

**COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION,
THE LARGE-SCALE SOLAR ASSOCIATION, and 8minutenergy Renewables
ON THE CAISO DYNAMIC TRANSFER STRAW PROPOSAL**

The California Wind Energy Association (CalWEA), the Large-scale Solar Association (LSA), and 8minutenergy Renewables LLC (8me) hereby submit their joint comments on the following:

- **“Supplement to Dynamic Transfers Straw Proposal”** (“Supplement”), an April 29th supplement to the CAISO’s March 10th straw proposal standardizing and expanding “Dynamic Transfers” – Dynamic Scheduling and Pseudo-Tie arrangements; and
- **The May 6th CAISO stakeholder meeting** to discuss the Supplement.

Overview of these comments: We strongly support this CAISO initiative. We represent parties developing renewable generation projects both inside and outside California, and we believe that both will be needed for the state to reach its ambitious Renewables Portfolio Standard (RPS) objectives.

We are encouraged by several changes proposed by the CAISO in the Supplement. However, we continue to be puzzled and dismayed by the CAISO’s refusal to address eligibility of generators under DT arrangements (“DT Generators”) for the CAISO Participating Intermittent Resources Program (PIRP). PIRP participation will be an absolute requirement for the commercial viability of the entire DT framework. Without it, as one May 6th meeting participant noted, “We might as well avoid all this contention and just spend more time with the family.”

Overall assessment: The Supplement contains some positive elements. However, other elements of the Proposal continue to be of great concern and, if not modified, could result in a DT framework that is unworkable.

- **Positive elements of the Supplement:** The Supplement proposes the following changes from the earlier Proposal, which we support:
 - **Removes the schedule-deviation tolerance band now included in Dynamic Scheduling tariff provisions.** The 3%/5MW band would have imposed an unachievable accuracy standard on intermittent DT generators that, based on CAISO analysis results, appears to have been violated even by the non-intermittent resources now under DT arrangements.
 - **Allows Dynamic Schedules of energy to be submitted using non-firm transmission.** As noted in the Supplement, firm transmission may not be available in the hourly timeframe allowed for scheduling DT imports, and this flexibility will make that scheduling process easier and more accessible for intermittent resources.
 - **Adds alternatives for any 5-minute schedule update that may be required or desired** (see below), so that the CAISO would offer a persistence forecast for each plant based on telemetered output data, instead requiring actual 5-minute schedule updates by generators or their Scheduling Coordinators (SCs).
 - **Refines the scope of CAISO studies to examine possible DT limits** (overall and/or by inter-tie path) to better focus on potential problems from DT transactions, instead of overall issues related to increased intermittent resources generally.
 - **Removes Transmission Access Charges from the list of charges that would be assessed to DT generators.**

- **Problematic elements of the Proposal:** Continued problematic elements of the Proposal, as supplemented, include:
 - **Continued avoidance of the critical issue of Participating Intermittent Resources Program (PIRP) eligibility for DT generators,** even though: (1) intermittent DT generators must meet the same technical requirements of in-CAISO generators that are eligible for PIRP; and (2) the entire DT framework will likely be unworkable for intermittent DT generators without PIRP eligibility.
 - **Logical disconnects in the congestion-management provisions** described in the Supplement, including: (1) conditions where economic dispatch would or would not apply; and (2) inconsistent application of penalties for noncompliance with CAISO “operating orders.”
 - **Continued discrimination in proposed charges,** e.g., imposing certain charges based on a transmission “reservation” not required for in-CAISO intermittent resources.
 - **Lack of clarity about the 5-minute schedule update,** including lack of a clear explanation about why an intermittent DT generator or its SC would elect such an “option” and access by DT generators to the PIRP forecasts that they would be funding.
 - **Firm vs. non-firm transmission requirements,** including the different proposed treatment of Dynamic Scheduling and Pseudo Ties and lack of consideration of other impacts of allowing DTs with non-firm transmission.

Summary of recommendations: The CAISO should take the actions listed below and further explained in the remainder of this document. (The last two recommendations are related to two issues where the CAISO requested stakeholder input in the Supplement.)

