



Northern California Power Agency  
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# BUSINESS PROGRESS REPORT

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**2019**  
August

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# Generation Costs & Reliability

## Combustion Turbine Project

### Unit Operation for July 2019

| Unit  | Availability |        | Production |           | Reason for Run |
|---|--------------|--------|------------|-----------|----------------|
| CT1 Alameda   | Unit 1       | Unit 2 | Unit 1     | 141.4 MWh | CAISO / CAISO  |
|   | 100.0%       | 100.0% | Unit 2     | 145.0     |                |
| Curtailements, Outages, and Comments:   |              |        |            |           |                |
| No Comment for U1.  |              |        |            |           |                |
| No Comment for U2.  |              |        |            |           |                |
| Unit  | Availability |        | Production |           | Reason for Run |
| CT1 Lodi  | 100.0%       |        | 0.0 MWh    |           | CAISO          |
| Curtailements, Outages, and Comments:   |              |        |            |           |                |
| No Comment.   |              |        |            |           |                |
| Unit  | Availability |        | Production |           | Reason for Run |
| CT2 STIG  | 98.4%        |        | 834.2 MWh  |           | CAISO          |
| Curtailements, Outages, and Comments:   |              |        |            |           |                |
| 6/18/19 - 8/22/19 - Lodi STIG unit de-rated to 44.0mw. 7-6-19 STIG (12hours) o/s for closed cooling water for valve repairs OMS 7439804 0000-1223 |              |        |            |           |                |
| Unit  | Availability |        | Production |           | Reason for Run |
| LEC   | 100.0%       |        | 98,350 MWh |           | CAISO          |
| Curtailements, Outages, and Comments:   |              |        |            |           |                |
| 7-6-19 LEC (12hours) o/s for closed cooling water valve repairs OMS 7439803   |              |        |            |           |                |

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

## Geothermal Facilities

### Availability/Production for July 2019

| Unit                                       | Availability | Net Electricity Generated/Water Delivered | Out-of-Service/Descriptors                                 |
|--|--------------|---|--|
| <b>Unit 1</b>                              | 100 %        | 19,947 MWh                                | U1 was off line 5/1/19 until 2324 5/27/19 for T/G overhaul |
| <b>Unit 2</b>                              | 100 %        | *18,045 MWh                               | U2 was off line 5/1/19 until 1442 5/17/19 for T/G overhaul |
| <b>Unit 3</b>                              | N/A %        | N/A                                       | Unit 3 remains out of service.                             |
| <b>Unit 4</b>                              | 100 %        | 24,853 MWh                                | U4 had no outages for the month                            |
| <b>Southeast Geysers Effluent Pipeline</b> | 97.0%        | 216.0 mgallons                            | Average flow rate: 4,895 gpm                               |
| <b>Southeast Solar Plant</b>               | N/A          | 55,826 KWh                                | Year-to-date KWh: 2,592,157                                |
| <b>Bear Canyon Pump Station Zero Solar</b> | N/A          | 123,617 KWh                               | Year-to-date KWh: 3,457,185                                |

\* Accounts for an additional 6,742 MWh of house load for the 21KV power supply to the effluent pipeline supplied from Unit #2.

## Hydroelectric Project

### Availability/Production for July 2019

| Units               | Availability | Net Electricity Generated | Out-of-Service   |
|---------------------|--------------|---------------------------|--|
| Collierville Unit 1 | 100%         | 24,154 MWh                |  |
| Collierville Unit 2 | 100%         | 35,081 MWh                |  |
| Spicer Unit 1       | 99.69%       | 1,867 MWh                 | NSM #1 was out of service on 7/24/19 for 2.3 hours due to AT&T issue leading to loss of Transfer Trip guard signal |
| Spicer Unit 2       | 99.70%       | 1,864 MWh                 | NSM #2 was out of service on 7/24/19 for 2.2 hours due to AT&T issue leading to loss of Transfer Trip guard signal |
| Spicer Unit 3       | 99.69%       | 337 MWh                   | NSM #3 was out of service on 7/24/19 for 2.3 hours due to AT&T issue leading to loss of Transfer Trip guard signal |

### Operations & Maintenance Activities:

- CMMS work orders
- Vegetation management around Alpine, Union and Utica Reservoirs
- Welding maintenance on spare Pelton runner
- Painting completed on CV intake tower, CV Stop Log and Communication buildings.
- Intern Tour of McKays, Commission Tour of Union Res.
- Preparation for CV Unit #1 Rewind.
- Wildfire Risk Mitigation Project (ongoing)
- Installation of upgraded Red Tag System at CVPH
- McKays Sediment Removal Project Basis of Design Kickoff Meeting

