altamont Wind integration project, which is expected to Go Live by end of 2020.
- Network upgrades at the Hydro projects have begun in an effort to replace end of life equipment with current and supported models. Network switch gear has been ordered and will be configured and installed in August.
- Final rounds of Help Desk Analyst interviews were conducted and we have selected a candidate, however due to COVID-19 concerns a hire date has not yet been selected. We anticipate a start date sometime in September.
- Operations and Support worked with Finance, Development and Velosio to successfully complete the Great Plains and Reglogic upgrade.
- Operations and Support staff completed a project with Santa Clara to enable Dispatching capability of the Rosamond Solar project.

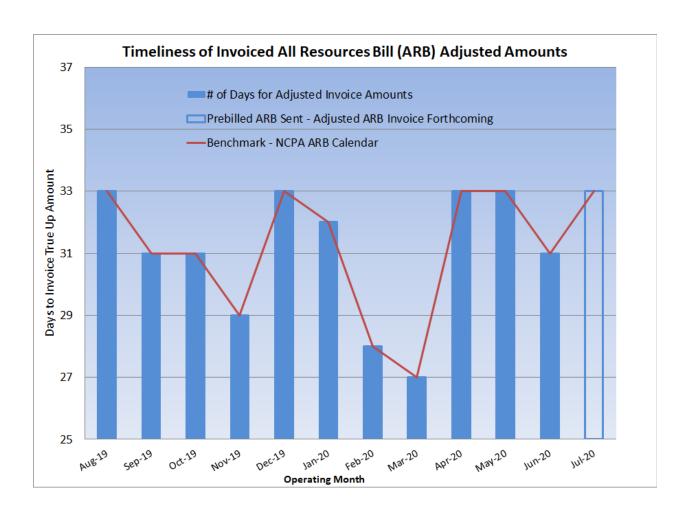
NCPA Bills & Settlements

Progress Against the Strategic Plan

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

The July 2020 NCPA All Resources Bill (ARB) monthly invoice sent to members on June 23, 2020 contains:

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



Legislative & Regulatory

Political Arena State/Federal/Western Programs

State Legislative Update

• The State Legislature resumed its session and continues to work toward the August 31 end-of-session deadline, with policy committee hearings occurring through mid-August. NCPA continues to monitor legislation of interest related to employer requirements linked to COVID-19, pumped hydroelectric storage procurement, and transportation electrification. Legislative leaders and the Governor continue negotiations on policy proposals to address the Legislature's proposed \$100 billion economic recovery plan. Key topics covered in the plan include workforce and employee protections and advancing the green economy, among other issues.

Customer Programs Update

• NCPA Customer Programs released an RFP this week to solicit proposals for transportation electrification and building electrification education and outreach services to support Member efforts to enhance or develop electrification programs for customers. In addition to soliciting proposals for typical educational and outreach events, the RFP requests online and virtual offerings, to bolster Members' ability to reach their customers while unable to provide in-person events. Responses are due on September 10, and we expect contracts to be in place by October.

Federal Legislative Update

Last month, amid ongoing negotiations between the House and Senate over a final COVID-19 relief measure, NCPA members and our public power partners, successfully led an effort urging Senators Feinstein (D-CA) and Harris (D-CA) to support a forgivable loan program for public power utilities to offset pandemic-related expenses and costs. Draft legislative text was subsequently released by the Committee of jurisdiction, but not before negotiations over a COVID relief package between the White House and Congress collapsed. Still, once negotiations resume, we will continue to push hard and raise this issue as a top priority with our congressional delegation. Additionally, we are continuing with our NCPA Speakers Series and have completed 14 sessions so far with high-profile legislators, regulators, and other thought leaders in the energy arena. This week, we will host Malcolm Woolf, President and CEO of the National Hydropower Association, followed by a discussion with the authors of a recent Goldman Sachs International report on hydrogen development. Then on September 3, we will hear from Senator Mike McGuire, who represents the cities of Ukiah and Healdsburg, and on September 8, we will be joined by California PUC Commissioner Cliff Rechtschaffen.

