

DOCKETED

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*Comment Received From: Steve Uhler
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Docket Number: 19-OIR-01*

OIR-19-01 My replies to Questions for Stakeholders

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CEC Questions for Stakeholders (1) What are your recommended additions or modifications to this draft scope?

My reply to (1):

Real-time Greenhouse gas output information by location.

Real-time unused renewable capacity information by deliverable locations.

Real-time usage information for energy end users.

The above information would be used by the energy end user to operate a Kanban to supply just in time load to make best use of renewable energy.

CEC Questions for Stakeholders (2) Are there additional technologies, strategies, studies, or other materials that should be considered in this rulemaking? If so, please provide a brief description and a link to relevant information.

My reply to (2)

Just in time rates need modeling by discrete event. The analog modeling that the Energy Commission uses will not identify system constraints at the level to prevent missed opportunities and may lead to dangerous events. Just as the resource chart known as the "Duck Chart" was overlooked by the Energy Commission, the continued use of analog modeling by the Energy Commission will fail to identify dangerous system conditions.

Discrete event modeling requires accurate identification of all components. This is something the Energy Commission has failed to do.

How fast can the Energy Commission produce a complete and accurate list on all power generation used on the grid? The Energy Commission is over forty years old, I believe the Energy Commission can't put together such a list in less than two years.

Use manned flight awareness, ask yourself, would I fly in an aircraft designed using the modeling systems the Energy Commission uses?

As to identifying if a rate structure reduces the need for fossil fueled power, here are links to two charts that identify where the energy comes from to balance the system. Compare the two charts

to identify how SRP balances part of CAISO's solar power.

https://wwmpd.com/energy/eia/source/srp/srp_46_focus.svg

https://wwmpd.com/energy/eia/source/ciso/ciso_46_focus.svg

Link to a chart that shows a POU exporting coal power to CAISO.

https://wwmpd.com/energy/eia/source/ldwp/ldwp_47_focus.svg

Link to a chart that shows a POU exporting natural gas and hydro power to CAISO while importing power from Bonneville Power Administration.

https://wwmpd.com/energy/eia/source/banc/banc_47_focus.svg

A link to a chart that shows a POU exporting imported power.

https://wwmpd.com/energy/eia/source/banc/tidc_47.svg

See attached set of charts below.

CEC Questions for Stakeholders (3) Beyond those mentioned here, what end-uses and customers are likely to be able to benefit from demand flexibility on voluntary hourly and sub-hourly tariffs?

My reply to (3)

In cases where power is shut off to reduce wildfires, customers who face power shut off may benefit from storage. One benefit would be to charge when costs are low or negative. As more storage is placed at the load, customers can control cost by synchronizing charging cycles to lowest cost. As cost rises, customers can stop charging at the price point that optimizes return on investment.

CEC Questions for Stakeholders (4) What economic impacts should be considered? (e.g. positive or negative effects on load serving entities, customers, workforce, vendors, generators, etc.)

My reply to (4)

See my reply to (3) and consider the likelihood of a dangerous event coming from price signals and end user actions.