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

- There were no Cal OSHA Recordable or Lost Time Accidents in the month of July. One vehicle accident occurred at the Geo plant. The vehicle accident occurred when a vendor was backing up their work truck and was stung by a bee, causing the driver to momentarily lose control of the vehicle. The vehicle struck a 21kv power pole, breaking the pole in half. There were no injuries associated with this accident. The damage is estimated to cost over \$3,000.
- 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 20, 2019.
- 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 2019 Generation Services Safety Report

|                                     | Hydro   | GEO     | CT Group * | NCPA HQ ** |
|-------------------------------------|---------|---------|------------|------------|
| Cal OSHA Recordable (this month)    | 0       | 0       | 0          | 0          |
| Cal OSHA Recordable (calendar year) | 2       | 0       | 0          | 0          |
| Days since Recordable               | 31      | 361     | 1,566      | 6,634      |
| Work Hours Since Last Recordable    | 2,167   | 76,422  | 232,231    | 2,416,899  |
| LTA's (this month)                  | 0       | 0       | 0          | 0          |
| LTA's (calendar year)               | 0       | 0       | 0          | 0          |
| Days without LTA                    | 4,300   | 1,429   | 9,470      | 5,563      |
| Work Hours without LTA              | 391,064 | 293,397 | 672,775    | 2,038,917  |
| Vehicle Incident (month)            | 0       | 1       | 0          | 0          |
| Vehicle Incident (calendar year)    | 0       | 3       | 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 July 20, 2019.

## 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 2019 Data**

|           | <b>July 2019</b>   |         | <b>Calendar Year 2019</b> |           |
|-----------|--------------------|---------|---------------------------|-----------|
|           | Peak MW            | MWh     | Peak MW                   | MWh       |
| NCPA Pool | 420.42 7/24 @1800  | 212,438 | 470.07 6/11 @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 | 1052.58 6/11 @ 1700       | 3,474,863 |

#### **Last Year 2018 Data\***

|           | <b>July 2018</b>   |         | <b>Calendar Year 2018</b> |           |
|-----------|--------------------|---------|---------------------------|-----------|
|           | Peak MW            | MWh     | Peak MW                   | MWh       |
| NCPA Pool | 419.2 7/25 @1700   | 217,836 | 419.2 7/25 @1700          | 1,332,681 |
| SVP       | 524.94 7/10 @1500  | 326,638 | 529.29 8/9 @1700          | 2,138,338 |
| MSSA      | 935.28 7/10 @ 1600 | 544,474 | 945.44 8/9 @ 1700         | 3,471,019 |

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

#### **System Peak Data**

|           | <b>All Time Peak Demand</b> | <b>2019 Peak Demand</b> |
|-----------|-----------------------------|-------------------------|
| NCPA Pool | 517.83 MW on 7/24/06 @ 1500 | 470.07 6/11 @ 1700      |
| SVP       | 587.78 MW on 6/11/19 @ 1600 | 587.78 6/11 @ 1600      |
| MSSA      | 1070.79 MW on 9/1/17 @ 1700 | 1052.58 6/11 @ 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**

|                               | <b>July 2019</b> | <b>Calendar Year 2019</b> |
|-------------------------------|------------------|---------------------------|
| <b>MSSA % Within the Band</b> | 98.10%           | 95.75%                    |

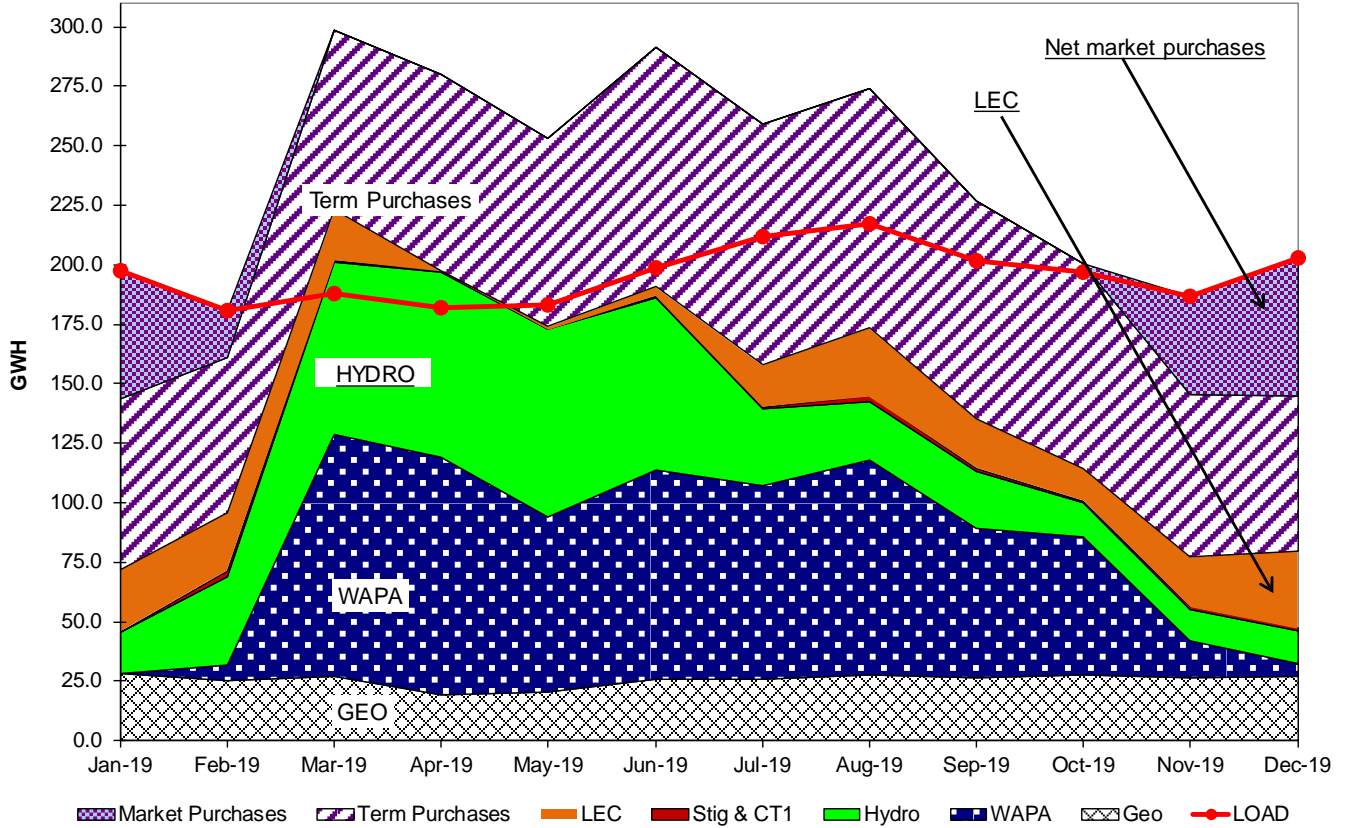
- Spicer Meadows:
  - July 24 @ 0931 - 1144, units off line due to loss of transfer trip guard signal due to AT&T issue. Unit 3 remained on providing station service
- Geothermal Units:
  - July 1 -31, Unit 4 derated to 34 MW for P site well maintenance
- Lodi Energy Center:
  - July 6 @ 0000 - 1223, plant o/s for repairs to close cooling water system isolation valve
- Alameda CTs:
  - No curtailments
- Lodi CT:
  - No curtailments
- Collierville Units:
  - No curtailments
- STIG:
  - July 6 @ 0000 - 1223, plant o/s for repairs to close cooling water system isolation valve



