



January

BUSINESS PROGRESS REPORT

2022



Northern California Power Agency
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Generation Costs & Reliability

Combustion Turbine Project

Unit Operation for December 2021

Unit	Availability		Production		Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	191.0 MWh	CAISO / CAISO
	100.0%	100.0%	Unit 2	193.8 MWh	
Curtailments, Outages, and Comments:					
Unit 1: Normal Operation					
Unit 2: Normal Operation.					
Unit	Availability		Production		Reason for Run
CT1 Lodi	100%		375.8	MWh	CAISO
Curtailments, Outages, and Comments:					
Normal Operation.					
Unit	Availability		Production		Reason for Run
CT2 STIG	97.8%		459.2	MWh	CAISO
Curtailments, Outages, and Comments:					
12/13 @ 19:18 - 12/14 @ 10:46; Scavenge Oil Temp Indication, OMS 11122071 12/20 @ 15:31 - 17:00; Trip on Start-Up, OMS 11152845					
Unit	Availability		Production		Reason for Run
LEC	84.0%		115,356	MWh	CAISO
Curtailments, Outages, and Comments:					
12/03 @ 00:00 - 12/07 @ 15:58; HP Steam Bypass Valve & HP Economizer Tube Leak Repair, OMS 11058793					

Maintenance Summary – Specific per asset above.

Geothermal Facilities

Availability/Production for December 2021

Unit	Availability	Net Electricity Generated/Water Delivered	Out-of-Service/Descriptors
Unit 1	83.60 %	17,101 MWh	U1 was offline 12/11/21 0400 until 12/16/21 1800 for stretford and H2 system repairs
Unit 2	93.68 %	*19,662 MWh	U2 was offline 12/11/21 0400 until 12/13/21 0300 for stretford repairs
Unit 3	N/A %	N/A	Unit 3 remains out of service.
Unit 4	99.80 %	29,940 MWh	U4 was offline 12/20/21 2256 until 12/31/21 0036 due to failed bearing vibration probe
Southeast Geysers Effluent Pipeline	73 %	50.6 mgallons	Average flow rate: 1,145 gpm
Southeast Solar Plant	N/A	46,863 KWh	Year-to-date KWh: 4,381,329
Bear Canyon Pump Station Zero Solar	N/A	30,792 KWh	Year-to-date KWh: 6,277,068

* Accounts for an additional 469 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

Hydroelectric Project

Availability/Production for December 2021

Units	Availability	Net Electricity Generated	Out-of-Service
Collierville Unit 1	100%	15775 MWh	CV Unit 1 – No Outages
Collierville Unit 2	97.2%	9276 MWh	CV Unit 2 – Out of Service on 12/11/21 from 1007 to 1536 and on 12/18/21 to 12/19/21 from 0757 to 1138 for Main Transformer bushing Leak.
Spicer Unit 1	50.55%	0 MWh	NSM1- Out of Service on 12/1/21 to 12/9/21 from 0600 to 1249 for PG&E transmission work and from 12/10/21 to 12/17/21 from 0744 to 1625 for Unit failed to Start
Spicer Unit 2	60.86%	44.6 MWh	NSM2- Out of Service on 12/1/21 to 12/9/21 from 0600 to 1249 for PG&E Transmission work and on 12/13/21 to 12/17/21 from 1730 to 1352 for TIGO.
Spicer Unit 3	57.80%	114 MWh	NSM3- Out of Service on 12/1/21 to 12/9/21 from 0600 to 2359 for PG&E Transmission work and on 12/13/21 to 12/17/21 from 1730 to 1405 for TIGO.

Operations & Maintenance Activities:

- CMMS work orders
- Completed supplemental data request submittal to USGS -USGS annual audit commenced
- Completed 2021 Lake Alpine masonry, gunite repairs
- Completed and filed annual FERC security compliance filing
- Completed and filed Project 11563 DSSMR to FERC and DSOD
- Filed SWRCB Monthly Enhanced Water Rights Report
- Completed vegetation maintenance in Collierville ditch
- Graded/rolled and pulled ditches of North Fork Road

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

- There were no vehicle, Cal OSHA recordable incidents, or Lost Time accidents in the month of December.
- 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 December 18, 2021.
- 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.

December 2021 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	1	0	0
Days since Recordable	433	57	2,448	3,432
Work Hours Since Last Recordable	37,534	11,427	368,560	2,759,580
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	5,182	2,311	10,352	6,445
Work Hours without LTA	470,104	175,637	779,104	2,381,598
Vehicle Incident (month)	0	0	0	0
Vehicle Incident (calendar year)	0	1	0	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 December 18, 2021.

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 2021 Data

	December 2021		Calendar Year 2021	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	337.94 12/15 @ 1800	196,142	440.56 6/17 @ 1700	2,252,533
SVP	534.48 12/13 @ 1200	365,484	591.96 8/27 @ 1500	4,133,860
MSSA	870.98 12/15 @ 1800	561,626	1025.46 6/17 @ 1700	6,386,393

Last Year 2020 Data*

	December 2020		Calendar Year 2020	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	318.8 12/16 @ 1800	194,264	467.45 8/14 @ 1700	2,275,007
SVP	481.07 12/1 @ 1800	328,537	586.3 8/14 @ 1700	3,850,854
MSSA	795.83 12/1 @ 1800	522,801	1053.75 8/14 @ 1700	6,125,861

* Last year's data added for comparison purposes only

System Peak Data

	All Time Peak Demand	2021 Peak Demand
NCPA Pool	517.83 MW on 7/24/06 @ 1500	440.56 6/17 @ 1700
SVP	591.96 MW on 8/27/21 @ 1500	591.96 8/27 @ 1500
MSSA	1070.79 MW on 9/1/17 @ 1700	1025.46 6/17 @ 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		
	December 2021	Calendar Year 2021
MSSA % Within the Band	99.27%	98.03%

- There were no PG&E PSPS events or CAISO Alerts, Warnings, or Emergency notifications this month.
- CAISO Real-time Contingency Dispatch (RTCD)
 - 0815 hours, 12/5/21

Pooling, Portfolio Planning & Forecasting

- NCPA Pool load during December 2021 was 196,142 MWh versus the budget forecast of 189,751 MWh, resulting in a forecast error of -3.26%. The forecast error was larger this month as the Pool's actual temperatures were below average. The current weather outlook for January 2022 is for normal temperatures for the Bay Area and the inland Valley. The Pool January load forecast is 196,060 MWh compared with extrapolated actuals of 195,654 MWh as of January 10, 2022.
- Lodi Energy Center (LEC) ran 447 hours out of a possible 744 producing 115,363 MWh. Natural gas and power prices are significantly higher than a year ago due to the low reservoir levels throughout the state. January margins are expected to fall as gas prices strengthen relative to power prices. Winter gas-fired generation will likely be strong since the January storm window seems to be closed for at least the next 10 days.
- During December 2021, 10.11" of rain was recorded at the Big Trees gauge. December average rainfall at Big Trees is 7.02". The December storms were enough to increase storage at New Spicer Meadows by just over 3,000acft.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) has remained at \$300/MWh. Releases from NSMR are just enough to maintain the November 1st winter minimum Big Trees flows of 100 CFS.
- New Spicer Meadows storage as of December 31, 2021 was 65,282 acre feet. The historical average storage at the end of December is 80,489 acre feet. As of January 11th storage was 66,459 acre feet.
- Combined Calaveras Project generation for the Pool in December 2021 totaled 13,596 MWh, up from 7,404 MWh in November 2021. The Pool's 13,596 MWh in December 2021 was substantially higher than its forecast due to the better than average December precipitation.
- Western Base Resource (BR) deliveries for the Pool during December 2021 were 1,094 MWh. Displacement program energy totaled 0 MWh. The Pool's share of expected total delivery from the Western Base Resource for January 2022 is 2,700 MWh.
- The PG&E Citygate gas index averaged \$5.74 / MMBtu during the month of December as compared to an average of \$6.08 for November. January's current average price is \$5.70. Both NYMEX gas and basis prices soften due to less gas generation needed during the start of the winter season. The current cold wave in the Eastern United States will put upward pressure on gas prices. The February 2022 PG&E Citygate forward price is \$5.62 / MMBtu.
- Day-Ahead PG&E DLAP electricity prices for December averaged \$64.22 / MWh On-Peak and \$59.91 Off-Peak, with a high of \$125.32. For the dates of January 1st through 11th, 2022 prices have averaged \$64.22 On-Peak and \$56.91 Off-Peak. The forward prices for February are \$65.91 On-Peak and \$55.48 Off-Peak.

