



May
2022

BUSINESS PROGRESS

REPORT



Northern California Power Agency
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Generation Costs & Reliability

Combustion Turbine Project

Unit Operation for April 2022

Unit	Availability		Production			Reason for Run
CT1 Alameda	Unit 1	Unit 2	Unit 1	0.0	MWh	CAISO / CAISO
	0.0%	10.0%	Unit 2	353.5	MWh	
Curtailments, Outages, and Comments:						
Unit 1: 4/01 @ 00:00 - 4/30 @ 23:59; Oil Fire and Repair, OMS 11417957						
Unit 2: 4/04 @ 00:00 - 4/30 @ 23:59; Transmission induced generator outage, OMS 11527058						
Unit	Availability		Production			Reason for Run
CT1 Lodi	98.03%		521.4 MWh			CAISO
Curtailments, Outages, and Comments:						
4/15 @ 19:00 - 4/16 @ 09:10; Bad load gear bearing RTD, OMS 11643264						
Unit	Availability		Production			Reason for Run
CT2 STIG	99.7%		106.0 MWh			CAISO
Curtailments, Outages, and Comments:						
4/07 @ 17:13 - 19:28; Startup issues						
Unit	Availability		Production			Reason for Run
LEC	0.0%		0 MWh			CAISO
Curtailments, Outages, and Comments:						
3/1 @ 00:00 - 5/31 @ 23:59; CT ULN and ST Generator Major Maintenance Outage, OMS 11341152						

Maintenance Summary – Specific per asset above.

Geothermal Facilities

Availability/Production for April 2022

Unit	Availability		Net Electricity Generated/Water Delivered		Out-of-Service/Descriptors
Unit 1	98.47	%	19,895	MWh	U1 was OOS 4/1/22 until 2310 for Mn Transformer recondition
Unit 2	100	%	*20,802	MWh	U2 had no outages for the month
Unit 3	N/A	%	N/A	-	Unit 3 remains out of service.
Unit 4	100	%	26,859	MWh	U4 had no outages for the month
Southeast Geysers Effluent Pipeline	0	%	0	mgallons	Average flow rate: 0 gpm
Southeast Solar Plant	N/A		117,894	KWh	Year-to-date KWh: 1,259,877
Bear Canyon Pump Station Zero Solar	N/A		109,940	KWh	Year-to-date KWh: 1,512,126

* Accounts for an additional 15 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

Hydroelectric Project

Availability/Production for April 2022

Units	Availability	Net Electricity Generated	Out-of-Service
Collierville Unit 1	100%	28257 MWh	CV Unit 1 – No Outages.
Collierville Unit 2	99.49%	21992 MWh	CV Unit 2 – Out 4/20/22 from 0834 to 1216 for Turbine guide bearing oil pump filter changeout.
Spicer Unit 1	100%	0 MWh	NSM1- No Outages
Spicer Unit 2	100%	0 MWh	NSM2- No Outages
Spicer Unit 3	100%	143 MWh	NSM3- No Outages

Operations & Maintenance Activities:

- CMMS work orders
- Winter Snow Removal
- Agency Safety Meeting at Hydro
- Annual USFS Meeting
- Site visits for NCPA Facilities insurer FM Global
- Interviews for Student Intern, FOA/Warehouse Coordinator, Plant Manager
- Hydrography Field Data Collection device training from Sierra Hydrographics
- Hydro relicensing meeting with CCWD

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

- There were no vehicle, Cal OSHA recordable incidents, or Lost Time accidents in the month of April.
- 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 April 23, 2022.
- The “CT Group” column reflects the combined safety numbers of all CT employees. Beginning with the November 2009 report, the CT Group Column also includes Lodi Energy Center staff.