Human Resources

Hires:

Bryce Hayes was hired as a Mechanic Operator III at our Geothermal Facilities effective July 13, 2020. Bryce comes to NCPA from Stephens Mechanical where he gained a strong power generation maintenance background, with over nine years of experience.

James Creston was hired as a Combustion Turbine Specialist III at our Lodi Energy Center effective July 13, 2020. James most recently worked at Calpine, Delta Energy Center where he worked as a power plant operator. He comes to NCPA with over 16 years of experience.

Intern Hires:

None.

Promotions/Position Changes:

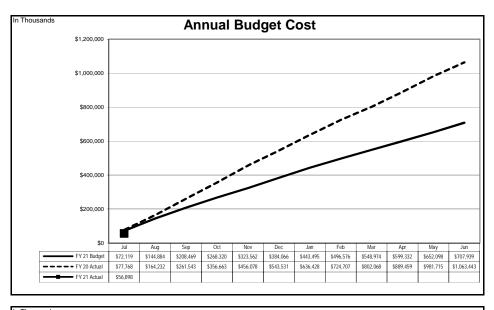
None.

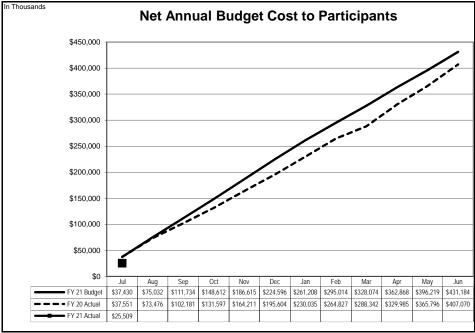
Separations:

Cary Padgett, Executive Assistant, retired from her position at our Headquarters office after over 32 years of service with NCPA, effective August 3, 2020.

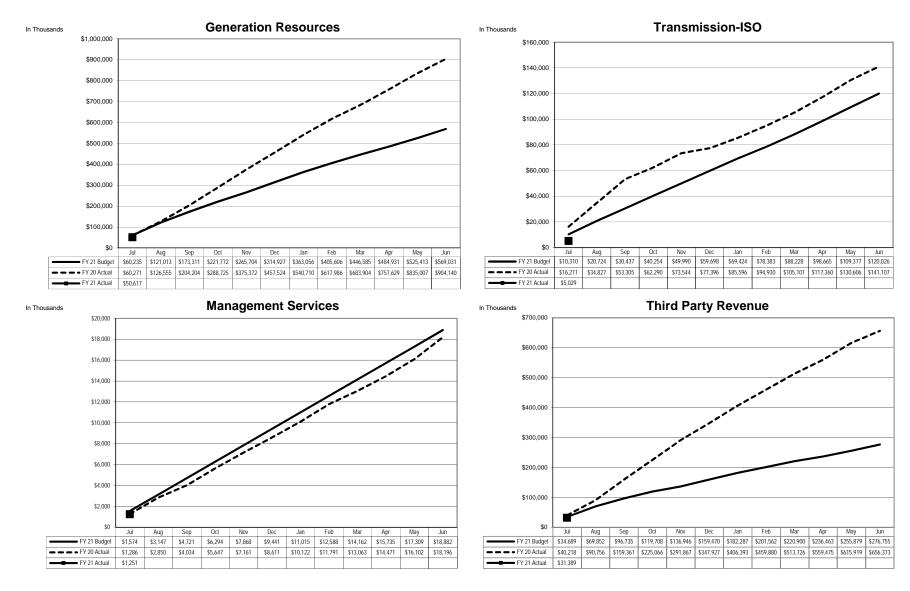
Annual Budget 2020-2021 Fiscal Year To Date As of July 31, 2020