- ***Allow DT generators to qualify for PIRP,*** thus protecting them from unrealistic Day Ahead scheduling obligations and 10-minute imbalance provisions;
- ***Apply the same economic-dispatch principles to DT generators as for internal generation,*** regardless of any “reservation” or schedule made in advance;
- ***Eliminate additional charges for intermittent DT generators based on transmission “reservations,”*** which internal generators are not subject to regardless of how congested the lines serving them might be; and
- ***Clarify the need for any 5-minute schedule updates,*** including any benefit to DT generators from electing it and any consequences of not doing so.
- ***Retain the firm transmission requirements*** unless it can better justify the proposed different treatment for Dynamic Scheduling and Pseudo Ties and ensure that there are no unintended negative consequences of using nonfirm transmission.
- ***Allow multiple schedules for a single DT resource under both the Dynamic Schedule and Pseudo Tie options,*** where the portions of the resource that would be scheduled separately are metered separately.
- ***Use a priority list to allocate scarce DT capability,*** to provide transmission certainty that can be used as a basis for resource development in other WECC areas.

Problematic elements in the Proposal

DT generator eligibility for PIRP: Without PIRP eligibility, the proposed DT framework would subject DT generators to untenable risks from: (1) a de facto Day Ahead (DA) scheduling requirement; and (2) 10-minute imbalances from those forward schedules.

- **Day Ahead scheduling requirement:** Virtually all DT generators are likely to be counted toward Load-Serving Entity Resource Adequacy (RA) Requirements (RARs). RA Resources must bid into the CAISO DA market, including the Residual Unit Commitment (RUC) process, **unless they are in PIRP.**

The Supplement removes one possible reason for a de facto DA scheduling requirement – the firm capacity requirement for Dynamic Scheduling energy schedules – but:

- That change would not apply to Pseudo Tie resources; and
- It does not address the RA must-offer obligation.

At the very least, the CAISO should provide that, if intermittent DT generators are not eligible for PIRP, they would not be subject to the DA must-offer obligation for RA Resources. Intermittent DT generators should also have access to their hourly, plant-specific PIRP forecasts, since they would be paying the same forecasting fees as PIRP participants.

- **10-minute imbalance charges:** Real-time charges for imbalances from forward schedules will render the DT framework economically infeasible for intermittent generators, in the same manner as such charges impacted inside-CAISO plants before PIRP became available. The proposed 5-minute schedule update option may change what would be Uninstructed Imbalance Energy (UIE) to Instructed Imbalance Energy (IIE), but there may be little or no difference between those two prices and the financial risk is unlikely to be mitigated in any material way.

PPAs with internal resources can provide for the Buyer to take some or most imbalance risk. However, LSEs have demonstrated no willingness to assume those risks for imports; moreover, Buyers undoubtedly consider this risk in their price offers, effectively imposing the economic burden on generators regardless. A framework without PIRP would leave suppliers with no other viable option and greatly impair their commercial prospects.

CAISO congestion-management rules concerning DT generators: The dispatch framework in the Supplement, illustrated in the May 6th meeting slides, was somewhat confusing with respect to application of CAISO congestion management rules to DT generators, i.e.:

- **Economic dispatch:** The CAISO examples used available economic bids to mitigate overloads when DT generators were operating below their “transmission reservations” (estimated maximum generation each hour, submitted to the CAISO in advance) before resorting to “command and control” actions like pro rata curtailments. However, it appears that the CAISO will first reduce intermittent DT generators to their transmission reservation amounts before exercising economic bids.

- **Operating orders:** The Supplement distinguishes between:

- **A CAISO Dispatch Instruction**, defined in Appendix A of the CAISO tariff as:

An instruction by the CAISO for an action with respect to specific equipment, or to a resource for increasing or decreasing its Energy Supply or Demand from the Day-Ahead Schedule, RUC Schedule, and Day-Ahead AS Award to a specified Dispatch Operating Point pertaining to Real-Time operations.