Industry Restructuring, Contracts and Interconnection Affairs

Resource Adequacy Compliance Filings

- NCPA made the following Resource Adequacy compliance filings with the CAISO for the compliance period of March 2022:
 - Monthly System Resource Adequacy Demonstration (filed January 15, 2022)
 - Monthly Supply Plan (filed January 15, 2022)

Industry Restructuring

NCPA is actively participating in a number of CAISO stakeholder initiatives on behalf of the members. The following is a brief description of key active initiatives:

Extended Day-Ahead Market

- CAISO held a Foundational Workshop on November 12, 2021 where staff provided a high level overview of EDAM, common EDAM design principles, EDAM initiative scope topics, described the stakeholder working groups/structure, reviewed the EDAM market design timeline, and took questions and comments in an open forum.
 - EDAM is a voluntary expansion of CAISO's real-time Western Energy Imbalance Market into the Day Ahead timeframe. EDAM is not equivalent to becoming a full member of CAISO or any other RTO. Transmission control, planning, and cost allocation remains with the member entity and it is unlikely that EDAM will result in a single, unified transmission rate across the EDAM footprint. Resource Adequacy and Resource Planning will continue to remain with member entities and their respective regulating authorities. EDAM is not intended to result in any changes to state regulatory authority. EDAM benefits include potential production cost savings through more efficient day-ahead hourly trading, day-ahead unit commitment, use of transmission across larger footprint, more cost-effective day ahead solution serving load with increased load and generation diversity, and lastly potential environmental benefits.
 - Common design principles/scope are voluntary participation requires minimum commitment, maximize the amount of transmission made available to EDAM, while respecting the existing OATT framework and contractual commitments, provide certainty to the EDAM market participants as to the amount of participating load and resources, utilize congestion rent allocation between balancing authority areas to hold transmission customers harmless without creating new uplifts, congestion rent allocation distribution to LSEs and transmission customers in an equitable and implementable manner, achieve high level of confidence in EDAM transfers by considering them as firm transfers serving load, account for GHG costs of EDAM transfers equitably, stay consistent with state policies of different participating entities, and consider price formation concepts.
 - Three public working groups will cover Supply Commitment & Resource Sufficiency Evaluation, Transmission Commitment & Congestion Rent Allocation, GHG Accounting and Costs. CAISO will publish meeting minutes. Working group deliverables to be determined. Working group deliverables will be used to craft straw proposals.
 - EDAM policy will be developed in 2022, implemented in 2023, and will become open for participating in 2024.

Resource Adequacy Enhancements

- CAISO delayed further work on RA Enhancements until 2022 in order to align bid insertion, must offer obligation, and flexible RA proposals with DAME and EDAM.

Day-Ahead Market Enhancements

- CAISO resuming initiative with November 30, 2021 day-ahead market overview session and Q4 2021 stakeholder working group.

Transmission Access Charge Structure Enhancements

- CAISO classified TACSE as a “Discretionary Initiative” in the latest Policy Roadmap and Annual Plan with no estimated implementation date.
- Initiative is currently on hold pending developments from EDAM initiative.
- 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 2022 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.

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-21	90,622	64,857	(25,765)	\$1,943,287	\$ 29.96	\$ 0.50	\$ 48.51
Aug-21	67,967	54,903	(13,064)	\$1,943,287	\$ 35.39	\$ (0.06)	\$ 49.58
Sep-21	28,320	34,068	5,748	\$1,849,800	\$ 54.30	\$ (0.13)	\$ 50.66
Oct-21	22,710	25,992	3,282	\$759,202	\$ 29.21	\$ 0.59	\$ 49.01
Nov-21	8,712	-	(8,712)	\$759,202	\$ 87.14	\$ -	\$ 49.25
Dec-21	7,036	1,094	(5,942)	\$759,202	\$ 693.97	\$ 1.31	\$ 50.71
Jan-22	5,620	-	0	\$759,202	\$ 135.09	\$ -	\$ 50.49
Feb-22	14,806	-	0	\$759,202	\$ 51.28	\$ -	\$ 48.23
Mar-22	21,003	-	0	\$759,202	\$ 36.15	\$ -	\$ 47.15
Apr-22	55,270	-	0	\$1,735,370	\$ 31.40	\$ -	\$ 43.18
May-22	90,965	-	0	\$1,735,370	\$ 19.08	\$ -	\$ 37.05
Jun-22	86,068	-	0	\$1,735,370	\$ 20.16	\$ -	\$ 34.15
1/ As forecasted in NCPA 21/22 Budget 2/ = (Western Cost + Restoration Fund)/BR Delivered, for Pool Participants only. 3/ = (MEEA LMP - PG&E LAP LMP) using public market information (i.e. not settlement quality). 4/ Based on BR Delivered (Actual) when available and BR Forecast in all other cases. Includes CAISO LMP impact.							

- NCPA Pool received 1,094 MWh of Base Resource (BR) energy in December 2021. There was zero MWh of Displacement Energy as the program is temporary suspended due to limited base resource availability forecast. At this time displacement program is suspended from November 2021 through March 2022. The displacement program is scheduled to resume operations on April 1, 2022.
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) was approximately \$1,400 in December 2021. The cumulative MEEA savings for FY2022 is approximately \$42,200 for July 2021 through December 2021.

Interconnection Affairs

PG&E Update

TO-18 Rate Case

- On October 15, 2020 FERC issued a ruling on the PG&E Transmission Owner Tariff 18 Filing.
- The ruling came over four years after the initial filing and over two years from an initial favorable decision back in 2018.
- The ruling is not the end of TO-18 as FERC has requested further testimony and briefs on ROE matters. The initial decision reduced ROE from 10.40% to 9.13%.
- Once ROE is decided, TO-18 rates will be effective for a 12-month period from March 1, 2017 – Feb 28, 2018.
- TO-19, which was settled at a TRR of 98.85% of TO-18 will be effective for a 14-month period from March 1, 2018 – April 30, 2019.
- FERC denied all PG&E requests for rehearing on non-ROE issues and directed further briefing on ROE. PG&E has appealed and NCPA has intervened in that appeal. Paper hearing on ROE awaiting FERC order. Appeal of non-ROE issues pending in DC Circuit Court.

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.
- NCPA and PG&E operating procedure is complete.
- Use of the intertie switch is still pending CEC approval. CEC application submission is complete and CEC has also issued initial data request. Interim solution if necessary will be to use the temporary jumpers as in Jan of 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.
- In Feb 2021, PG&E came across an opportunity to engage in mediation with CDWR to address the cost of removal issue. NCPA has agreed to join the mediation with PG&E.

PG&E RY2022 Formula Rate

In July 2021, PG&E proposed the following RY2022 transmission rates:

PG&E Wholesale Rates	Settled w/ Credits (Current)	As Filed RY 2022	% Change
Revenue Requirement	\$2B	\$2.6B	30%
HV TAC (\$/MWH)	\$9.77	\$12.80	31%
LV TAC (\$/MWH)	\$13.34	\$17.76	33%

Major contributing factors were:

- \$176M increase to A&G expenses
- \$143M increase to O&M expenses
- \$43M increase to Depreciation Expense
- \$30M increase to Income Taxes

Stakeholders/Joint Interveners (TANC, CPUC, CDWR, and Six Cities) engaged in the 2022 TRR review process to negotiate with PG&E over amounts found to be excessive or unsupported.

The following PG&E Area only rates became effective Jan 1, 2022:

PG&E Wholesale Rates	As Filed RY 2022	Effective RY 2022	Delta	% Change
Revenue Requirement	\$2.6B	\$2.6B	\$0.00	0
HV TAC (\$/MWH)	\$12.80	\$12.62 ¹	\$0.18	1%
LV TAC (\$/MWH)	\$17.76	\$17.51	\$0.25	1%

Several items are still pending/outstanding. Notable items are the tower coating program where PG&E wishes to capitalize expenditures and the RTO adder appeal. TANC estimates a favorable ruling in the RTO adder appeal would reduce the access charge by about \$0.38/MWh.

Note¹: the HV rate is PG&E specific, does not take into account all regional IOU revenue requirements, and loads. TANC estimates the regional HV TAC would be approximately \$16.53/MWh.

Debt and Financial Management

- At its December meeting, the Federal Reserve began plans to start cutting the amount of bonds it is holding, with members saying that a reduction in the balance sheet likely will start sometime after the central bank begins raising interest rates, according to minutes released Wednesday. Market expectations currently are for the Fed to start raising its benchmark interest rate in March, which would mean that balance sheet reduction could start before summer. While the Fed kept its benchmark interest rate anchored near zero, officials also indicated that they foresee up to three, quarter-percentage point increases in 2022, as well as another three hikes in 2023 and two more the year after that.
- The Labor Department said the consumer-price index rose 7% in December from the same month a year ago, up from 6.8% in November. That was the fastest pace since 1982 and marked the third straight month in which inflation exceeded 6% putting the biggest pressure on prices. The core price index, which excludes the often-volatile categories of food and energy, climbed 5.5% in December from a year earlier. That was a bigger increase than November's 4.9% rise, and the highest rate since 1991.
- In early January, staff began the process of reviewing/editing the documents required to refund the 2012A Hydroelectric bonds and termination of the 2008A interest rate swap. Over the next month, staff and staff of the significant share participants (Alameda, Lodi, Palo Alto, Roseville, and Santa Clara) will be focused on finalizing these documents for the rating agencies, Committee recommendation, and Commission approval.

Schedule Coordination Goals

Software Development

- Applications and Enhancements under development
 - Development of the Renewable Portfolio Standards application continues and data validation continues. Rollout delayed pending completion of other higher priority projects
 - IS team deploying apps in the test environment to test the Oracle 2019 database and testing is on-going
- Customer and Resource Integration
 - Four of South Feather Water and Power Agency Resources successfully integrated and began scheduling as of 12/19/2021
 - EBCE's Henrietta D Battery Storage, first ever Non-Generator Resource for NCPA, integration was successfully rolled out for the January 1, 2022 schedule.
- Accounting software, MS Dynamics GP, successfully upgraded to the latest patch for the CY2022.