In Thousands		Program	1	
	Annual		Under(Ovr)	YTD %
GENERATION RESOURCES	Budget	Actual	Budget	Remaining
NCPA Plants				
Hydroelectric	54,260	4,350	\$ 49,910	92%
Geothermal Plant	35,561	2,118	33,443	94%
Combustion Turbine No. 1	7,884	475	7,408	94%
Combustion Turbine No. 2 (STIG)	7,989	737	7,252	91%
Lodi Energy Center	92,551	5,176	87,376	94%
	198,246	12,856	185,390	94%
Member Resources - Energy	60,056	6,788	53,268	89%
Member Resources - Natural Gas Western Resource	2,442	345	2,097	86%
Market Power Purchases	29,870	2,625	27,245	91%
Load Aggregation Costs - ISO	27,423	2,788	24,634	90%
Net GHG Obligations	250,995	25,215	225,780	90%
Not one obligations	569,031	50,617	518,414	91%
TRANSMISSION	303,031	30,017	310,414	3170
Independent System Operator	120,026	5,029	114,997	96%
MANAGEMENT SERVICES				
Legislative & Regulatory				
Legislative Representation	2,180	116	2,065	95%
Regulatory Representation	715	54	661	92%
Western Representation	716	37	679	95%
Customer Programs	477	21	456	96%
Ī	4,088	227	3,861	94%
Judicial Action	460	-	460	100%
Power Management				
System Control & Load Dispatch	6,766	488	6,277	93%
Forecasting & Prescheduling	2,934	220	2,715	93%
Industry Restructuring	425	26	399	94%
Contract Admin, Interconnection Svcs & Ext. Affairs	1,000	80	920	92%
Gas Purchase Program	82	5	77	94%
Market Purchase Project	117	7	110	94%
	11,324	826	10,498	93%
Energy Risk Management	230	21	209	91%
Settlements	924	58	865	94%
Integrated System Support	266	52	214	80%
Participant Pass Through Costs	1,591	62	1,529	96%
Support Services	-	5	(5)	
-	18,882	1,251	17,631	93%
TOTAL ANNUAL BUDGET COST	707,939	56,898	651,041	92%
LESS: THIRD PARTY REVENUE				
Plant ISO Energy Sales	105,258	6,038	99,221	94%
Member Resource ISO Energy Sales	26,422	2,155	24,267	92%
Member Owned Generation ISO Energy Sales	69,679	5,896	63,784	92%
Customer Owned Generation ISO Energy Sales	-	13	(13)	
NCPA Contracts ISO Energy Sales	18,915	1,279	17,636	93%
Western Resource ISO Energy Sales	17,481	2,521	14,960	86%
Load Aggregation Energy Sales	-	14,757	(14,757)	
Ancillary Services Sales	3,988	309	3,679	92%
Transmission Sales	110	9	101	92%
Western Credits, Interest & Other Income	34,902	(1,588)	36,489	105%
	276,755	31,389	245,366	89%
NET ANNUAL BUDGET COST TO BARTICIDANTS	404.405	05 500	\$ 405.675	0.40/
NET ANNUAL BUDGET COST TO PARTICIPANTS	431,185	25,509	\$ 405,675	94%



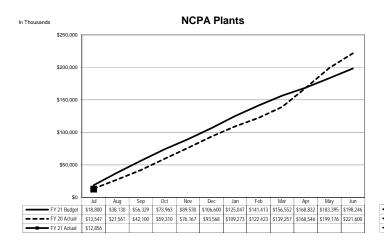


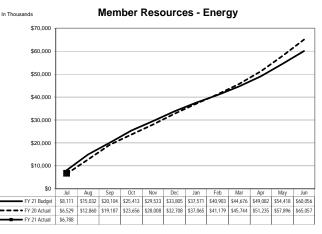
Annual Budget Budget vs. Actual By Major Area As of July 31, 2020