April 2022 Generation Services Safety Report

	Hydro	GEO	CT Group *	NCPA HQ **
Cal OSHA Recordable (this month)	0	0	0	0
Cal OSHA Recordable (calendar year)	0	0	0	0
Days since Recordable	559	183	2,574	3,558
Work Hours Since Last Recordable	47,267	37,207	390,365	2,805,412
LTA's (this month)	0	0	0	0
LTA's (calendar year)	0	0	0	0
Days without LTA	5,308	2,437	10,478	6,571
Work Hours without LTA	479,836	201,417	800,909	2,427,430
Vehicle Incident (month)	0	0	0	0
Vehicle Incident (calendar year)	0	0	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 April 23, 2022.

Power Management/NCPA Market Results

Dispatch and Schedule Coordination

- NCPA Dispatch and Schedule Coordination Center safely, reliably, and economically schedules, monitors, and manages NCPA and NCPA member power resources and loads 24 hours per day, 7 days per week on a continuous basis. This process includes balancing MSSA loads and resources on a 5-minute basis, optimizing NCPA resources and minimizing ISO costs.
- NCPA MSSA Load Data:

Current Year 2022 Data

	April 2022		Calendar Year 2022	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	327.03 4/7 @ 1800	170,663	327.03 4/7 @ 1800	711,432
SVP	585.86 4/7 @ 1800	359,569	585.86 4/7 @ 1800	1,428,862
MSSA	912.89 4/7 @ 1800	530,232	912.89 4/7 @ 1800	2,140,294

Last Year 2021 Data*

	April 2021		Calendar Year 2021	
	Peak MW	MWh	Peak MW	MWh
NCPA Pool	292.1 4/29 @ 1900	171,597	440.56 6/17 @ 1700	711,428
SVP	500.61 4/28 @ 1700	319,813	591.96 8/27 @ 1500	1,279,902
MSSA	786.02 4/28 @ 1800	491,410	1025.46 6/17 @ 1700	1,991,330

* Last year's data added for comparison purposes only

System Peak Data

	All Time Peak Demand	2022 Peak Demand
NCPA Pool	517.83 MW on 7/24/06 @ 1500	327.03 4/7 @ 1800
SVP	591.96 MW on 8/27/21 @ 1500	585.86 4/7 @ 1800
MSSA	1070.79 MW on 9/1/17 @ 1700	912.89 4/7 @ 1800

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

NCPA Deviation Band Performance		
	April 2022	Calendar Year 2022
MSSA % Within the Band	97.81%	98.11%

- There were no PG&E PSPS events.
- CAISO Oversupply Potential Notifications:
 - 4/3/22, HE15
 - 4/10/22, HE12-16
 - 4/12/22, HE15
 - 4/16/22, HE14-16
- There were no CAISO Real-time Contingency Dispatches (RTCD).

Pooling, Portfolio Planning & Forecasting

- NCPA Pool load during April 2022 was 170,742 MWh versus the budget forecast of 178,707 MWh, resulting in a forecast error of 4.66%. The forecast error this month was mainly due to lack of heating load and cloudy days. The current weather outlook for May 2022 is for normal temperatures and little rainfall. The Pool's May load forecast is 185,595 MWh compared with extrapolated actuals of 188,723 MWh as of May 17, 2022.
- Lodi Energy Center (LEC) ran 0 hours out of a possible 720 producing 0 MWh. Natural gas and power prices are significantly higher than a year ago due to the low reservoir levels throughout the state and the situation in Ukraine. LEC is on outage through June.
- During April 2022, 3.13" of rain was recorded at the Big Trees gauge. April average rainfall at Big Trees is 3.98". New Spicer Meadows storage increased by just over 23,000 acre feet in April, mainly due to increased melt and maintaining minimum reservoir releases under 20cfs.
- 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 April 30, 2022 was 111,276 acre feet. The historical average storage at the end of April is 101,343 acre feet. As of May 17th, storage was 122,017 acre feet.
- Combined Calaveras Project generation for the Pool in April 2022 totaled 25,686 MWh, up from 18,744 MWh in March 2022. The Pool's 25,686 MWh in April 2022 was above its forecast due to increased Avery flows (ranging from 285cfs to 740cfs in April) caused by increased snow melt below New Spicer reservoir.
- Western Base Resource (BR) deliveries for the Pool during April 2022 were 13,546 MWh. Displacement program energy totaled 91 MWh. The Pool's share of expected total delivery from the Western Base Resource for May 2022 is 19,500 MWh.
- The PG&E Citygate gas index averaged \$7.03 / MMBtu during the month of April as compared to an average of \$5.45 for March. May's current average price is \$8.95. Both NYMEX gas and basis prices increased due to the unrest in world fuel prices and below average storage volumes. The June 2022 PG&E Citygate forward price is \$9.17 / MMBtu.