Network

- SCADA and Networking team continue to work with a variety of customers in an effort to integrate several new wind, solar and hydro resources,
 - Sky River Wind – SCADA point and logic testing has been completed and Dispatch controls are ready to be implemented in January.
 - Henrietta D – SCADA visibility and communications to the units have been completed. Battery and Generation values are being submitted to the Siemens fluence for Bid Optimization strategy using the PI Web interface as a data transport.
 - South Feather Water and Power – NCPA successfully integrated the primary Dispatch and Scheduling functions with the 4 SFPWA units. Currently working on automating the Automatic Dispatch Instructions including RTC.

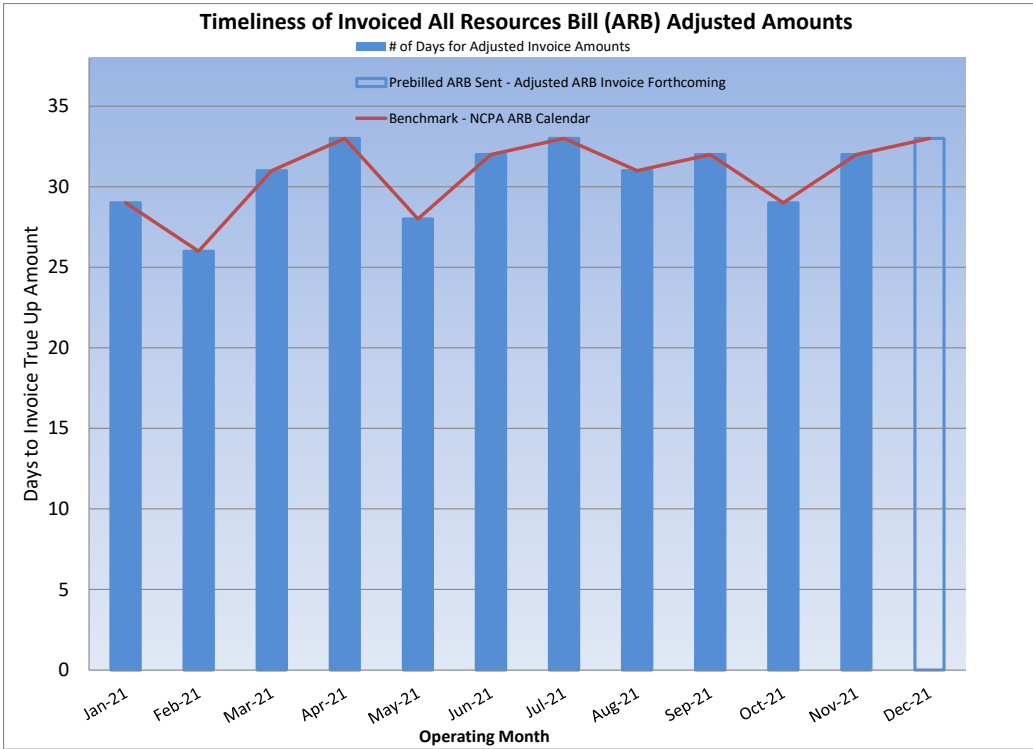
- Operations and Support has completed the reviews of the VOIP project and have awarded Integration Partners the bid of providing an Avaya solution as an Enterprise phone system replacement. Working with Integration Partners and Generation Services to finalize the details of the pending work.
- Oracle 2019 is currently being tested with the anticipation of it replacing the current Oracle 11 and 12 versions in production. Application testing has started and staff is preparing for a full upgrade in early 2022.

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 December 2021 NCPA All Resources Bill (ARB) monthly invoice sent to members on November 23, 2021 contains:

- December 2021 monthly pre-billed budget/forecast amounts;
- October 2021 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- September 2021 (2nd Adjustment) NCPA Project settlement true-up and T+20 business day recalculated CAISO settlement true-up allocations;
- July 2021 (3rd Adjustment) T+70 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- N/A (4th Adjustment) T+11 month recalculated CAISO settlement true-up allocations;
- March 2020 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- December 2018 (6th Adjustment) T+33 month recalculated CAISO settlement true-up;
- September 2018 (7th Adjustment) T+36 month CAISO settlement true-up;



Legislative & Regulatory

Federal & State Legislative Update

- Two RFPs were released in December in order to secure both a State Legislative Consultant and a Federal Legislative and Regulatory Consultant, as the existing contracts for these services are expiring in March 2022. Responses for both RFPs are due in January, and contracts are expected to be in place by March 2022.

Customer Program Update

- NCPA issued a Request for Proposals (RFP) in December to secure fuel pathway application and verification services related to Low Carbon Fuel Standard (LCFS) credits. Members have expressed interest in the development of fuel pathways for compressed natural gas (CNG), renewable natural gas (RNG), and large hydroelectric resources, and have asked for assistance in contracting with one or more Consultants to assist. Additionally, LCFS fuel pathways must undergo a verification process, and agreements with certified verification entities are needed. Responses are due by January 18, 2022, and agreements are expected to be in place in March 2022.

Human Resources

Hires

- Michael Hicks joined the Agency's Hydroelectric Facilities as a Hydro Technician (Communications), effective January 3, 2022. Michael joins us from NVENERGY in Reno, NV. There he was a Systems Technician supporting the communications backbone monitoring and controlling the power infrastructure for the majority of the state of Nevada. Previously, Michael worked for AT&T and brings over 25 years of experience in the telecommunications industry.

Intern Hires

- None

Promotions

- Randy Bowersox was promoted to Assistant General Manager of Generation Services. Randy brings a wealth of experience to the position, as demonstrated through his many accomplishments during the last 14 years at NCPA's hydro facilities. As Hydroelectric Plant Manager, Randy has established himself as an exceptional leader, responsible for all operations, maintenance, capital improvement, and engineering decisions. He has extensive experience interacting with legislative and regulatory agencies and working closely coordinating activities with our Legislative and Regulatory Affairs Department. Randy has a Bachelor of Science degree in Electrical Engineering and Master Degree in Civil and Environmental Engineering from the University of California, Davis. As well, he completed his Master in Business Management from the University of California, Davis.
- Amber Summersett was promoted to Materials/Warehouse Coordinator II. Amber joined the Agency in 2016 as a Materials/Warehouse Coordinator I to coordinate the development and administration of bids, contracts and purchase orders, and to manage the Hydro warehouse. She is a Certified Professional Public Buyer (CPPB). Amber holds an Accounting certificate from Salem State University, a Bachelor of Science degree in Business Administration from California State University, Chico and is a Certified Public Accountant (CPA).

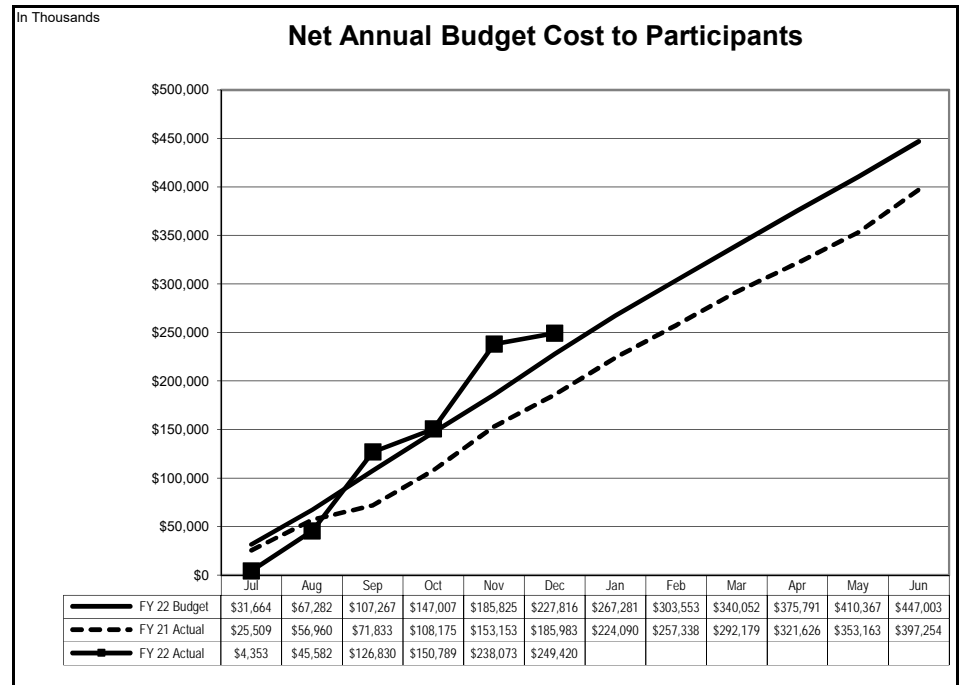
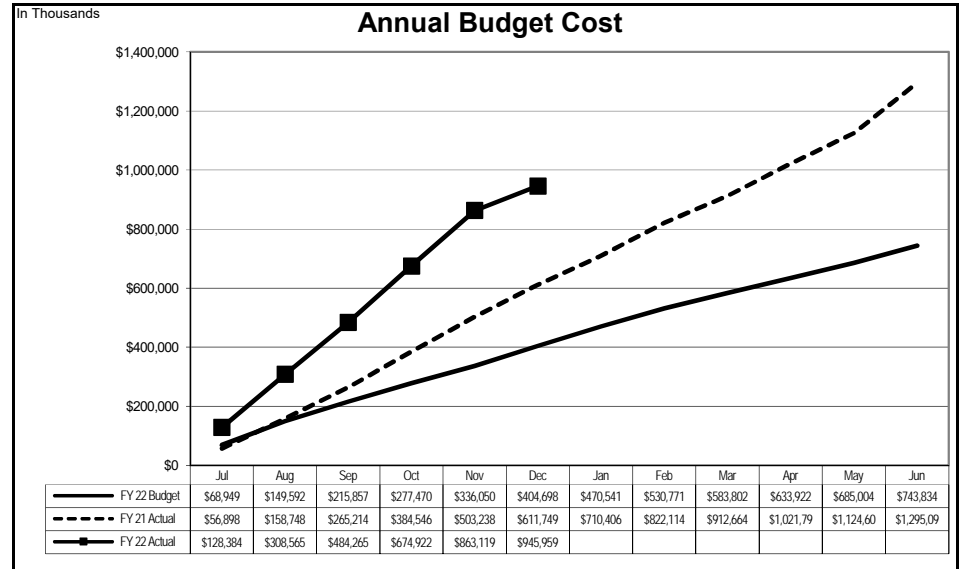
- Melissa Philpot was promoted to Materials/Warehouse Coordinator II. Melissa joined the Agency in 2008 as a temporary employee in the Human Resources department at Headquarters. In March of 2009, Melissa was hired as a full-time Facility Office Administrator at the Lodi Energy Center until 2010 when she was promoted to Materials/Warehouse Coordinator I to coordinate the development and administration of contracts, purchase orders and bids. Melissa holds a Bachelor of Science degree in Business Administration from San Jose State University.
- Precila Delos Reyes was promoted to Computer Technology Analyst IV. Precila joined the Agency in 2014 as a Computer Technology Analyst III programmer to develop customized computer applications to automate workflow and reduce manual processes. Precila holds a Bachelor's degree in Computer Science from University of the East, Philippines.
- Mark Heaton was promoted to a Computer Technology Analyst IV. Since his arrival to NCPA in 2017 as a Computer Technology Analyst III, Mark has completed many successful SCADA projects including several customer and member resource integrations. This has included onboarding Placer County Water Agency, Merced Irrigation District, Rosamond Solar, Central 40 Solar, Altamont Wind and currently South Feather Water and Power into our Dispatch SCADA System just to name a few. Mark holds a Bachelor's degree in Computer Information Systems from California State University, Stanislaus.