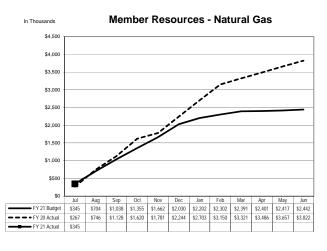


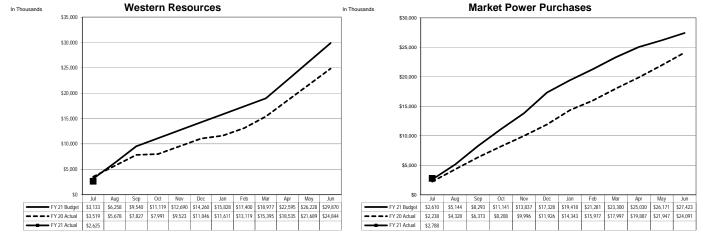
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

Annual Budget Cost Generation Resources Analysis By Source As of July 31, 2020



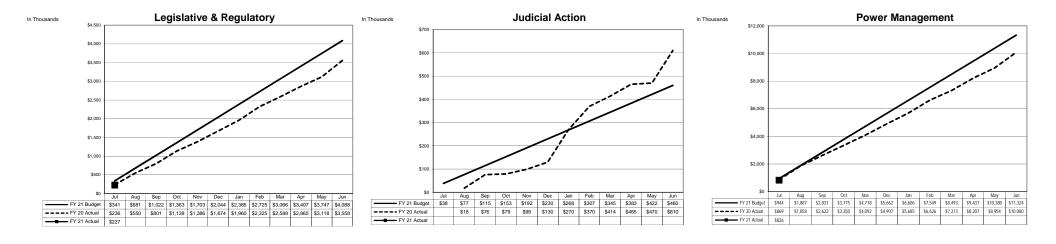


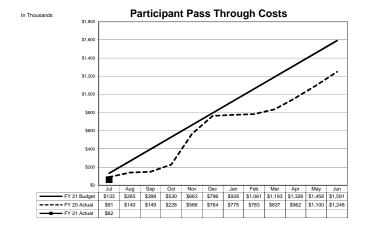




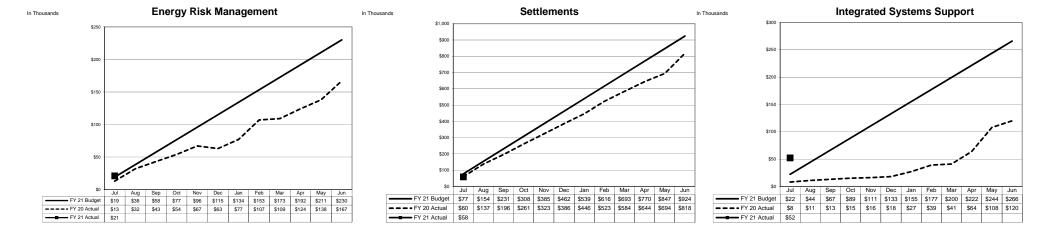
Footnote: Other Resources (Graeagle, BART PV, Gridley PV) are included in Market Power Purchases