- Day-Ahead PG&E DLAP electricity prices for April averaged \$67.11 / MWh On-Peak and \$65.47 Off-Peak, with a high of \$216.27. For the dates of May 1st through the 17th, 2022 prices have averaged \$69.58 On-Peak and \$69.96 Off-Peak. The forward prices for June are \$77.85 On-Peak and \$72.31 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 July 2022:
 - Monthly System Resource Adequacy Demonstration (filed May 17, 2022)
 - Monthly Supply Plan (filed May 17, 2022)

Industry Restructuring

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

Energy Storage Enhancements

- Next steps: Final Straw Proposal postponed, Aug 30, 2022 ISO Board of Governors and WEIM Governing Body joint meeting.

Extended Day-Ahead Market

- Next steps: Straw proposal published April 28 under review, in-person and virtual meetings scheduled for May 25-26, June 9 comments due.

Resource Adequacy Enhancements

- CAISO delayed further work on RA Enhancements indefinitely in order to align bid insertion, must offer obligation, and flexible RA proposals with DAME and EDAM. No schedule is currently available other than fall 2023 expansion.

Day-Ahead Market Enhancements

- Next steps: 3rd revised straw proposal published April 22nd under review. ISO Board of Governors Decision scheduled for September 2022.

Transmission Access Charge Structure Enhancements

- Initiative draft final proposal is complete and the initiative is currently on hold pending developments from Extend Day Ahead Market to EIM initiative.

Western

Western Base Resource Tracking (NCPA Pool)

Western Base Resource Tracking - NCPA Pool							
	Actual			Costs & Rates			
	BR Forecast 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	\$ 0.78	\$ 50.71
Jan-22	5,620	880	(4,740)	\$759,202	\$ 862.73	\$ -	\$ 51.22
Feb-22	14,806	6,343	(8,463)	\$759,202	\$ 119.69	\$ 0.01	\$ 50.12
Mar-22	21,003	10,930	(10,073)	\$759,202	\$ 69.46	\$ 0.06	\$ 50.44
Apr-22	55,270	13,637	(41,633)	\$1,735,370	\$ 127.25	\$ (0.46)	\$ 51.96
May-22	90,965	-	0	\$1,735,370	\$ 19.08	\$ -	\$ 43.34
Jun-22	86,068	-	0	\$1,735,370	\$ 20.16	\$ -	\$ 39.45
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 13,637 MWh of Base Resource (BR) energy in April 2022, this includes displaced energy of 91 MWh.
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) was negative \$(6,240) in April 2022 mostly due to congestion at Captain Jack on April 15th. The cumulative MEEA savings for FY2022 is approximately \$36,157 from July 2021 through April 2022.

Interconnection Affairs

PG&E Update

TO-18 Rate Case

- On March 24, 2022 FERC issued an order on PG&E's TO18 return on equity, reducing PG&E's base return on equity from 10.4% to 9.26%, and ordering PG&E to pay refunds by May 2022.
- FERC ordered PG&E to combine the ROE and non-ROE refunds and pay them, with interest, within 60 days of the order. PG&E's TO19 settlement is tied to the TO18 outcome, PG&E will have to pay refunds in TO19 after a final, non-appealable decision is made in the TO18 proceeding.