Separations

- Daniel McCready retired from his position as an Operator Technician V with the Geothermal Facilities Operations Department on December 28, 2021. The Agency thanks Dan for over 26 years of service with NCPA and wishes him all the best in retirement!

**Annual Budget
2021-2022 Fiscal Year To Date
As of December 31, 2021**

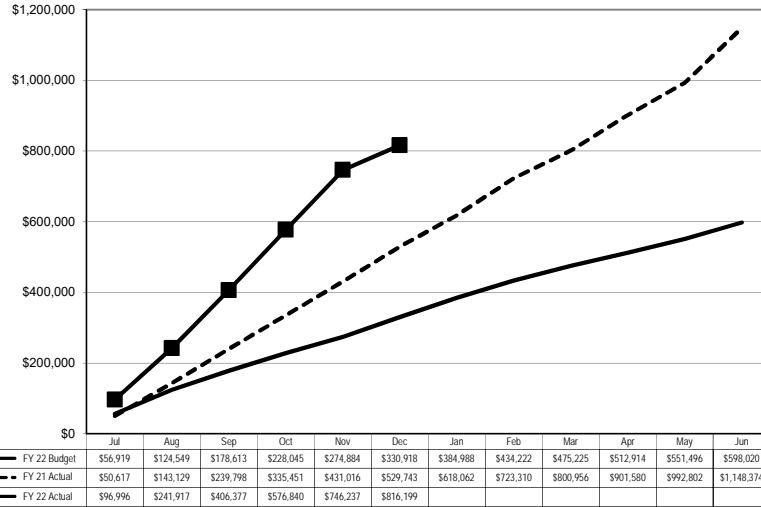
In Thousands	Program			
	Annual Budget	Actual	Under(Ovr) Budget	YTD % Remaining
GENERATION RESOURCES				
NCPA Plants				
Hydroelectric	54,081	28,315	\$ 25,766	48%
Geothermal Plant	40,662	20,035	20,627	51%
Combustion Turbine No. 1	7,055	3,878	3,177	45%
Combustion Turbine No. 2 (STIG)	8,962	4,851	4,111	46%
Lodi Energy Center	88,813	87,794	1,019	1%
	199,574	144,873	54,701	27%
Member Resources - Energy	67,417	39,304	28,112	42%
Member Resources - Natural Gas	2,981	3,848	(866)	-29%
Western Resource	27,302	11,239	16,063	59%
Market Power Purchases	17,225	27,420	(10,195)	-59%
Load Aggregation Costs - ISO	282,244	588,909	(306,665)	-109%
Net GHG Obligations	1,277	606	671	
	598,020	816,199	(218,179)	-36%
TRANSMISSION				
Independent System Operator	126,573	119,897	6,676	5%
MANAGEMENT SERVICES				
Legislative & Regulatory				
Legislative Representation	2,101	810	1,291	61%
Regulatory Representation	634	302	332	52%
Western Representation	694	261	432	62%
Customer Programs	481	196	285	59%
	3,911	1,570	2,341	60%
Judicial Action	300	618	(318)	-106%
Power Management				
System Control & Load Dispatch	7,427	3,356	4,071	55%
Forecasting & Prescheduling	2,811	1,335	1,476	53%
Industry Restructuring	423	193	230	54%
Contract Admin, Interconnection Svcs & Ext. Affairs	975	467	507	52%
Gas Purchase Program	81	29	52	65%
Market Purchase Project	116	44	72	62%
	11,833	5,424	6,409	54%
Energy Risk Management	198	49	150	75%
Settlements	975	408	567	58%
Integrated System Support	307	220	87	28%
Participant Pass Through Costs	1,718	751	967	56%
Support Services	-	824	(824)	
	19,242	9,864	9,378	49%
TOTAL ANNUAL BUDGET COST	743,834	945,959	(202,125)	-27%
LESS: THIRD PARTY REVENUE				
Plant ISO Energy Sales	101,640	117,565	(15,925)	-16%
Member Resource ISO Energy Sales	34,353	25,489	8,864	26%
Member Owned Generation ISO Energy Sales	83,030	69,837	13,194	16%
Revenue from Customers	-	91,245	(91,245)	
Customer Owned Generation ISO Energy Sales	-	5	(5)	
NCPA Contracts ISO Energy Sales	12,615	24,198	(11,583)	-92%
Western Resource ISO Energy Sales	19,297	13,993	5,304	27%
Load Aggregation Energy Sales	-	313,712	(313,712)	
Ancillary Services Sales	4,317	6,194	(1,877)	-43%
Transmission Sales	110	55	55	50%
Western Credits, Interest & Other Income	41,469	34,247	7,222	17%
	296,831	696,539	(399,709)	-135%
NET ANNUAL BUDGET COST TO PARTICIPANTS	447,003	249,420	\$ 197,583	44%