Annual Budget Cost Management Services Analysis By Source As of July 31, 2020

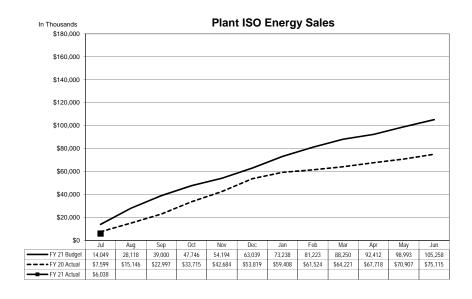


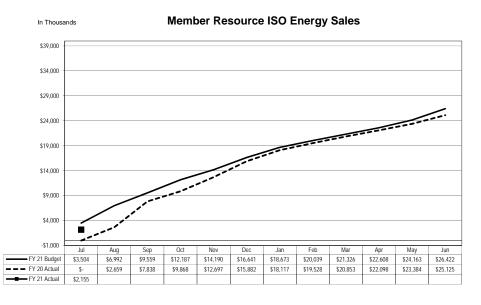


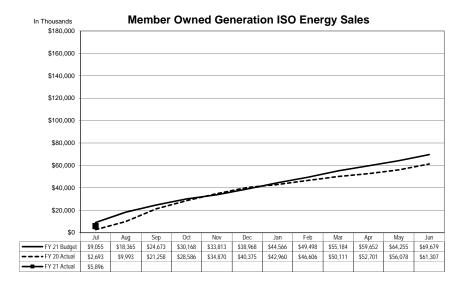
Annual Budget Cost Management Services Analysis By Source As of July 31, 2020