Permanent Inter-Tie Switch Between Geo Plants 1 and 2

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

Cotenancy Agreement

- PG&E with support from NCPA and SVP filed an amendment that acknowledged CDWR's request for termination. The amendment rejected CDWR's request, pending resolution of the Cost of Removal dispute. All other matters have been delayed until this issue is resolved.
- On September 27, 2019 FERC rejected PG&E's amendment stating PG&E cannot unilaterally extend the term of the Agreement. FERC did not address the cost of removal aspect and the calculation methodology. NCPA has initiated discussions with Members as to how much capacity from CDWR's share should NCPA take.
- In Feb 2021, PG&E came across an opportunity (in PG&E's bankruptcy case) to engage in mediation with CDWR to address the cost of removal issue. NCPA has agreed to join the mediation with PG&E.

2021-2022 Transmission Planning Process

- ISO Board approved final 2021-2022 transmission plan in March 2022
- ISO found the need for 24 projects totaling ~\$2.9B
 - 16 reliability driven projects totaling \$1.4B
 - 7 policy driven project totaling \$1.5B
 - 1 Economic project totaling \$40M
- TPP total capital cost comparison:

Transmission Planning Cycle	Approved Capital Project Cost (Up to)	Purpose
2018-2019	\$608M	Reliability
2019-2020	\$142M	Reliability
2020-2021	\$3.6M	Reliability
2021-2022	\$2.9B	Reliability, Policy, Economic

- Major contributing factors to the substantial increase this year:
 - Escalating need to decarbonize the grid because of emerging climate change impacts
 - Expected electrification of transportation, this is also driving higher electricity forecasts
 - Concerns regarding reduced access to imports as neighboring systems also decarbonize
 - Greater than anticipated impacts of peak loads shifting to later-in-the-day hours when solar resources are unavailable
 - The need to maintain system reliability while retiring the Diablo Canyon Power Plant and gas-fired generation
- Four (4) projects were found to be eligible for competitive bid:
 - New Collinsville 500 kV substation
 - New Manning 500 kV substation
 - San Jose Area HVDC Lines (Newark to NRS)
 - San Jose Area HVDC Line (Metcalf to San Jose)
- CAISO estimates a \$2.70/MWh HV TAC increase to the 2021 projection due the 2021-22 project approvals

Debt and Financial Management

- At the May Federal Open Market Committee (FOMC) meeting, the Federal Reserve raised its benchmark interest rate by half a percentage point (50 bps) which was in line with market expectations but the most aggressive step since 2000 in its fight against a 40-year high in inflation.
- Chairman Powell expressed optimism that the central bank would be able to bring down inflation without tipping the economy into recession and stated that the Fed is not actively considering a 75 bps rate increase at the next couple of meetings, alleviating some investor concerns. That likely will mean, according to the chairman's comments, multiple 50-basis point rate hikes ahead.
- On May 11th, the Bureau of Labor Statistics reported that CPI increased 8.3% from a year ago higher than the market expectation of 8.1%. Removing volatile food and energy prices, core CPI still rose 6.2% against expectations for a 6% gain which clouded hopes that inflation peaked in March.

Schedule Coordination Goals

Software Development

- Applications and Enhancements under development
 - Development of the Renewable Portfolio Standards application continues and data validation continues. Rollout is delayed pending completion of other higher priority projects.

- IS team deploying apps in the test environment to test the Oracle 2019 database and testing is on-going. September 2022 rollout into production is anticipated.
- Customer and Resource Integration
 - Work continues on the Settlements-related configurations for the South Feather Water and Power Agency Resources.
 - Systems customizations for third-party resource data being processed for the CCA customers. EBCE's Tulare Resource rolled out successfully for 04/29/2022 COD.
 - Camp Far West rolled out successfully for April 21, 2022 COD
- New version of NCPA Intranet Site, aka The Wire, was successfully migrated into the SharePoint Online platform as of 05/16/2022.