Annual Budget Budget vs. Actual By Major Area As of December 31, 2021

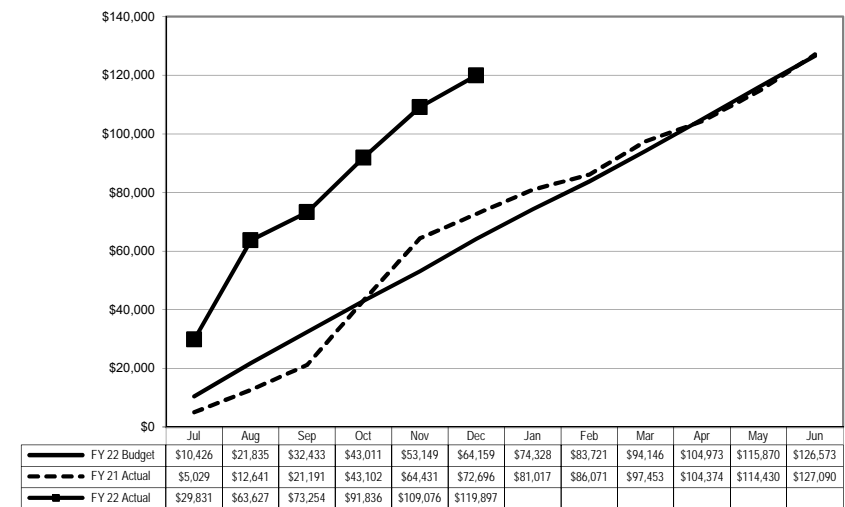
In Thousands

Generation Resources



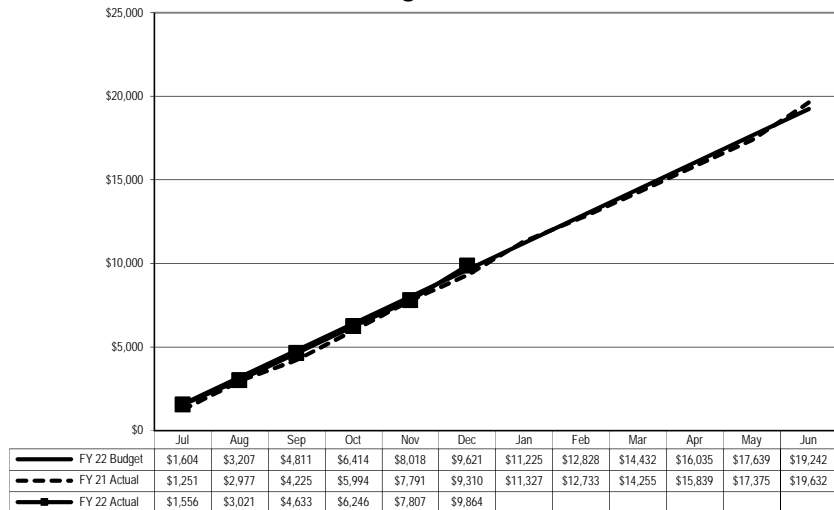
In Thousands

Transmission-ISO



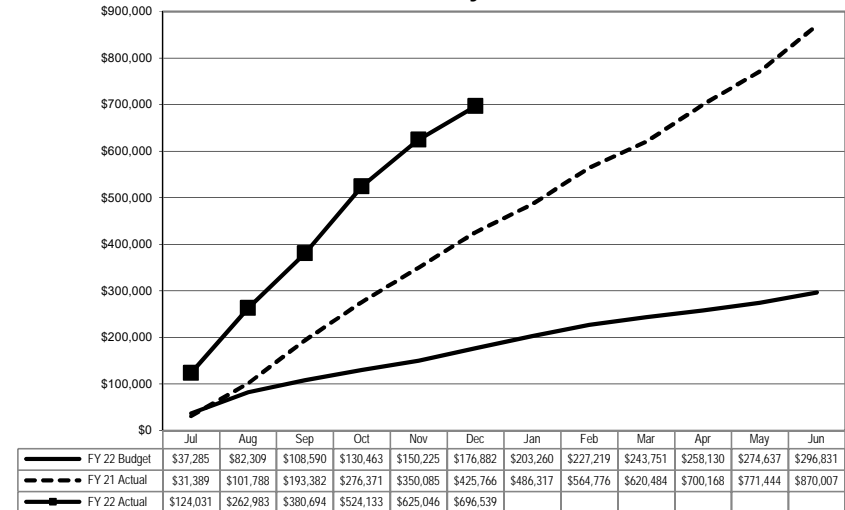
In Thousands

Management Services



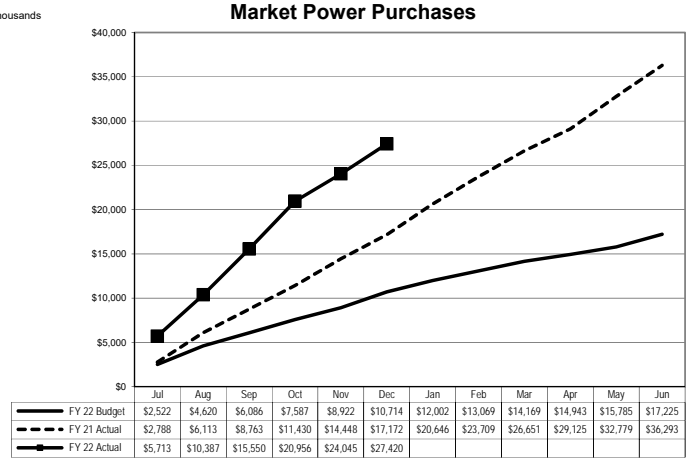
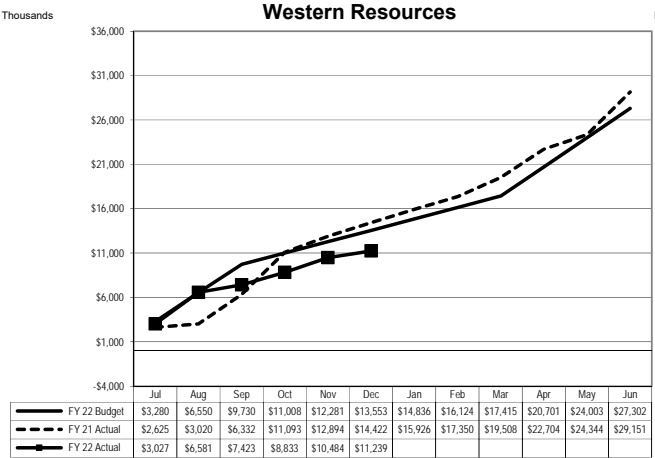
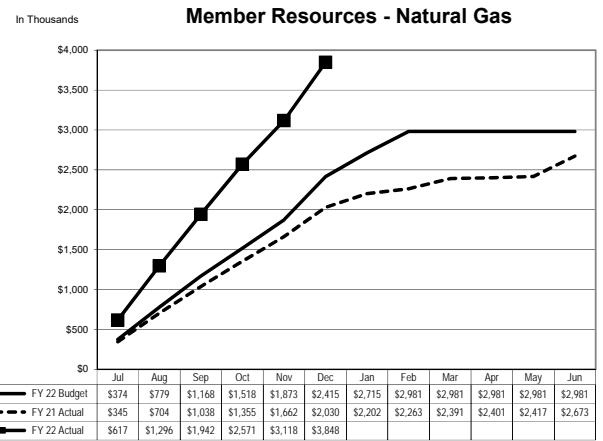
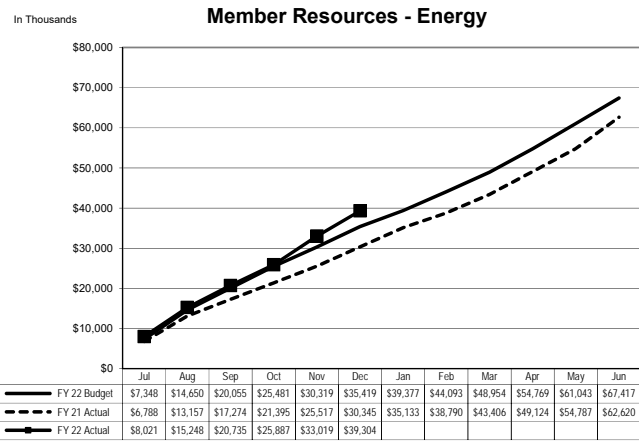
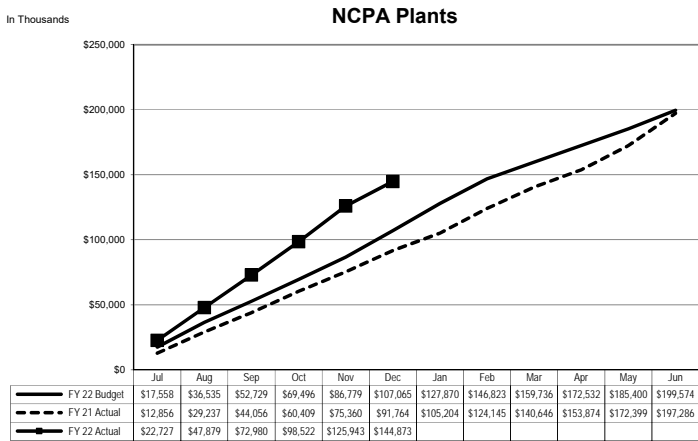
In Thousands

Third Party Revenue



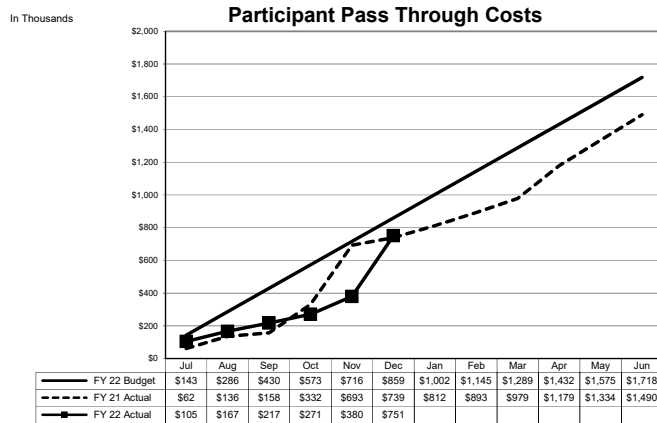
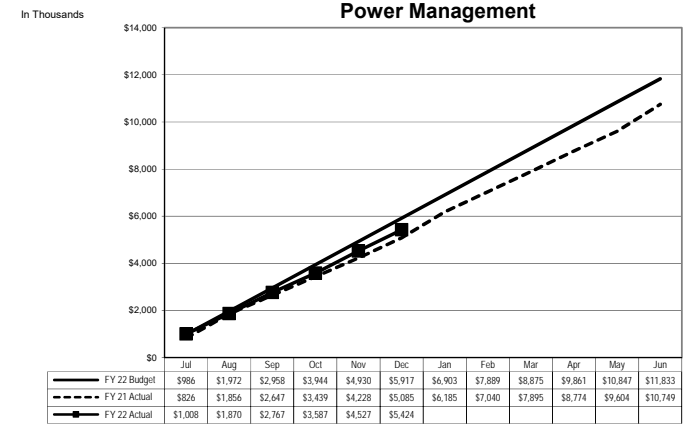
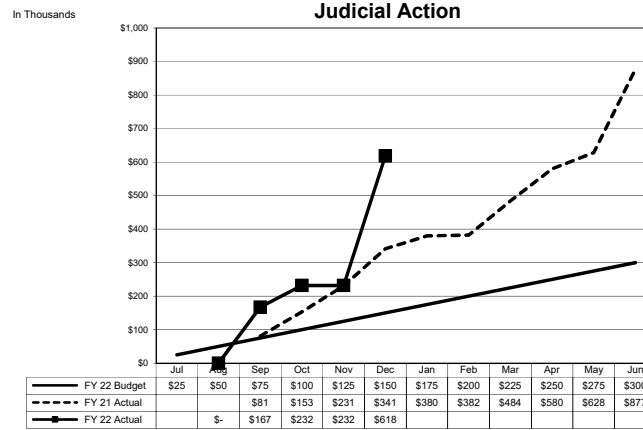
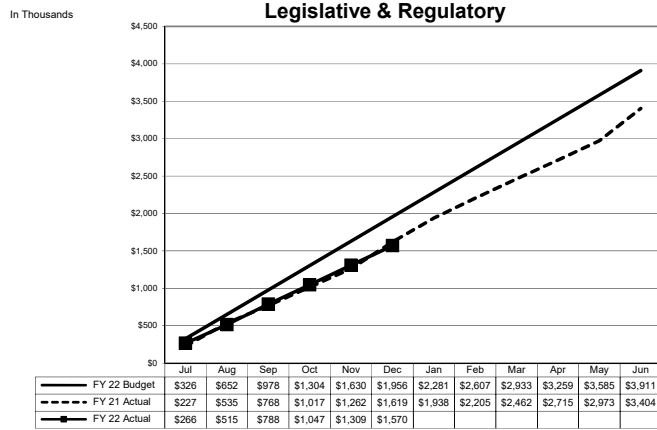
Footnote: Transmission is solely reflective of Independent System Operator (ISO) costs