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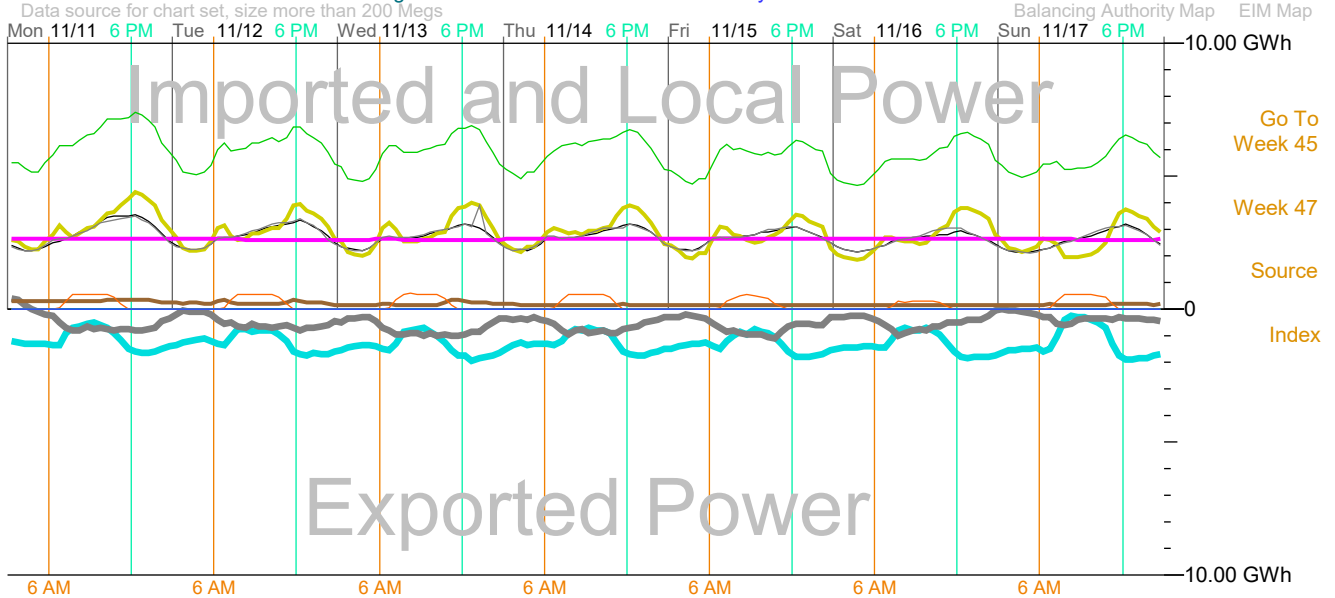
Additional submitted attachment is included below.

OIR-19-01 charts for my replies to Questions for Stakeholders

SRP balancing part of CAISO solar

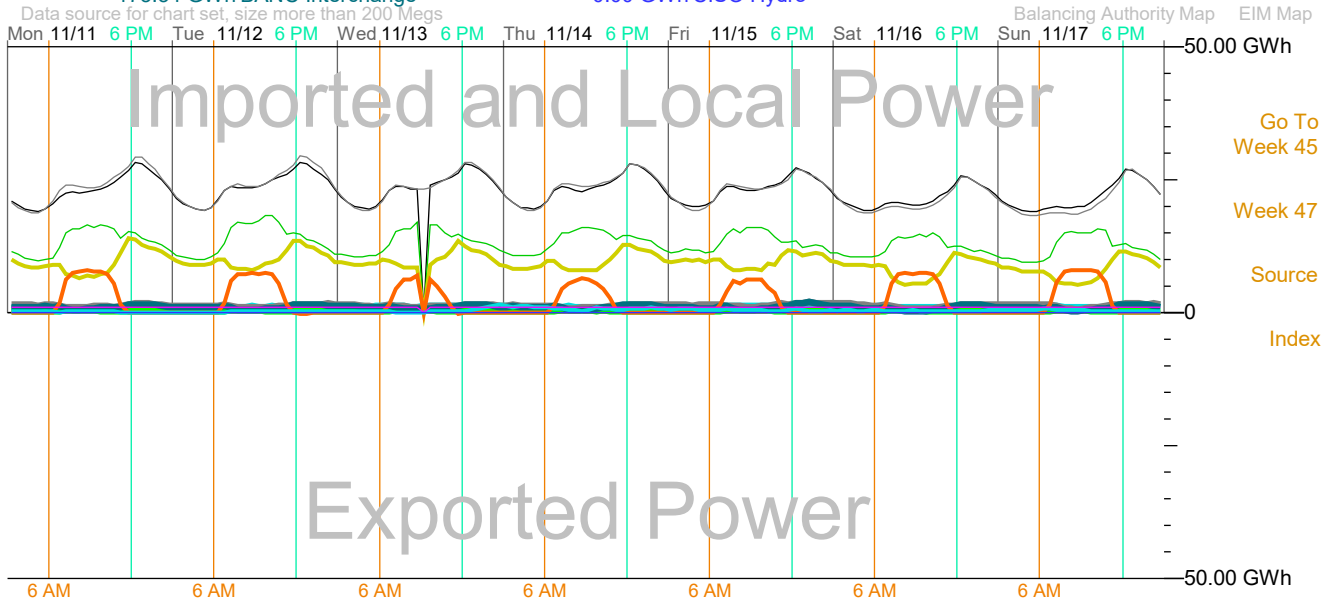
Week 46 of 2019 for Salt River Project Agricultural Improvement and Power District (SRP) Focus Chart