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

- NCPA Pool load in July 2019 was 212,102 MWh, or 97.3% of forecast. Continued mild summer temperatures kept demand below historical levels for most of the month. Pool load through August 14<sup>th</sup> was 100,035 MWh, virtually the same as during August 1-14, 2018 and 46% of the forecast 217,195 MWh for the full month.
- Lodi Energy Center (LEC) operated for all but 7 days during July 2019, generating 25,943 MWh for the Pool, or 69% of the pre-month forecast. Production was lower than the previous July due to strong hydro generation, mild weather and low power prices. Through August 14, 2019 LEC had generated 10,250 MWh for the Pool.
- During July 2019, no rain was recorded at the Big Trees gage. Average July Big Trees precipitation is 0.13”.
- The Value of Storage (VOS) of New Spicer Meadow Reservoir (NSMR) is reduced from \$40/MWh to \$35/MWh.
- NSMR storage as of July 31, 2019 was at 167,917 acre feet. The historical average NSMR storage at the end of July is 136,222 acre feet. As of August 20, 2019 NSMR storage is 154,401 acre feet. The current NCPA Pool share of NSMR storage is 79,008 acre feet.
- Combined Calaveras Project generation for the Pool in June 2019 totaled 32.2 GWh, down from 72.2 GWh in June 2019. The Pool's 32.2 GWh in July 2019 was below the pre-month forecast of 37.0 GWh.
- Western Base Resource (BR) deliveries for the Pool during July 2019 were 81,155 MWh, including Displacement energy totaling 24,328 MWh. The amount delivered was 89% of Western's pre-month forecast. Through August 14, 2019 the pool had received 46,562 MWh, including 16,914 MWh from the Displacement program, or 47% of Western's pre-month forecast of 99,140 MWh for August.
- The PG&E Citygate gas index averaged \$2.57/MMBtu for delivery on August 15, 2019, slightly above the average PG&E gas price during July of \$2.538/MMBtu as temperatures warm up in California and across the country. Strong storage refill continued in July and early August. The August 2019 PG&E Bidweek price is \$2.775/MMBtu, 3.5 cents higher than July's \$2.74 but well below June's \$3.255.
- Day-ahead NP15 electricity prices averaged \$33.35/MWh (HLH) and \$26.38 (LLH) during July 2019, with the hourly TH\_NP15 maximum at \$135.49 on July 24 during a short heat wave. Through early August 2019, daily maximums began to top the \$100 level on August 14 as temperatures across the state rose toward seasonal highs.