Annual Budget Cost Generation Resources Analysis By Source As of December 31, 2021



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

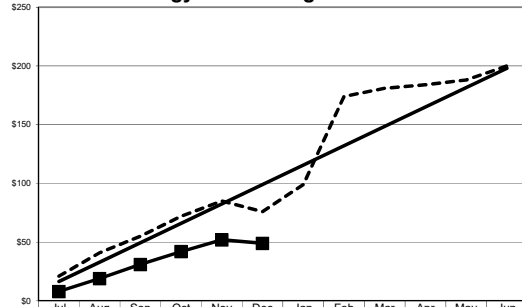
**Annual Budget Cost
Management Services Analysis By Source
As of December 31, 2021**



**Annual Budget Cost
Management Services Analysis By Source
As of December 31, 2021**

In Thousands

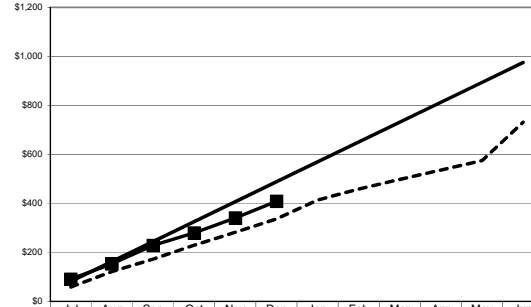
Energy Risk Management



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

In Thousands

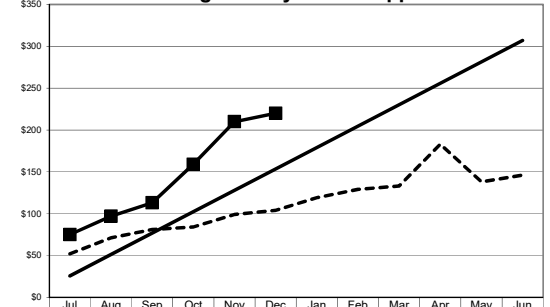
Settlements



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

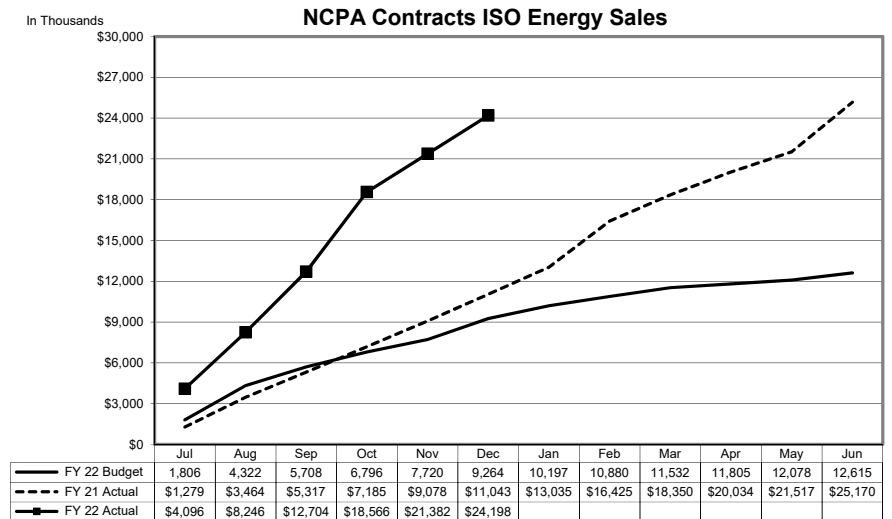
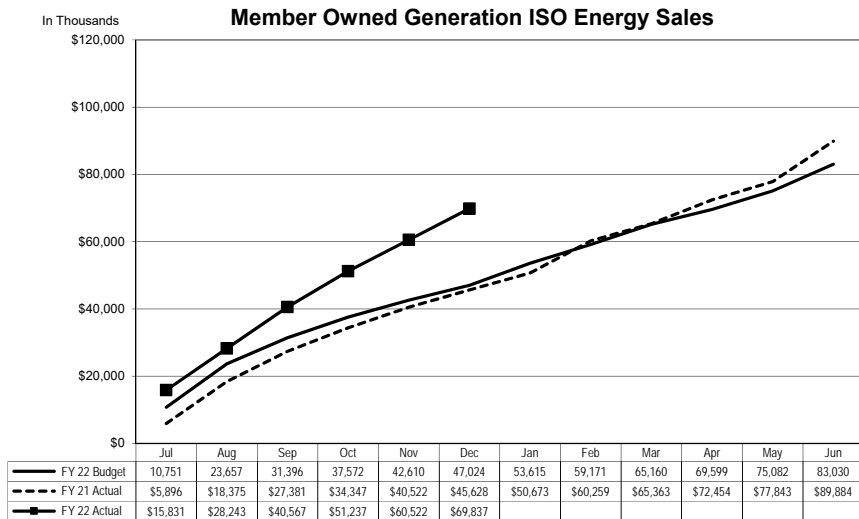
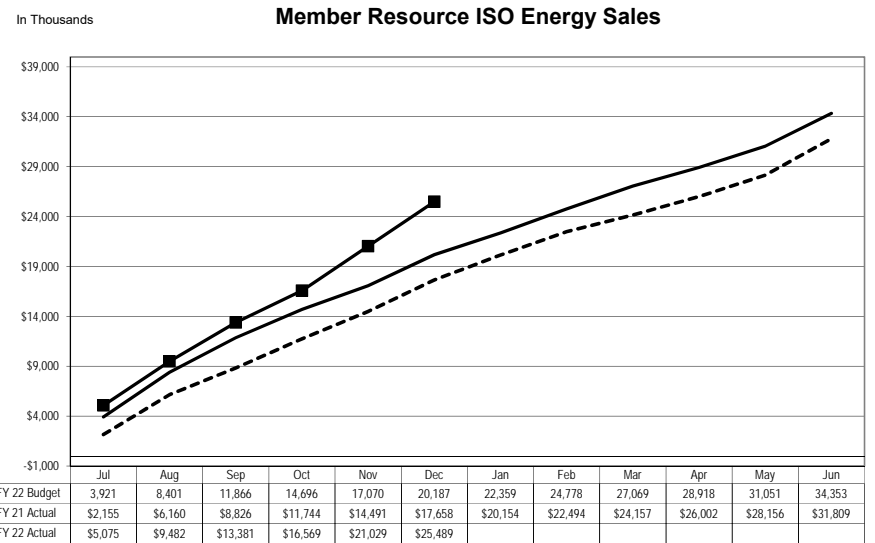
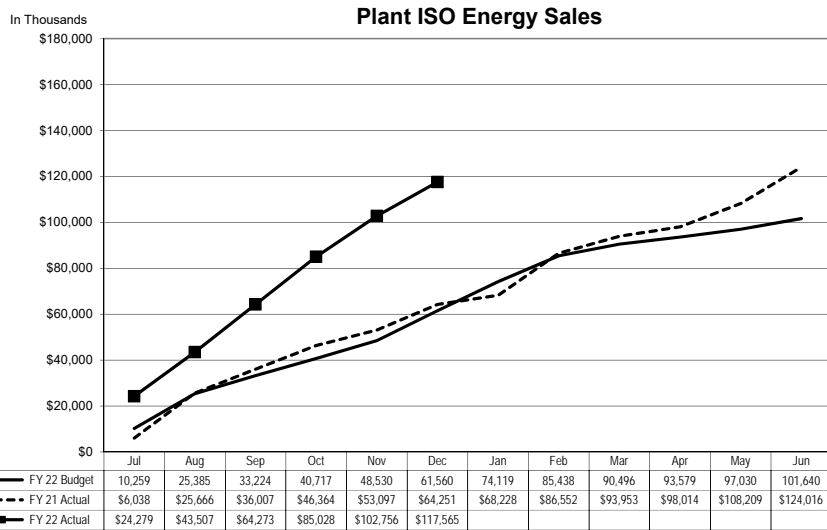
In Thousands