- | | | |
|---------------------------------|------------------------------|--------------------------------|
| — 455.17 GWh SRP Load Demand | — 33.59 GWh SRP Coal | — 457.49 GWh SRP Load Forecast |
| — 987.50 GWh SRP Net Generation | — 482.58 GWh SRP Natural Gas | |
| — -215.12 GWh CISO Interchange | — 27.57 GWh SRP Solar | |
| — -90.60 GWh AZPS Interchange | — 0.00 GWh SRP Wind | |
| — 0.00 GWh PACE Interchange | — 443.72 GWh SRP Nuclear | |
| — 0.00 GWh BANC Interchange | — 0.07 GWh SRP Hydro | |



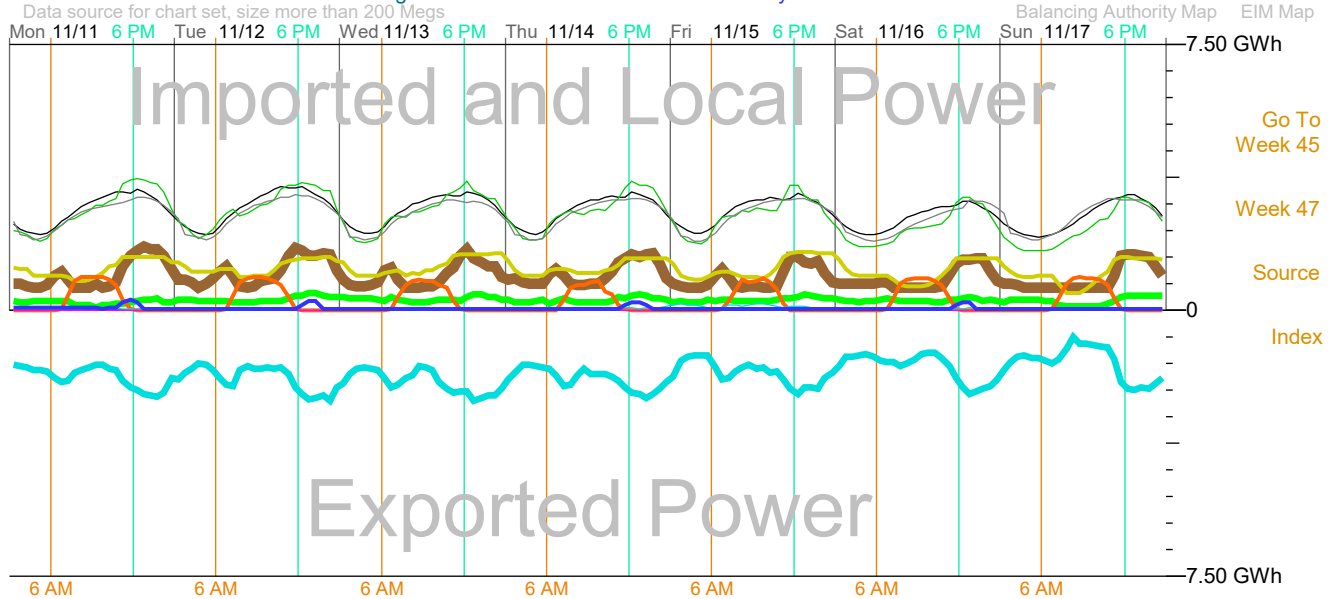
Week 46 of 2019 for California Independent System Operator (CISO) Focus Chart

- | | | |
|------------------------------------|---------------------------------|-----------------------------------|
| — 3,827.28 GWh CISO Load Demand | — 2.46 GWh CISO Coal | — 3,849.34 GWh CISO Load Forecast |
| — 2,191.08 GWh CISO Net Generation | — 1,558.95 GWh CISO Natural Gas | |
| — 187.90 GWh AZPS Interchange | — 363.65 GWh CISO Solar | |
| — 221.34 GWh BPAT Interchange | — 64.84 GWh CISO Wind | |
| — 58.01 GWh IID Interchange | — 186.15 GWh CISO Nuclear | |
| — 173.34 GWh BANC Interchange | — 0.00 GWh CISO Hydro | |



