



# Overview of CAISO's Transmission Planning Process and implications for Integrated Resource Planning

*Proposed Reference System Plan for the CPUC Integrated  
Resource Planning (IRP) Process, San Francisco  
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# Overview of ISO's Transmission Planning Process (TPP)

- The TPP provides a comprehensive evaluation of the ISO transmission grid to identify upgrades needed to maintain reliability, successfully meet public policy goals, and identify projects that can bring economic benefits to consumers.
- The TPP is an annual process, spanning 15 months (*e.g.*, from January 2017 to March 2018\*). Each plan builds off the previous plan.
- The TPP culminates in an ISO Board of Governors approved transmission plan that identifies needed transmission and **authorizes seeking cost recovery through ISO transmission rates** subject to FERC prudence approval.

\*Timing does not include an optional third phase for competitive solicitations. Competitive solicitations are conducted from April to December of the second year.

# State agency coordination is foundational to the TPP

- Process alignment since 2014:
  - The TPP uses the long-term forecasts of energy demand, including load modifiers, from the California Energy Commission's (CEC's) Integrated Energy Policy Report (IEPR). Data is available by approximately January of each year.
  - The TPP uses the assumptions & scenarios (A&S) document developed by the CPUC within the long-term procurement plan (LTPP) proceeding. One of the assumptions developed in each cycle is the renewable portfolio standard (RPS) resource portfolios to be used by the TPP to identify needs for public-policy transmission upgrades. CAISO needs the A&S document by approximately February of each year.

# State agency coordination is foundational to the TPP

- Recent developments:
  - On June 13, 2016, the CEC and CPUC jointly recommended a 33% RPS portfolio to be used in the 2016-2017 TPP. The commissions noted numerous unresolved processes, new legislation, and constraints that prevented them from recommending a 50% RPS portfolio.<sup>1</sup> The same 33% portfolio was used in the 2017-2018 TPP.
  - In March 2017 the Renewable Energy Transmission Initiative 2.0 (RETI 2.0) published its final report identifying the constraints and opportunities for new transmission in response to the Governor's executive order.<sup>2</sup>
  - IRP is a major change to the existing process alignment.

<sup>1</sup><http://www.caiso.com/Documents/2016-2017RenewablePortfoliosTransmittalLetter.pdf>

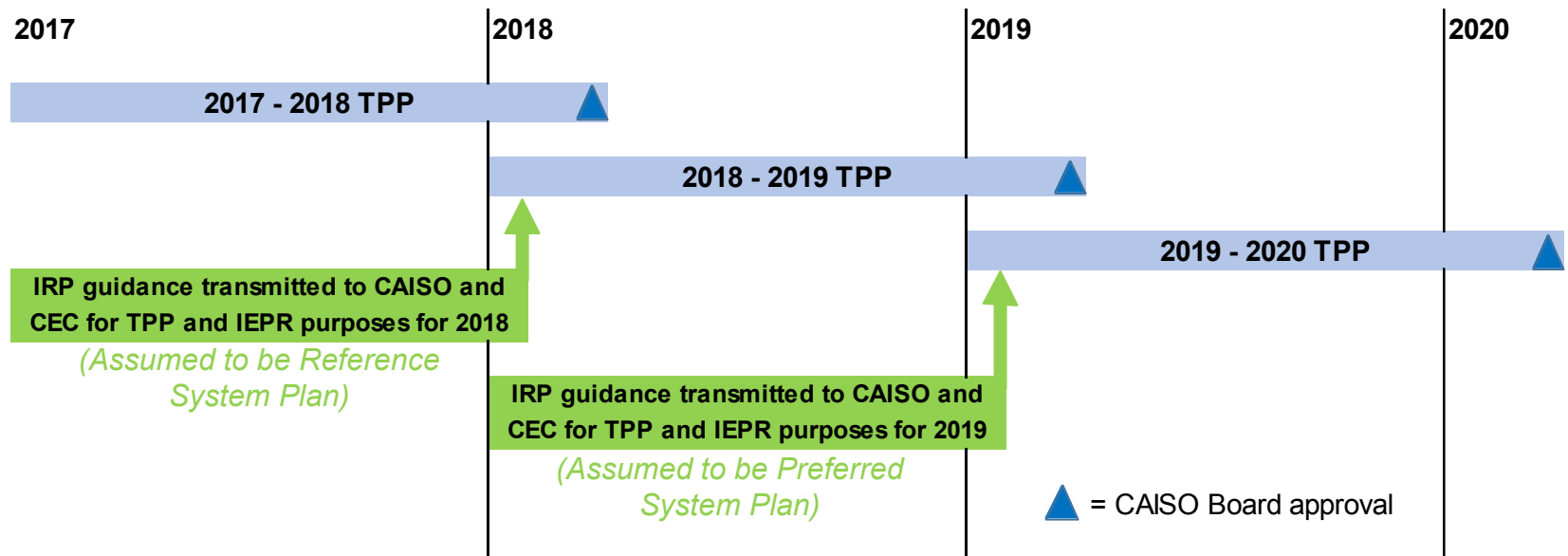
<sup>2</sup><http://www.energy.ca.gov/reti/>

# Expectations for RPS portfolios in the TPP

- The CAISO relies on RPS portfolios from the CPUC to meet the state's public policy goals. CAISO does not develop its own RPS portfolios.
- Similarly, market participants and transmission developers rely on this coordination to provide certainty of the state's intent to justify spending time resources, and money to develop projects.
- The CAISO Board approves the transmission projects for cost allocation, including projects to support public policy, with the understanding that state agencies support the intent of the infrastructure.
- Transmission developers may then apply to the CPUC for siting justifying their projects as interconnecting the RPS portfolios that the CPUC provided to the CAISO.
- While assumptions may vary from year to year, the previous year's plan is the starting point for the next TPP cycle. Existing needs are expected to be preserved when analyzing new needs. This reduces churn and lends credibility to the process.