Integrated Systems Support

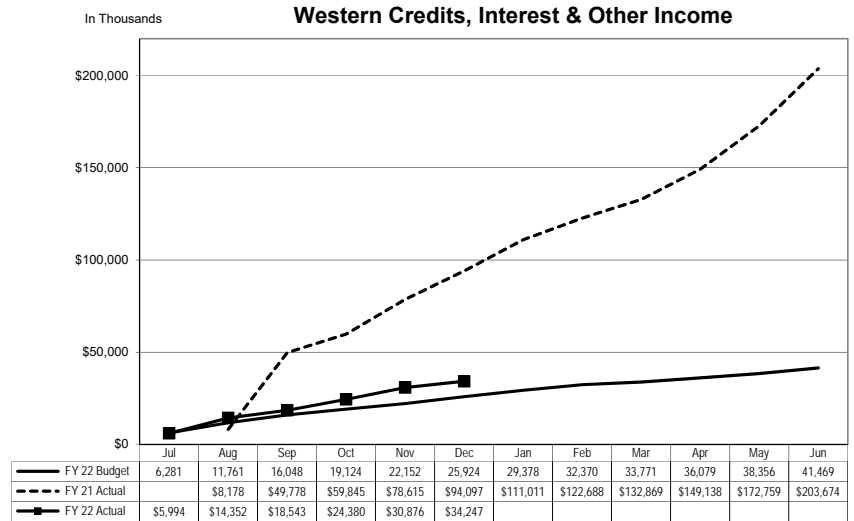
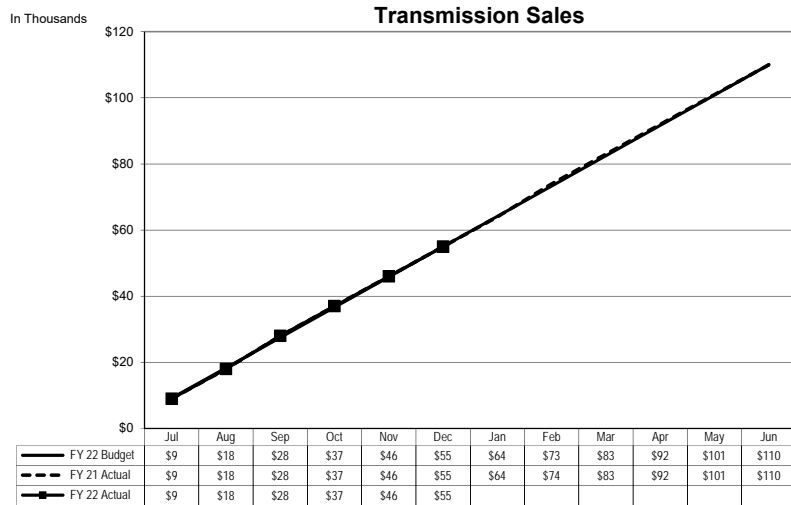
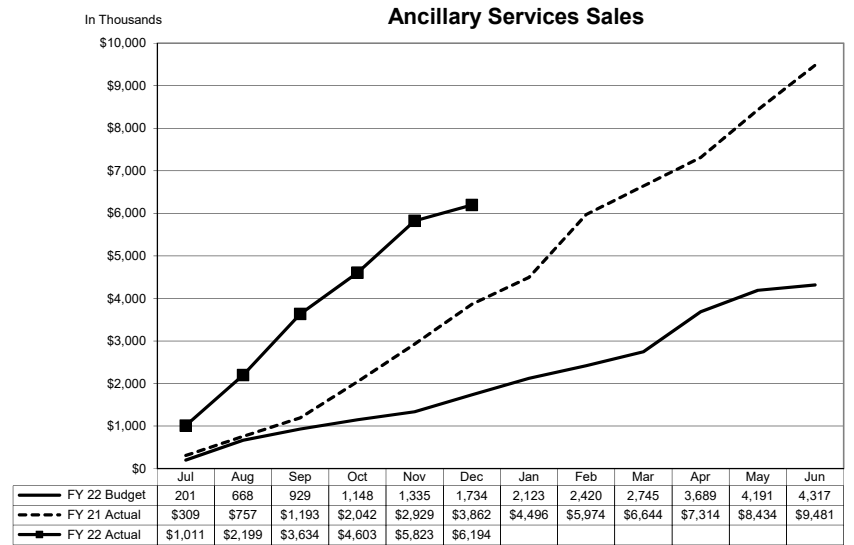
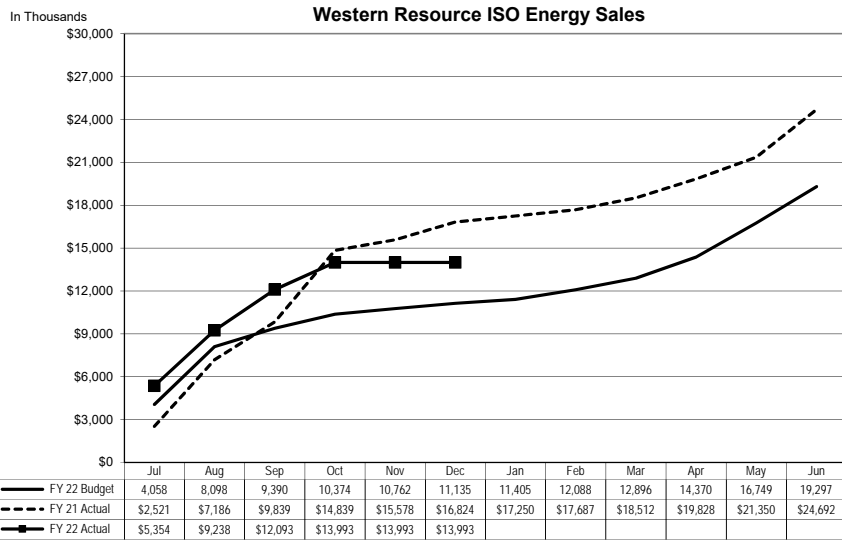


	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 22 Budget	\$26	\$51	\$77	\$102	\$128	\$154	\$179	\$205	\$230	\$256	\$281	\$307
FY 21 Actual	\$52	\$71	\$81	\$84	\$99	\$104	\$119	\$129	\$133	\$183	\$138	\$146
FY 22 Actual	\$75	\$97	\$113	\$159	\$210	\$220						

**Annual Budget Cost
Third Party Revenue Analysis By Source
As of December 31, 2021**



**Annual Budget Cost
Third Party Revenue Analysis By Source
As of December 31, 2021**



**Annual Budget
NCPA Generation Detail Analysis By Plant
As of December 31, 2021**

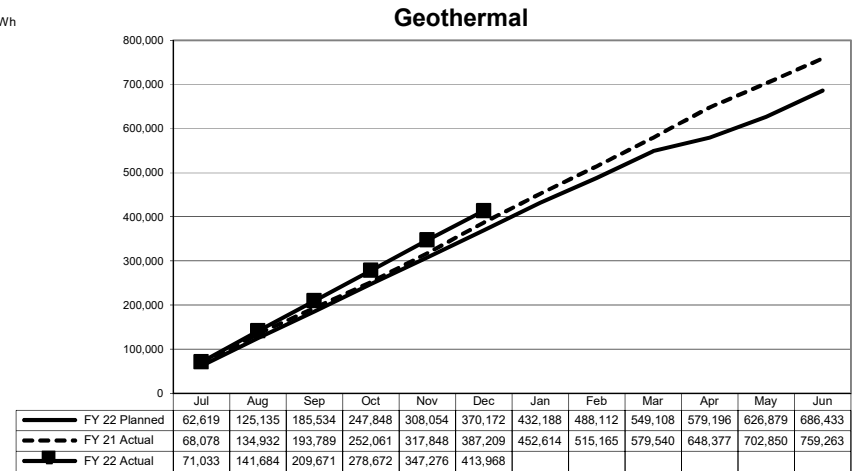
Generation Cost Analysis

\$ in thousands

	Geothermal				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 17,803	\$ 7,910	\$ 19.11	\$ 9,894	56%
Capital Assets/Spare Parts Inventories	6,205	3,185	7.69	3,020	49%
Other Costs	11,197	5,918	14.29	5,279	47%
CA ISO Charges	504	546	1.32	(43)	-9%
Debt Service	4,953	2,477	5.98	2,477	50%
Annual Budget	40,662	20,035	48.40	20,627	51%
Less: Third Party Revenue					
Interest Income	382	34	0.08	348	91%
ISO Energy Sales	27,578	27,427	66.25	151	1%
Ancillary Services Sales	-	-	-	-	-
Effluent Revenues	750	299	0.72	451	60%
Misc	113	58	0.14	54	48%
	28,823	27,818	67.20	1,005	3%
Net Annual Budget Cost to Participants	\$ 11,839	\$ (7,782)	\$ (18.80)	\$ 19,622	166%
Net Generation--MWh @ Meter	686,433	413,968			
\$/MWh (A)	\$ 10.03	\$ (24.78)			