Network

- SCADA and Networking team continue to work with a variety of customers in an effort to integrate several new wind, solar and hydro resources,
 - Camp Far West – IS team has completed the integration with Camp Far West at the end of April and are currently monitoring and controlling this resource.
 - Deer Creek – IS team is currently working with NID staff to collect the required information needed to perform a successful integration of the Deer Creek hydro resource by first of July
- Operations and Support continues to work with VOIP vendor Integration Partners and ISP Consolidated Communications (CCI) to replace HQ and Disaster Recovery Center phone systems and migrate to Session Initiation Protocol (SIP) from a legacy PRI circuit. Cutover is expected to be completed this Summer.
- Operations and Support continue working on preparations necessary for CIP-012 Control Protection requirement that will be enforced by July 1st of 2022. Currently working with AT&T to ensure encrypted communications between NCPA and CAISO are compliant with this new standard.
- Oracle 2019 continues to be tested with the anticipation of it replacing the current Oracle 11 and 12 versions in production. Application testing has started and staff is preparing for a full upgrade in early fall of 2022.

NCPA Bills & Settlements

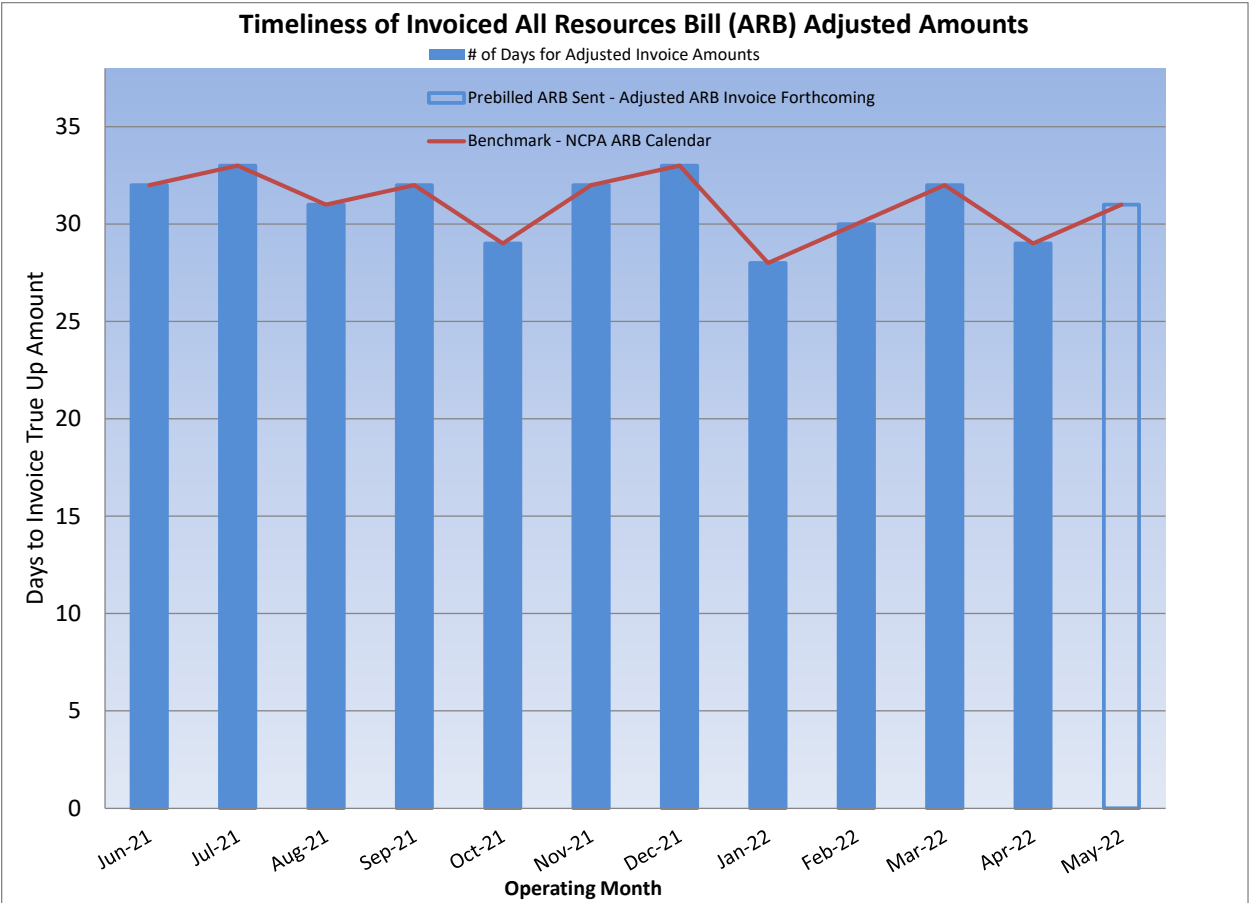
Progress Against the Strategic Plan

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 May 2022 NCPA All Resources Bill (ARB) monthly invoice sent to members on April 25, 2022 contains:

- May 2022 monthly pre-billed budget/forecast amounts;
- March 2022 (1st Adjustment) NCPA Project and CAISO Initial settlement true-ups;
- February 2022 (2nd Adjustment) NCPA Project settlement true-up and T+20 business day recalculated CAISO settlement true-up allocations;

- December 2021 (3rd Adjustment) T+70 business day recalculated CAISO settlement true-up allocations and NCPA Projects true-up;
- April 2021 (4th Adjustment) T+11 month recalculated CAISO settlement true-up allocations;
- August 2020 (5th Adjustment) T+18 month recalculated CAISO settlement true-up allocations;
- May 2019 (6th Adjustment) T+33 month recalculated CAISO settlement true-up;
- February 2019 (7th Adjustment) T+36 month CAISO settlement true-up;



Legislative & Regulatory

Federal Regulatory Update