## NCPA POOL RESOURCES Calendar 2019: Jan.- July Actual / Balance Forecast



| NCPA Pool Loads & Resources Value Summary                    |                                   |           |          |         |                            |                           |                                 |                        |  |
|--|-----------------------------------|-----------|----------|---------|----------------------------|---------------------------|---------------------------------|------------------------|--|
|  | Peak and Energy Summary<br>Jul-19 |           |          |         | Estimated Production Costs |                           |                                 | Cost of Serving Demand |  |
|  | Coincident                        |           | Forecast |         | NCPA Pool                  |                           |                                 |                        |  |
|  | Peak (MW)                         | Total MWh | Values   | Avg. MW | Cost/Revenue<br>(Estimate) | Variable Cost<br>(\$/MWh) | Totals                          | Avg (\$/MWh)           |  |
|  | Jul-24-19 Hour<br>18              |           |          |         |                            |                           |                                 |                        |  |
| <b>Demand</b>  | 420.4                             | 212,102   | 217,923  | 285.1   | N/A                        | N/A                       |                                 |                        |  |
|  |                                   |           | 68,152   |         |                            |                           | <b>at Market Clearing Price</b> |                        |  |
| WAPA   | -                                 | 81,155    | 91,642   | 109.1   | \$ 2,278,398               | \$ 28.07                  | \$ 7,063,645                    | \$ 33.30               |  |
| Geothermal   | -                                 | 26,022    | 27,534   | 35.0    | 494,411                    | 19.00                     |                                 |                        |  |
| Hydro  | -                                 | 32,272    | 34,805   | 43.4    | 193,632                    | 6.00                      |                                 |                        |  |
| Stig & CTs   | -                                 | 668       | 2,100    | 0.9     | 33,960                     | 50.85                     |                                 |                        |  |
| LEC  | -                                 | 17,686    | 25,943   | 23.8    | 537,305                    | 30.38                     |                                 |                        |  |
| Contracts  | -                                 | 101,143   | 106,179  | 135.9   | 6,461,948                  | 63.89                     | \$ 8,190,704                    | \$ 38.62               |  |
| <b>Market - Net</b><br><small>(Net Sales = Negative)</small> | 420.4                             | (46,844)  | (70,280) | (63.0)  | (1,486,240)                | 31.73                     |                                 |                        |  |
| <b>Net Total</b>   | 420.4                             | 212,102   | 217,923  | 285.1   | \$ 8,513,414               | \$ 38.62                  |                                 |                        |  |

| Monthly Market Summary |                      |                         |  |  |                    |          |
|------------------------|----------------------|-------------------------|--|--|--------------------|----------|
|                        | Pool Energy<br>(MWh) | HLH Avg MCP<br>(\$/MWh) | Avg Variable<br>Cost of Pool<br>Generation<br>(\$/MWh) | Forward Prices (EOX NP15 HLH Ask Prices) |                    |          |
|                        |                      |                         |  | NP15 7/1/2019<br>(\$/MWh)                | 8/15/2019 (\$/MWh) |          |
| Jan-19                 | 197,652              | \$ 42.93                | \$ 45.13   | Aug-19                                   | \$ 55.72           | \$ 37.90 |
| Feb-19                 | 180,866              | \$ 79.12                | \$ 41.57   | Sep-19                                   | \$ 44.97           | \$ 39.67 |
| Mar-19                 | 187,890              | \$ 39.02                | \$ 24.83   | Oct-19                                   | \$ 42.02           | \$ 38.04 |
| Apr-19                 | 178,692              | \$ 24.88                | \$ 28.55   | Q4 2019                                  | \$ 44.87           | \$ 39.67 |
| May-19                 | 183,123              | \$ 20.05                | \$ 32.01   | Q1 2020                                  | \$ 42.94           | \$ 38.96 |
| Jun-19                 | 198,698              | \$ 25.83                | \$ 38.09   | Q2 2020                                  | \$ 27.83           | \$ 28.64 |
| Jul-19                 | 212,102              | \$ 33.30                | \$ 38.62   | CY2020                                   | \$ 41.10           | \$ 38.34 |
| Aug-19                 |                      |                         |  | CY2021                                   | \$ 43.61           | \$ 39.42 |
| Sep-19                 |                      |                         |  | CY2022                                   | \$ 45.60           | \$ 40.21 |
| Oct-19                 |                      |                         |  | CY2023                                   | \$ 46.22           | \$ 39.89 |
| Nov-19                 |                      |                         |  | CY2024                                   | \$ 46.50           | \$ 39.05 |
| Dec-19                 |                      |                         |  | CY2025                                   | \$ 46.76           | \$ 38.83 |

**NOTES TO SUMMARY TABLE:**

**Peak and Energy Summary:**  
 \* Monthly generation summary of Coincidental Peak (hour in which pool demand peaked), total MWh for the month, and pre-month forecasted values for report period.  
 \* Generation totals are for POOL SHARE of the projects.  
 \* Hydro totals include Collierville and Spicer generation.

**Estimated Production Costs:**  
 \* Fixed project costs not included except for WAPA, where total month's project costs are used to calculate the average unit cost.  
 \* STIG and CT costs include forward natural gas and basis hedge transactions.  
 \* STIG & CT costs reflect \$2.60 and \$1.62/MWh variable O&M costs per 6-12-06 GSCA.