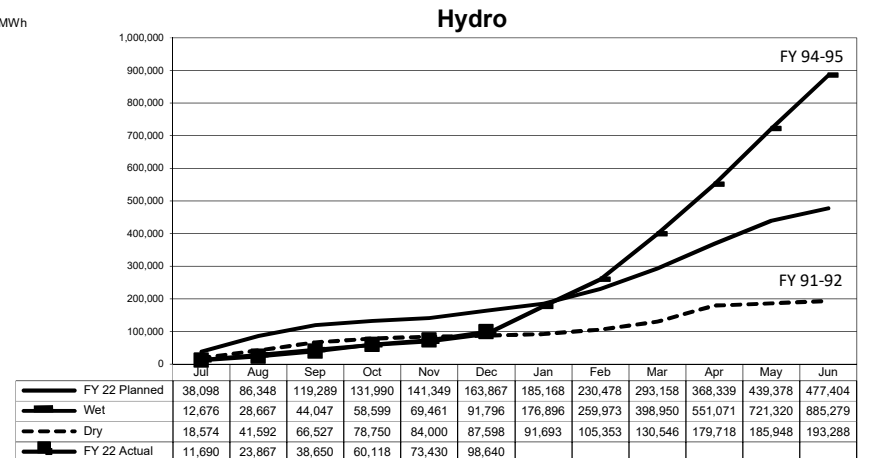
MWhs Generated

In MWh



	Hydroelectric				
	Budget	Actual	\$/MWh	Under(Over)	YTD %
			Actual	Budget	Remaining
Routine O & M	\$ 9,882	\$ 3,676	\$ 37.26	\$ 6,207	63%
Capital Assets/Spare Parts Inventories	3,465	2,105	21.34	1,360	39%
Other Costs	4,677	2,385	24.18	2,292	49%
CA ISO Charges	2,635	3,439	34.87	(805)	-31%
Debt Service	33,422	16,711	169.41	16,711	50%
Annual Budget	54,081	28,315	287.06	25,766	48%
Less: Third Party Revenue					
Interest Income	670	55	0.56	615	92%
ISO Energy Sales	22,047	11,157	113.11	10,891	49%
Ancillary Services Sales	2,241	2,898	29.38	(657)	-29%
Misc	-	-	-	-	-
	24,959	14,110	143.05	10,848	43%
Net Annual Budget Cost to Participants	\$ 29,123	\$ 14,205	\$ 144.01	\$ 14,918	
Net Generation--MWh @ Meter	477,404	98,640			
\$/MWh (A)	\$ (9.00)	\$ (25.40)			

In MWh



Footnotes:

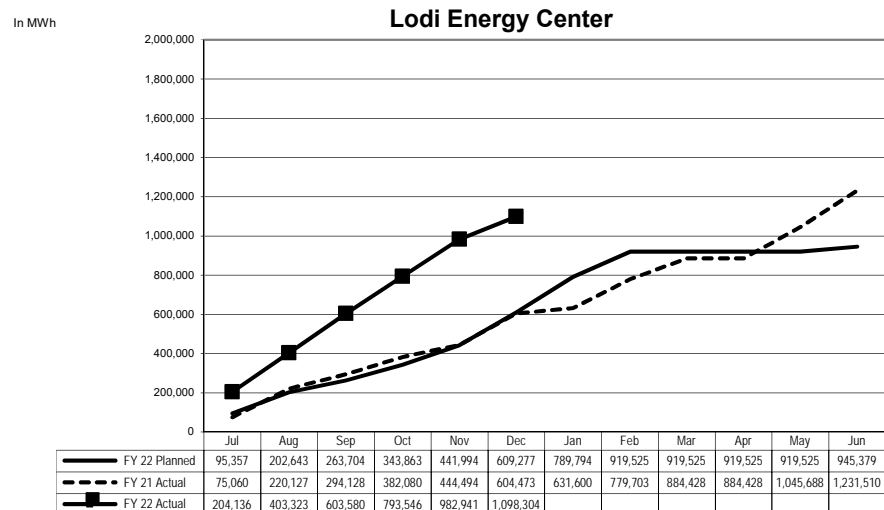
(A) Aggregate fiscal year generation in \$/MWh (excluding debt service)

**Annual Budget
NCPA Generation Detail Analysis By Plant
As of December 31, 2021**

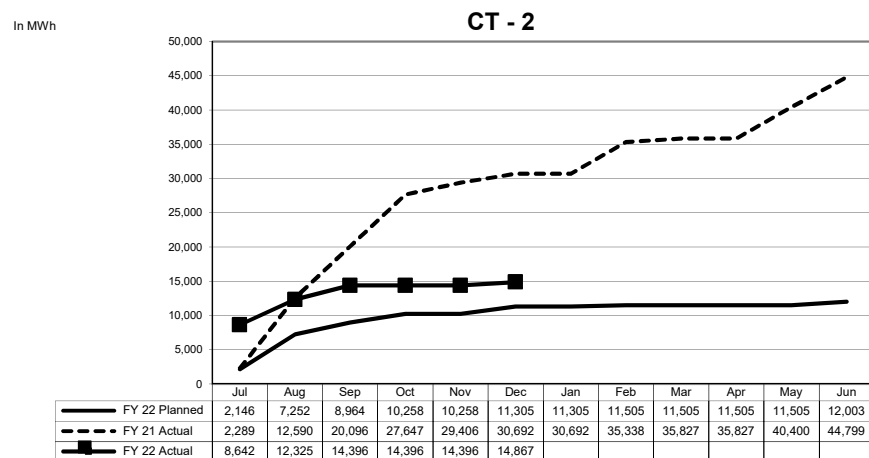
Generation Cost Analysis

	Lodi Energy Center				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 9,558	\$ 6,617	\$ 6.03	\$ 2,941	31%
Fuel	31,029	48,332	44.01	(17,303)	-56%
AB 32 GHG Offset	6,269	10,991	10.01	(4,722)	-75%
CA ISO Charges and Energy Purchases	3,137	3,011	2.74	126	4%
Capital Assets/Spare Parts Inventories	5,007	1,121	1.02	3,886	78%
Other Costs	7,805	4,539	4.13	3,265	42%
Debt Service	26,008	13,182	12.00	12,826	49%
Annual Budget	88,813	87,794	79.94	1,019	1%
Less: Third Party Revenue					
Interest Income	386	130	0.12	256	66%
ISO Energy Sales	49,394	74,948	68.24	(25,554)	-52%
Ancillary Services Sales	1,152	3,086	2.81	(1,934)	-168%
Transfer Gas Credit	-	-	-	-	0%
GHG Allowance Credits	6,102	10,874	9.90	(4,772)	-78%
Misc	-	2	0.00	(2)	0%
	57,034	89,040	81.07	(32,006)	-56%
Net Annual Budget Cost to Participants	\$ 31,779	\$ (1,246)	\$ (1.13)	\$ 33,025	104%
Net Generation--MWh @ Meter	945,379	1,098,304			
\$/MWh (A)	\$ 6.10	\$ (13.14)			

MWhs Generated



	Combustion Turbine No. 2 (STIG)				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 1,627	\$ 603	\$ 40.56	\$ 1,024	63%
Fuel and Pipeline Transport Charges	1,265	1,307	87.90	(41)	-3%
Capital Assets/Spare Parts Inventories	46	-	-	46	100%
Other Costs	735	315	21.17	421	57%
CA ISO Charges	136	103	6.93	33	24%
Debt Service	5,048	2,524	169.78	2,524	50%
Annual Budget	8,858	4,851	326.33	4,007	45%
Less: Third Party Revenue					
Interest Income	109	9	0.64	99	91%
ISO Energy Sales	1,321	1,760	118.38	(439)	-33%
Ancillary Service Sales	-	-	-	-	0%
Fuel and Pipeline Transport Credits	1,788	1,249	84.02	539	30%
GHG Allowance Credits	104	-	-	104	100%
Misc	-	-	-	-	0%
	3,322	3,019	203.04	303	9%
Net Annual Budget Cost to Participants	\$ 5,536	\$ 1,833	\$ 123.28	\$ 3,704	67%
Net Generation--MWh @ Meter	12,003	14,867			
\$/MWh (A)	\$ 40.69	\$ (46.49)			



Footnotes:

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

**Annual Budget
NCPA Generation Detail Analysis By Plant
As of December 31, 2021**

Generation Cost Analysis

	Combustion Turbine No. 1				
	Budget	Actual	\$/MWh Actual	Under(Over) Budget	YTD % Remaining
Routine O & M	\$ 2,497	\$ 1,648	\$ 280.49	\$ 849	34%
Fuel and Pipeline Transport Charges	792	684	116.40	108	14%
Capital Assets/Spare Parts Inventories	2,573	500	85.10	2,073	81%
Other Costs	1,104	537	91.36	567	51%
CA ISO Charges	90	509	86.61	(419)	-467%
Debt Service	-	-	-	-	-
Annual Budget	7,055	3,878	659.95	3,177	45%
Less: Third Party Revenue					
Interest Income	-	16	-	(16)	-
ISO Energy Sales	1,300	2,273	386.93	(974)	-75%
Ancillary Services Sales	-	-	-	-	0%
Misc	-	-	-	-	0%
	1,300	2,290	386.93	(990)	-76%
Net Annual Budget Cost to Participants	\$ 5,755	\$ 1,588	\$ 270.22	\$ 4,167	72%
Net Generation--MWh @ Meter	10,440	5,875			
\$/MWh (A)	\$ 551.26	\$ 270.22			

Footnotes:

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

MWhs Generated

In MWh

CT - 1