# ALJ ruling proposal and TPP alignment

- CAISO's views in this presentation are based on a preliminary review of the ALJ ruling and materials.
- The following is the CAISO's interpretation of how the ALJ ruling's proposal to provide RPS portfolios to the TPP fits into the current timeline.



- ALJ Ruling raises a number of material questions for the CAISO.

## A word on “special studies”

- “Special studies” were developed in the TPP because they were an efficient way to study emerging issues the CAISO needed to proactively consider, and also provided stakeholder transparency on the issues and results.
- Special studies are not defined in the CAISO tariff as an official part of the TPP and are therefore:
  - Optional
  - Conducted when CAISO has the resources and a particular need arises
  - Informational and carry no approval weight

# Questions for current CPUC proposal

- The CPUC will decide whether to authorize procurement based on approved, aggregated load serving entity (LSE) plans (*i.e.*, the Preferred System Plan). On the other hand, LSEs may deviate from the Reference System Plan resource mix, if justified. (Attachment A, p. 13) The proposed ruling suggests providing a Reference System Plan-based RPS portfolio for the 2018-2019 TPP and then “replacing” with a Preferred System Plan-based portfolio for the 2019-2020 TPP.
  1. Given that there is no firm and geographically specific procurement, is the Reference System Plan RPS portfolio a valid basis for approving policy-driven transmission?
  2. If the CAISO Board approves transmission to support the Reference System Plan RPS portfolio, what happens if the Preferred System Plan requires a different transmission buildout?
  3. Will the CPUC continue to support the need for transmission identified via the Reference System Plan RPS portfolio (but not in the Preferred System Plan portfolio) in future siting proceedings?



## Questions for current CPUC proposal (cont'd)

4. By the time the TPP produces a plan with the Reference System Plan RPS portfolio, there would already be a CPUC-approved Preferred System Plan RPS portfolio that is not guaranteed to be cumulative (see also discussion on out-of-state wind).
5. CAISO's current understanding is that there would be some geographical representation of renewable build-out zones from RESOLVE, similar to the RPS Calculator but with less granularity. However, in the past, CAISO has received actual projects from the CPUC. What is the process to identify actual renewable projects? Is the expectation that CAISO will select projects out of the CAISO's queue? Will CPUC support those decisions later when transmission projects are in a siting proceeding?

# Questions for current CPUC proposal (cont'd)

## 6. The ALJ Ruling notes:

“[N]ew renewables in the modeling are not required to be fully deliverable with resource adequacy value, and may instead be paid on an energy-only basis. The Attachment A slide deck contains details about the amount of fully deliverable renewable capacity would be chosen relative to energy-only resources.” (page 13)

Will the portfolios provide the location of the deliverable resources separately from the location of the energy-only resources? CAISO needs specific direction on which resources are to have deliverability versus treated as energy-only. For example, a portfolio with areas A through E where A, B, C are deliverable but D and E are energy-only.

## 7. A considerable amount of joint agency work (including participation by the CPUC) went into the RETI 2.0 process. How does the CPUC envision it to be used in IRP?

## Questions for current CPUC proposal (cont'd)

8. For out-of-state wind, ALJ Ruling suggests one alternative is to ask the CAISO for a future “special study.” However, no scope is provided as to what information is being sought, or how information from past special studies, the interregional transmission project evaluation currently being coordinated with the CAISO’s neighboring planning regions, and RETI 2.0 information is deficient.
9. There does not seem to be enough granular detail coming out of the Reference System Plan to enable a transmission analysis of out-of-state wind resources.
  - How detailed is out-of-state information expected to be, recognizing that RFOs or other competitive processes have not been conducted for the transmission or generation resources?

# Questions for current CPUC proposal: out-of-state wind

- Illustrative example of non-cumulative transmission build-out

	Reference System Plan Default Case	Reference System Plan 42 MMT Case	Preferred System Plan ( <b>illustrative</b> )
CPUC proposal to use in TPP	2018-2019 reliability base case	2018-2019 policy-driven scenario based	2019-2020 policy-driven scenario based
IRP data available in:	Q1 2018	Q1 2018	Q1 2019
TPP approved by CAISO Board by:	March 2019	March 2019	March 2020
Solar	3,000 MW	9,000 MW	5,000 MW
In-state wind	300 MW	1,100 MW	0 MW
Out-of-state wind	0 MW	0 MW	2,000 MW
Battery	800 MW	2,000 MW	1,000 MW
Note:	ALJ Ruling notes the Default Case will “include a sub-set of the resources identified in the Reference System Portfolio” (page 21)	Cumulative to Default Case	Out-of-state wind could eliminate need for in-state wind and decrease need (and change locations) of other resources.