**Cost of Serving Demand:**  
 Compares price of meeting total monthly demand with (1) Hourly pool market clearing price; (2) Variable cost of pool gen. Pool Gen is sum of estimated costs divided by sum of generation

## **Industry Restructuring, Contracts and Interconnection Affairs**

### **Resource Adequacy Compliance Filings**

- NCPA made the following Resource Adequacy compliance filings with the CAISO for the compliance period October 2019:
  - Monthly System Resource Adequacy Demonstration (filed August 16, 2019)
  - Monthly Supply Plan (filed August 16, 2019)

### **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:

#### **Resource Adequacy Enhancements**

- Due to the rapid transformation of the resource mix in California, the CAISO is currently re-examining the CAISO Resource Adequacy requirements and rules. This initiative will explore changes to the CAISO's Resource Adequacy requirements and rules to ensure the resources providing reserve services are effectively supporting reliable operations of the grid.
- CAISO is proposing massive overhauls to its RA program in conjunction with CPUC changes. Specific areas the CAISO is looking at are termination of the Resource Adequacy Availability Mechanism for System capacity and replacing it with "less complicated" counting rules similar to eastern RTOs, import eligibility, exemptions, maximum import capability calculations and allocations, redefining Planned and Forced outages, new "fast" and "long" ramping products.
- NCPA submitted the following points in the latest round of initiative comments:
  - Concern that UCAP will not properly account for unconventional resources
  - Support in using CAISO's own systems to track outages rather than rely on NERC systems
  - Supports procurement of additional capacity when system is deficient as opposed to individual LSEs
  - Requested clarification that LF-MSS self-provision RA will remain exempt from Must Offer Obligation in CAISO markets
  - When MOO is applicable, it should be set at UCAP as instead of NQC
  - Concern that substitution comparability test may be too restrictive
  - Offered suggestions to improve allocation of RA import capability
  - Seeks clarification for flexible RA allocation exempt language from "changes in load" to "change in load between the day-ahead market and meter".
  - Expressed strong opposition to UCAP deficiency tool due to potential for market power.

#### **Day-Ahead Market Enhancements**

- This initiative will explore new day-ahead products that will address ramping needs between intervals and uncertainty that can occur between the day-ahead and real-time markets.

- The latest working group occurred on 8/13/2019. 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
- New Imbalance Reserve Product (IRP) will be designed to address granularity and uncertainty between day-ahead and real-time markets:
  - Hourly product; 15-minute dispatchable; Biddable; Covers granularity difference and uncertainty between DAM and FMM; All awards are co-optimized and settled simultaneously; DAM has no energy price formation issue because the market solves all hours in a single optimization; Stepped relaxation parameters (proposed)
- CAISO reviewed two options for applying IRP:
  - Option 1 – Financial
    - Co-optimizes bid-in demand, ancillary services and imbalance reserves
    - Imbalance reserves cover historical uncertainty between IFM cleared net load and FMM net load
    - Exceptional dispatch if IFM clears inconsistent with operational needs
  - Option 2 – Financial + Forecast
    - Co-optimizes bid-in demand, ISO reliability capacity, ancillary services and imbalance reserves
    - Imbalance reserves cover historical uncertainty between ISO's day-ahead net load forecast and FMM net load
    - Reliability capacity covers differences between ISO net load and cleared net load
    - Exceptional dispatch if IFM/RUC clears inconsistent with operational needs
- Comments will include tentative support of Option 2 along with requests for special Load Following MSS cost allocation netting.
- CAISO reviewed policy alignment and relationships among Day Ahead Market Enhancements, Extending Day Ahead Market to EIM, and Resource Adequacy Enhancements.

### Review Transmission Access Charge Structure

- This initiative will consider possible changes to the CAISO's current volumetric Transmission Access Charge (TAC) structure for recovering participating transmission owners' costs of owning, operating and maintaining transmission facilities under CAISO operational control. The CAISO will consider stakeholder input on the initiative scope, which will include possible changes to reflect the benefits of distributed resources in reducing future transmission needs.
- CAISO's draft final proposal includes a hybrid billing determinant consisting of volumetric and peak demand functions in order to address cost shifts as well as the full impact of high coincident peak demand, low load factor UCD areas that have

relatively lower volumetric use compared to high load factor areas. It received general support from the market and will be presented to the CAISO board this year.

- 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.

### Hybrid Resources

- As generation developers become increasingly interested in pairing energy storage with existing or proposed generation, this initiative will explore how such “hybrid” generation resources can be registered and configured to operate within the ISO market. This initiative will develop solutions allowing developers to maximize the benefits of their resource’s configuration. Hybrid resource configurations also raise new operational and forecasting challenges that ISO plans to address during this initiative.
- CAISO refers to hybrid projects or hybrid resources as a combination of multiple technologies or fuel sources combined into a single resource with a single point of interconnection. Projects are not required to include storage to be considered hybrid resources.
- Approximately 41% of the total capacity currently seeking interconnection is hybrid resource configurations.
- Initial Objectives:
  - Promote the reliable and efficient integration of hybrid resources
  - Address additional technical questions surfaced by increasing numbers and interest in hybrid resources:
    - Configurations, metering, operations, market participation, and settlements
  - Address new operational and forecasting challenges raised by hybrid resources
    - New requirements may be needed to provide reliable participation by hybrid resources
- CAISO prefers customers to register a resource ID for each technology/fuel source for increased visibility in order to address uncertainty issues. CAISO reminds participants that separate resource IDs are required to provide forecasts for hybrid resources that include eligible/participating intermittent resources. The forecasts help to minimize uninstructed imbalance energy charges.