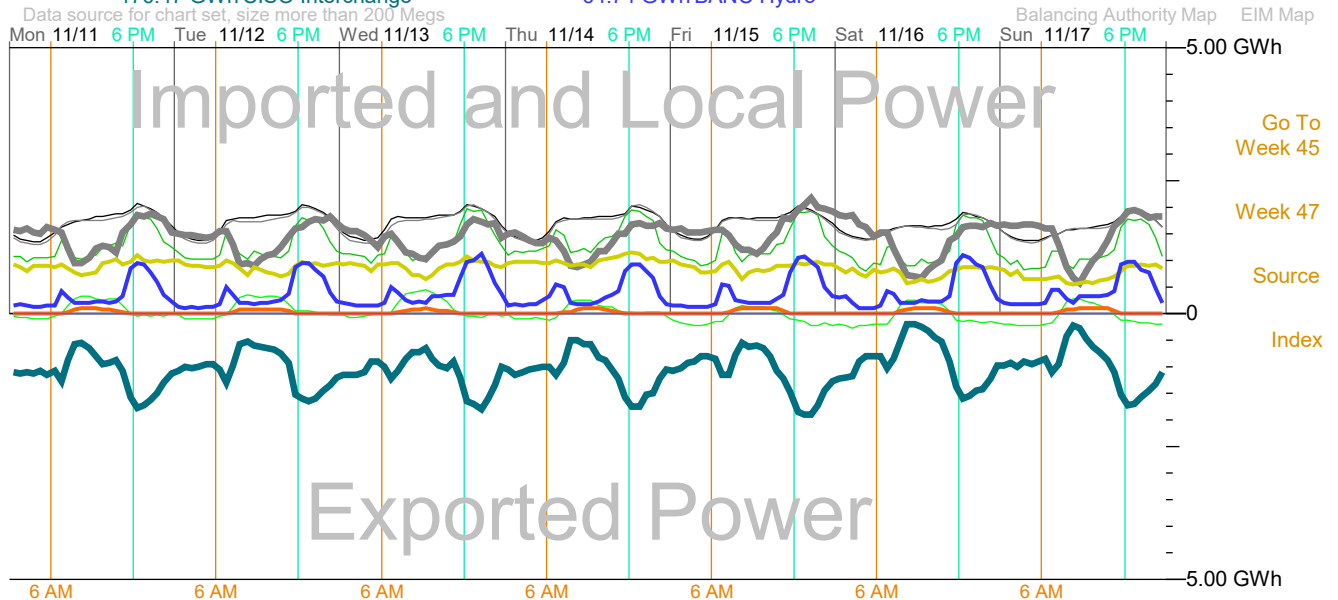
LADWP exporting coal and natural gas power to CAISO

Week 46 of 2019 for Los Angeles Department of Water and Power (LDWP) Focus Chart



BANC exporting natural gas and hydro power to CAISO while importing power from Bonneville Power Administration (BPAT)

Week 46 of 2019 for Balancing Authority of Northern California (BANC) Focus Chart



Did you notice the tiny amount of solar power BANC balances, and no wind power at all.

TIDC exporting to BANC imported power from CAISO and vice versa.

Week 46 of 2019 for Turlock Irrigation District (TIDC) Focus Chart

- | | | | | | |
|---|-------------------------------|---|----------------------------|---|------------------------------|
| — | 45.48 GWh TIDC Load Demand | — | 0.00 GWh TIDC Coal | — | 45.65 GWh TIDC Load Forecast |
| — | 32.98 GWh TIDC Net Generation | — | 31.18 GWh TIDC Natural Gas | — | |
| — | -2.04 GWh BANC Interchange | — | 0.00 GWh TIDC Solar | — | |
| — | 0.00 GWh LDWP Interchange | — | 0.00 GWh TIDC Wind | — | |
| — | 0.00 GWh BPAT Interchange | — | 0.00 GWh TIDC Nuclear | — | |
| — | 14.49 GWh CISO Interchange | — | 1.80 GWh TIDC Hydro | — | |