- In early May, NCPA participated in a compliance monitoring and enforcement audit for one of the six regions operating under the direction of the North American Electric Reliability Corporation (NERC). The audits are intended to help NERC validate that each region is consistently implementing its enforcement program, and identify areas where program modifications must be made. Through its role as chair of the Compliance and Certification Committee, NCPA worked closely with the NERC Internal Audit team to shape the direction of the audit, ensuring that industry perspectives are fully considered in the auditing process. The results of this audit will lead to improvements in the auditing process, reducing future compliance costs for NCPA and others subject to NERC reliability rules.

Customer Programs Update

- The California Air Resources Board (CARB) released a [second draft](#) of the Advanced Clean Fleets (ACF) regulation on April 26, 2022. The proposed ACF will apply to medium- and heavy-duty vehicles in public fleets, high-priority private fleets, federal fleets, and drayage fleets. The updated draft includes new provisions to address concerns surrounding emergency response and ZEV unavailability, but the exemptions are still unworkable as drafted. NCPA is working with the Transportation Electrification Working Group, Member fleet managers, SCPPA, CMUA, and CalETC to draft redline edits to the regulatory proposal.

Human Resources

Hires:

Eric Pringle joined the Operations team at the Lodi Energy Center, as a Combustion Turbine Specialist III (Operator), effective May 9, 2022. Eric joins us from Calpine's Sutter and Russel City Energy Centers where he was an Operator Technician. In this role, Eric was responsible for overseeing all aspects of plant operations, collecting, and analyzing data, supervising staff and assisting in plant start-ups and shut-downs. Eric has been with Calpine since 2012 and brings over ten years of power plant experience. Eric has a Bachelor's degree in Electrical and Electronics Engineering from the Technological University of Panama.

Intern Hires:

None.

Promotions:

None.

Separations:

Roxana Khayyam resigned from her position as an Energy Resource Analyst III, at our Headquarters offices on May 5, 2022.

Amber Summersett resigned from her position as a Materials Warehouse Coordinator II, at our Hydroelectric Facilities on May 5, 2022.