## Western

### Western Base Resource Tracking (NCPA Pool)

| Western Base Resource Tracking - NCPA Pool  |                                   |                       |                     |                          |   |   |  |
|---|-----------------------------------|-----------------------|---------------------|--------------------------|---|---|--|
|   | Actual                            |                       |                     | Costs & Rates            |   |   |  |
|   | BR Forecast <sup>1</sup><br>(MWh) | BR Delivered<br>(MWh) | Difference<br>(MWh) | Restoration Fund<br>(\$) | Monthly Cost of BR <sup>2</sup><br>(\$/MWh) | CAISO LMP Differential <sup>3</sup><br>(\$/MWh) | 12-Mo Rolling Avg. Cost of BR <sup>4</sup><br>(\$/MWh) |
| Jul-19  | 95,615                            | 81,155                | (14,460)            | \$2,134,816              | \$ 26.31                                    | \$ (0.02)                                       | \$ 30.98   |
| Aug-19  | 75,245                            | -                     | (75,245)            | \$2,134,816              | \$ 28.37                                    | \$ -  | \$ 30.98   |
| Sep-19  | 46,290                            | -                     | (46,290)            | \$2,199,485              | \$ 47.52                                    | \$ -  | \$ 32.11   |
| Oct-19  | 23,193                            | -                     | (23,193)            | \$1,139,485              | \$ 49.13                                    | \$ -  | \$ 33.73   |
| Nov-19  | 7,602                             | -                     | (7,602)             | \$1,139,485              | \$ 149.88                                   | \$ -  | \$ 35.37   |
| Dec-19  | 6,564                             | -                     | (6,564)             | \$1,139,485              | \$ 173.60                                   | \$ -  | \$ 37.00   |
| Jan-20  | 9,331                             | -                     | (9,331)             | \$1,139,485              | \$ 122.12                                   | \$ -  | \$ 37.90   |
| Feb-20  | 17,163                            | -                     | (17,163)            | \$1,139,485              | \$ 66.39                                    | \$ -  | \$ 38.71   |
| Mar-20  | 27,643                            | -                     | (27,643)            | \$1,139,485              | \$ 41.22                                    | \$ -  | \$ 38.23   |
| Apr-20  | 52,877                            | -                     | (52,877)            | \$2,379,753              | \$ 45.01                                    | \$ -  | \$ 38.29   |
| May-20  | 84,464                            | -                     | (84,464)            | \$2,379,753              | \$ 28.17                                    | \$ -  | \$ 39.36   |
| Jun-20  | 90,039                            | -                     | (90,039)            | \$2,379,753              | \$ 26.43                                    | \$ -  | \$ 40.04   |
| 1/ As forecasted in NCPA 19/20 Budget<br>2/ = (Western Cost + Restoration Fund)/BR Delivered, for Pool Participants only.<br>3/ = (MEEA LMP - PG&E LAP LMP) using public market information (i.e. not settlement quality).<br>4/ Based on BR Delivered (Actual) when available and BR Forecast in all other cases. Includes CAISO LMP impact. |                                   |                       |                     |                          |   |   |  |

- NCPA Pool received 81,155 MWh Base Resource (BR) energy in July 2019. This includes 24,328 MWh of Displacement energy for an estimated savings of \$133,993, or about \$5.50/MWh.
- NCPA Pool received 576,141 MWh Base Resource energy in Fiscal year 2019 (July 2018 through June 2019).
- Pool Members' total savings under Market Efficiency Enhancement Agreement (MEEA) pricing cost Pool Members approximately \$1,000 in July 2019. The net negative saving was due to lower congestion prices for import at COTP and PACI.

### Western Base Resource Scheduling Flexibility

- WAPA and BOR implemented Base Resource Min-Take Experiment 3 customer pre-disclose energy beginning operating date July 11, 2019. The intent is to potentially lower the Base Resource Min-Take even more for all Base Resource customers during the low value hours. WAPA shared analysis for the first two operating days: July 11, 2019 and July 16, 2019. Based on NCPA's preliminary analysis, NCPA Pool shows an added value of about \$2,000 total for these two days.

## Interconnection Affairs

### PG&E Update

#### Public Safety Power Shut Off (PSPS) Program

- NCPA submitted an updated member contact list to PG&E on July 24. NCPA Dispatch has also added member contacts to the Everbridge system and is set up to inform Members in case we are notified of a potential or actual PSPS event.
- The ISO hosted its second PSPS stakeholder call on July 30<sup>th</sup>. This was an informational call to explain how ISO will be coordinating with the IOU's. The ISO explained the IOU's are responsible for the PSPS program and ISO will only be assisting facilitate the program. In other words, the ISO will be responsible for grid reliability, balancing the grid by load shedding, curtailment, and reducing any impacts to neighboring balancing authorities. ISO will communicate with affected stakeholders through market notices or other operational alerts in the event an IOU notifies the ISO of a potential or actual PSPS event.
- PG&E originally stated providing NCPA with a draft communication protocol document by mid-August but has recently stated the communication protocols will be part of a CPCU filing. NCPA's L&R team is monitoring the CPUC filing. More information on this topic will be provided to members as soon as it's received.