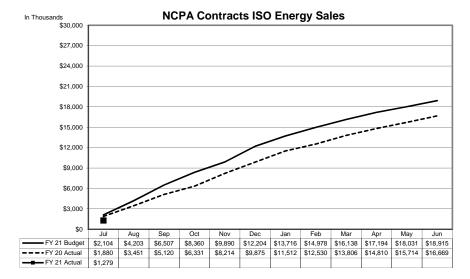


Annual Budget Cost Third Party Revenue Analysis By Source As of July 31, 2020

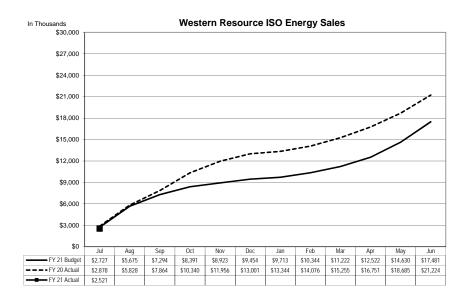


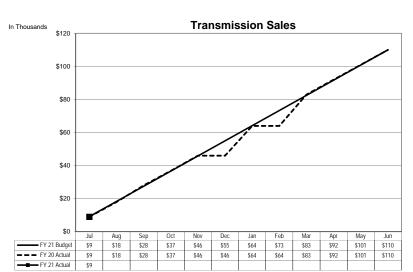


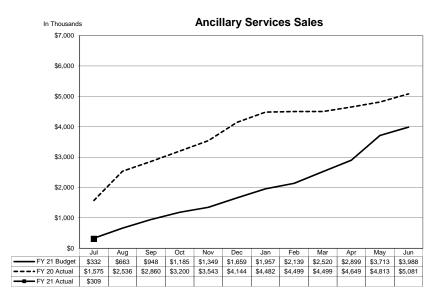


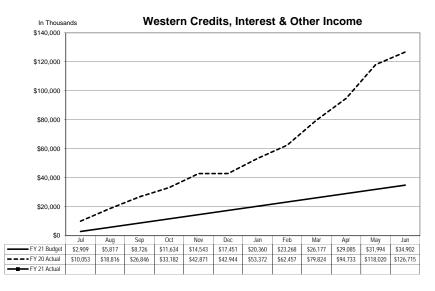


Annual Budget Cost Third Party Revenue Analysis By Source As of July 31, 2020









Annual Budget NCPA Generation Detail Analysis By Plant As of July 31, 2020

Generation Cost Analysis

\$ in thousands

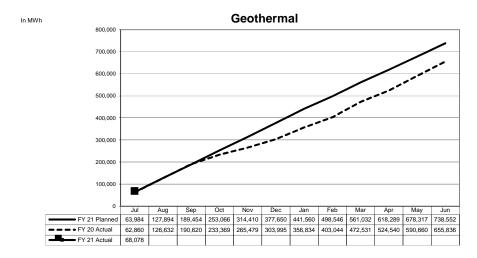
			Ged	othermal			
				\$/MWh	Ur	der(Over)	YTD %
	Budget	Actual		Actual		Budget	Remaining
Routine O & M	\$ 19,252	\$ 890	\$	13.08	\$	18,362	95%
Capital Assets/Spare Parts Inventories	2,585	167		2.45		2,418	94%
Other Costs	8,239	610		8.95		7,630	93%
CA ISO Charges	534	39		0.57		495	93%
Debt Service	4,950	413		6.06		4,538	92%
Annual Budget	35,561	2,118		31.11		33,443	94%
.ess: Third Party Revenue							
Interest Income	382	13		0.20		369	96%
ISO Energy Sales	25,811	1,907		28.01		23,904	93%
Ancillary Services Sales	-	-		-		-	
Effluent Revenues	750	(174)		(2.56)		924	123%
Misc	113	9		0.14		104	92%
	27,056	1,755		25.78		25,301	94%
Net Annual Budget Cost to Participants	\$ 8,506	\$ 363	\$	5.33	\$	8,143	96%
Net GenerationMWh @ Meter	738,552	68,078					
S/MWh (A)	\$ 4.81	\$ (0.72)					

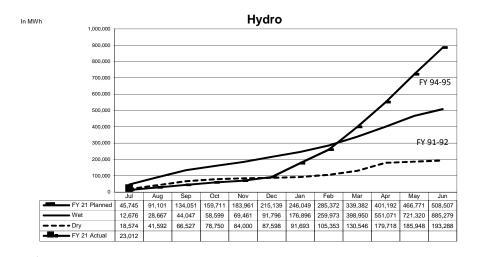
			Ну	droelectric	;		
				\$/MWh	U	nder(Over)	YTD %
	Budget	Actual		Actual		Budget	Remaining
Routine O & M	\$ 9,570	\$ 848	\$	36.86	\$	8,722	91%
Capital Assets/Spare Parts Inventories	365	365		15.84		-	0%
Other Costs	8,323	245		10.65		8,078	97%
CA ISO Charges	2,615	110		4.78		2,505	96%
Debt Service	33,388	2,782		120.91		30,606	92%
Annual Budget	54,260	4,350		189.04		49,910	92%
Less: Third Party Revenue							
Interest Income	670	16		0.71		654	98%
ISO Energy Sales	22,147	1,109		48.18		21,039	95%
Ancillary Services Sales	2,276	245		10.65		2,031	89%
Misc	-	-		-		-	
	25,094	1,370		59.54		23,723	95%
Net Annual Budget Cost to Participants	\$ 29,167	\$ 2,980	\$	129.50	\$	26,187	
Net GenerationMWh @ Meter	508,507	23,012					
\$/MWh (A)	\$ (8.30)	\$ 8.59					

Footnotes:

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

MWhs Generated





Annual Budget NCPA Generation Detail Analysis By Plant As of July 31, 2020

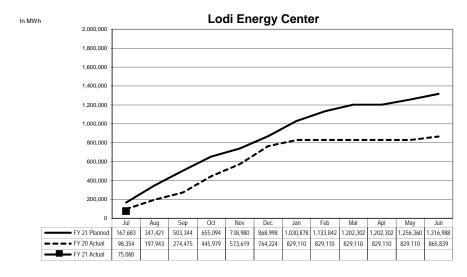
Generation Cost Analysis

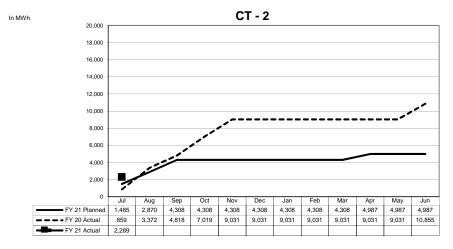
		Loc	di E	nergy Ce	nter	•	
				\$/MWh	Ur	nder(Over)	YTD %
	Budget	Actual		Actual		Budget	Remaining
Routine O & M	\$ 14,463	\$ 858	\$	11.44	\$	13,605	94%
Fuel	32,956	1,373		18.30		31,582	96%
CA ISO Charges and Energy Purchases	3,831	173		2.30		3,658	95%
Capital Assets/Spare Parts Inventories	2,906	353		4.70		2,553	88%
Other Costs	12,372	250		3.33		12,122	98%
Debt Service	26,024	2,169		28.89		23,855	92%
Annual Budget	92,551	5,176		68.95		87,376	94%
Less: Third Party Revenue							
Interest Income	386	19		0.25		367	95%
ISO Energy Sales	55,590	2,748		36.62		52,842	95%
Ancillary Services Sales	1,712	41		0.54		1,671	98%
Transfer Gas Credit	-	-		-		-	0%
GHG Allowance Credits	8,463	-		-		8,463	100%
Misc	-	1		0.01		(1)	0%
	66,151	2,809		37.42		63,343	96%
Net Annual Budget Cost to Participants	\$ 26,400	\$ 2,367	\$	31.53	\$	24,033	91%
Net GenerationMWh @ Meter	1,316,988	75,060				<u>-</u>	
S/MWh (A)	\$ 0.29	\$ 2.64					

		-	Combustic	on	Turbine N	о.	2 (STIG)	
					\$/MWh	ι	Jnder(Over)	YTD %
	Budget		Actual		Actual		Budget	Remaining
Routine O & M	\$ 1,584	\$	138	\$	60.23	\$	1,446	91%
Fuel and Pipeline Transport Charges	910		97		42.57		813	89%
Capital Assets/Spare Parts Inventories	37		-		-		37	100%
Other Costs	593		37		16.24		555	94%
CA ISO Charges	40		62		27.27		(22)	-55%
Debt Service	4,826		402		175.71		4,424	92%
Annual Budget	7,989		737		322.01		7,252	91%
Less: Third Party Revenue								
Interest Income	109		5		2.27		103	95%
ISO Energy Sales	399		137		60.02		261	66%
Ancillary Service Sales	-		-		-		-	0%
Fuel and Pipeline Transport Credits	1,821		73		32.11		1,747	96%
GHG Allowance Credits	43		-		-		43	100%
Misc	-		-		-		-	0%
	2,371		216		94.39		2,155	91%
Net Annual Budget Cost to Participants	\$ 5,618	\$	521	\$	227.63	\$	5,097	91%
Net GenerationMWh @ Meter	4,987		2,289					
\$/MWh (A)	\$ 158.75	\$	51.92					

Footnotes:

MWhs Generated





Annual Budget NCPA Generation Detail Analysis By Plant As of July 31, 2020

Generation Cost Analysis

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

		Combu	ısti	ion Turbin	e N	o. 1	
	Budget	Actual		\$/MWh Actual		der(Over) Budget	YTD % Remaining
Routine O & M	\$ 2,320	\$ 273	\$	417.55	\$	2,047	88%
Fuel and Pipeline Transport Charges	937	16		24.55		921	98%
Capital Assets/Spare Parts Inventories	3,667	108		165.41		3,559	97%
Other Costs	866	58		88.11		808	93%
CA ISO Charges	94	20		30.08		74	79%
Debt Service	-	-				-	
Annual Budget	7,884	475		725.70		7,408	94%
Less: Third Party Revenue Interest Income		3				(3)	
ISO Energy Sales	1,311	137		208.45		1,175	90%
Ancillary Services Sales	-	-		-		-	0%
Misc	 -	-		-		-	0%
	1,311	139		208.45		1,172	89%
Net Annual Budget Cost to Participants	\$ 6,572	\$ 336	\$	512.75	\$	6,236	95%
Net GenerationMWh @ Meter	15,641	655					
\$/MWh (A)	\$ 420.19	\$ 512.75	1				

Footnotes:

MWhs Generated