#### FERC Order 890 Case

- NCPA continues to work with PG&E to construct a stakeholder process for their self-approved capital projects. Recently PG&E submitted a 5 year plan capital plan. CPUC and NCPA jointly selected seven projects for PG&E to present during our next meeting. Within the seven projects, we should be able to gauge how PG&E does a business case and cost benefit analysis prior to approving capital projects. Next meeting with PG&E is tentatively scheduled for mid-September.

#### TO-20 Rate Case

- This case is currently in settlement discussions. PG&E is asking for a ROE 12.5%, stating wildfire mitigation cost for this increase. Typically the return of equity is somewhere in the low 9 percent range.
- PG&E has inserted the FERC 890 case/their self-approved projects stakeholder process into the TO-20 settlement discussions. The joint interveners are currently evaluating how to proceed.

#### 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.
- NCPA anticipates this matter will be set for settlement. During such settlement discussions, the issue of decommissioning and other outstanding issues will be further negotiated between the parties

## **Debt and Financial Management**

- At the July 31<sup>st</sup> meeting, the Federal Reserve cut interest rates for the first time in more than a decade lowering its target rate to a range of 2 to 2.25 percent.
- As mentioned in last month's BPR, the quarter-point decrease was widely expected and the Fed's first rate cut since 2008. But unlike those cuts, which were intended to rescue a failing economy, the Fed's move was seen as a precautionary effort to protect the United States from slowing growth in China and Europe and uncertainty over President Trump's trade war.
- Approximately two weeks after the Fed's rate reduction, the yield on the 10-year Treasury note broke below the 2-year rate, an odd bond market phenomenon that has been a reliable, albeit early, indicator for economic recessions. The yield on U.S. 30-year bond also turned heads as it fell to an all-time low, dropping past its prior record notched in summer 2016. The two historic moves coming in tandem show that investors are increasingly worried, and indeed preparing for, a slowdown in both the U.S. and global economies. According to Credit Suisse, a recession occurs, on average, 22 months following such an inversion. Time will tell.
- At the August Finance committee, staff reviewed and analyzed the 14 proposals received to refund the Capital Facilities Series 2010 A bonds. The Committee provided direction to use JP Morgan as the Underwriter on this public sale transaction. Over the next several months, staff and the project participants will begin the process of updating the official statement and other legal documents with an estimated NPV savings of over 9%. The refunding should hopefully generate over \$2m in total debt service savings.

## **Schedule Coordination Goals**

### **Software Development**

- Staff, in collaboration with Power Management, Generation Services, and a consultant, have begun efforts to develop a solution to enable Multi-Stage Generation capability for the Lodi Energy Center. Business Analysis and software development is underway in preparation for a market simulation as early as September 2019 and anticipated to go live in early 2020.
- The Risk Management application was successfully rolled out to the CCA customers.



- The enhanced Deal Manager application which enables members and customers access to a read-only view of the DCS3 Checkout was successfully rolled out.
- Work continues to develop the replacement for the NCPA Automated Dispatch System. Completion is anticipated middle of next year.
- Work is in progress to automate and integrate members' monthly Resource Adequacy demonstrations and supply plans into NCPA's bid-to-bill system.

### **Network**

- Progress continues to be made upgrading staff to Windows 10 with over 65% of the Agency on the new Operating System. The goal is to have all workstations moved over before the end of 2020.
- The Ops and Support group has been working alongside Power Management and Settlements in preparation for the CAISO MSG market simulation later this summer. Part of this effort will include enhancements to SCADA control logic for LEC configurations along with updating dispatch control center screens.
- New Fortinet firewalls was purchased to replace the off support Cisco ASA's that are used to protect Control Center ICS networks. Staff has attended training to configure and manage the new firewalls, which is scheduled to be installed this fall.
- Ops and Support staff visited South Feather Water and Power (SFWP) Agency to perform a site visit to access the scope of integration requirements for each of the hydro asset controls and associated telemetry in consideration of potential scheduling coordinator services.

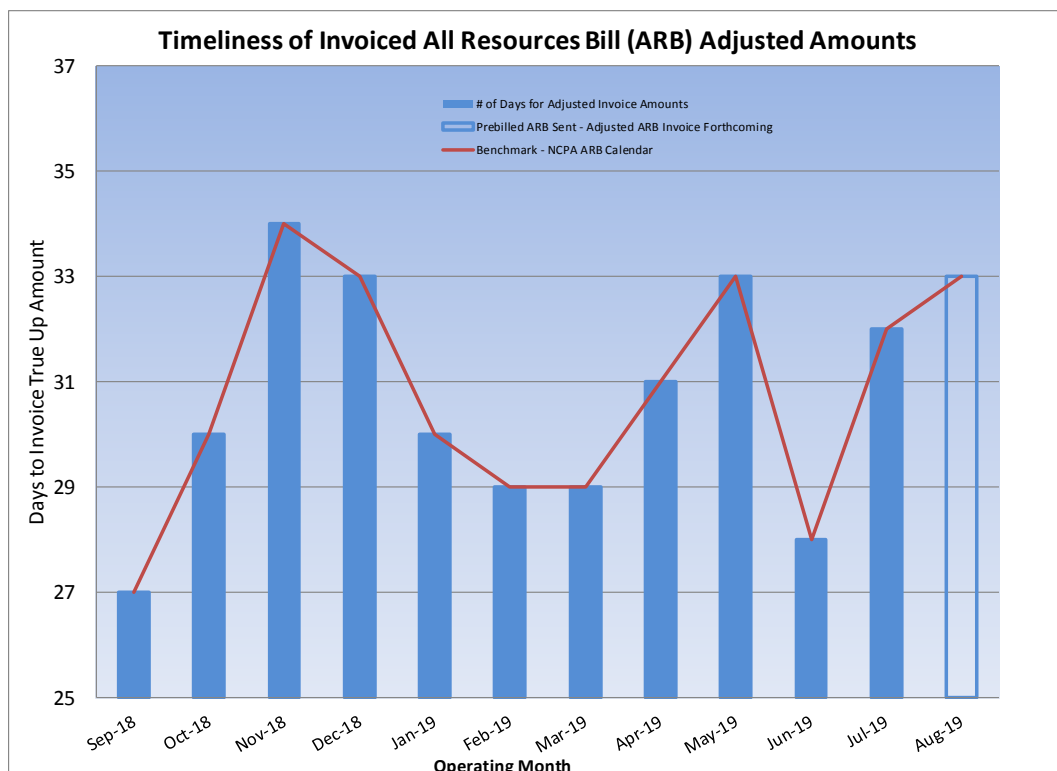
# NCPA Bills & Settlements

## 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 August 2019 NCPA All Resources Bill (ARB) monthly invoice sent to members on July 23, 2019 contains:

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



## **Legislative & Regulatory**

### **Political Arena State/Federal/Western Programs**

- The State Legislature has returned for its final month of the 2019 legislative year, which will end on September 13th. NCPA has been actively advocating on key legislation related to wildfires, securing amendments to SB 560 by Senator McGuire (D-Healdsburg) to underscore the need for coordination on transmission-level de-energizations. Also, NCPA remains engaged in efforts to oppose potential legislation that would mandate procurement of pumped hydroelectric storage resources. Bills must pass through Appropriations Committees by the end of the month to proceed, leaving the first two weeks in September for floor votes in both houses.
- From July 29 - 31, NCPA hosted over twenty legislative staff for its annual State Legislative Staff Tour with stops in Redding, Shasta Lake, Portola, and Truckee. Legislative staff in attendance represent legislators in leadership roles, NCPA's member delegation, and offices that serve on Senate and Assembly energy, environmental quality, and water policy committees. Participants toured the Shasta Dam, members' transmission and distribution infrastructure, electric vehicle charging infrastructure, and members' communities. Key topics discussed included the value of hydropower for meeting statewide carbon neutrality goals, wildfire issues for electric utilities, and highlights of innovative customer programs that NCPA members are implementing in their communities.

## **Human Resources**

### **Hires:**

Michael Fallon, joined NCPA on July 29, 2019 as Environmental Health & Safety Specialist at our Lodi Energy Center in Lodi, CA. Michael has over 14 years of Environmental Health compliance experience having previously worked for Union Pacific Railroad as a Manager Environmental File Operations.

Dylan Esquivel, joined NCPA on July 29, 2019 as an Engineer IV at our Geothermal Facilities in Middletown, CA. Dylan has over 7 years of power generation experience having previously worked for Carbon GeoCycle/Clear Creek Partners as an Operations Manager, Petroleum Engineer.

### **Intern Hires:**

None

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

Herb Harsch was promoted to Hydroelectric Technical Supervisor on August 4, 2019. Herb has a very strong background in hydroelectric power, with over 40 years of experience. Prior to joining the NCPA Hydro team in 2012, Herb was the ISTS SCADA Expert and IT SCADA Supervisor with PG&E and also served as PG&E's NERC CIP subject matter expert. Herb is a state certified Communications Technician, state certified Electrical Technician, and state certified Electrician.

**Separations:**

Pawel Mozdzen, Sharepoint Administrator, resigned from his position at our Headquarters office to pursue other career opportunities, effective August 23, 2019.

Ryan Deleurme, Assistant Student Intern II, NCPA HQ Information Services, last day August 13, 2019

Roberto Gomez, Assistant Student Intern II, City of Healdsburg, last day August 14, 2019

Julian Pelzner, Assistant Student Intern IV, City of Alameda, last day August 15, 2019

Sarah Naameh, Assistant Student Intern II, City of Alameda, last day August 15, 2019

Brian Popish, Assistant Student Intern IV, NCPA LEC, last day August 23, 2019

Annalise Capener, Assistant Student Intern IV, City of Redding, last day August 29, 2019

Ryan Heryford, Assistant Student Intern II, NCPA Hydroelectric, last day August 29, 2019

Nicholas Greco, Assistant Student Intern IV, City of Redding, last day August 30, 2019