- **A CAISO operating order**, a term used but not defined in the CAISO tariff. The Supplement states that “the term ‘operating order’ ...can be presumed to be different from a routine dispatch instruction, and to be more focused on conditions when reliability requires a specific response to the ISO operator’s instructions.” CAISO Tariff Section 37.2.1.2 – Sanctions provides the following sanctions for violation of such CAISO orders:

The Sanction for a violation of this Section shall be the greater of the quantity of Energy non-performance multiplied by the applicable Dispatch Interval Locational Marginal Price or the following: for the first violation in a rolling twelve (12) month period, \$5,000; for the second and subsequent violations in a rolling twelve (12) month period, \$ 10,000. Sanctions under Section 37.2.1 will not be greater than \$10,000 per violation and will be subject to the limitation stated in Section 37.2.6. If a quantity of Energy cannot be objectively determined, then the financial Sanctions specified above will apply. A Market Participant may incur Sanctions for more than one violation per day.

The Supplement adds a sanction for a third non-compliance with an operating order that would require a DT generator to “install additional equipment or institute other measures to ensure compliance, potentially including direct equipment control [by the CAISO], and consider termination if these measures do not secure the necessary compliance.”

There are two main problems related to this framework.

- **Economic dispatch:** Dispatching generators operating above their “transmission reservation” before exercising economic bids, through regular Dispatch Instructions or “operating orders,” would contradict CAISO congestion management rules, economic optimization principles, and general market philosophy. There is no reason to ignore freely offered bids for forward or real-time congestion relief; doing so would sacrifice the economic benefits to intermittent DT generators, suppliers offering such bids, and the overall market.

We don’t disagree that the CAISO should have flexibility to issue direct orders where needed to maintain reliability. However, the CAISO should be required to use economic dispatch to resolve problems that would otherwise result in an operating order, and to use economic dispatch in its issuance of such orders, if time permits.

- **Operating-order violations:** It is not clear why DT generators should be subject to these additional penalties when internal generators (including served using congested lines) are not also subject to them.

Charges based on transmission “reservations:” The Supplement would require DT generators to submit into the HASP/RT market:

- An Energy schedule equal to the generator’s expected deliveries that hour; and
- A “transmission reservation” equal to the generator’s “expected maximum deliveries” for that hour. The CAISO would settle Grid Management Charges (for scheduling) and “the congestion component of LMPs” based on the greater of this transmission reservation and actual flows in the hour. (The straw proposal to include Transmission Access Charges as well in this provision, which are not normally charged to generators serving CAISO-area load, has been withdrawn.)

The CAISO would charge DT resources Grid Management Charges (GMCs) and “the congestion component of LMPs,” and perhaps other charges, based on “the greater of scheduled and actual delivery.” The rationale for this element is the CAISO wants to encourage accurate reservations, and that those reservations shouldn’t “exceed their actual expected delivery.” Though the CAISO has mitigated this proposal somewhat by removing TAC charges, the remaining charges contain the same problems as before, i.e.:

- **They would be unnecessary.** Generators not in PIRP would be subject to 10-minute imbalance energy charges from those schedules, a far more punitive incentive not to schedule high than any of these charges. Generators in PIRP that are scheduling per the PIRP forecast would not be gaming their schedules and should not be penalized for producing above a schedule based on a forecast that they did not even formulate.
- **They wouldn't make sense.**
 - **Intermittent generators producing below their schedules may still have responsibly scheduled based on their expected production.** Inherently, with an unbiased forecast, intermittent generators will produce below their expected output about half the time – that is the nature of intermittent generation.
Moreover, some or all of the available capacity would likely be used anyway – the congestion management rules would allow the CAISO to increment other dynamically scheduled generators in real time if their bids are economic and were otherwise constrained by the initial DT generator schedules.
 - **Intermittent generators producing above their schedules may still have scheduled their expected production** – they are just generating even more than that. Even if you assume that this means they did not schedule above expected production, this proposal would penalize them by assessing the above charges based on their actual production.
- **They would be unfair.** These would effectively be additional imbalance charges, and they would not be based on cost. They would not be assessed to non-intermittent generators, or to intermittent generators inside the CAISO – even those scheduling on congested lines that exceed their scheduled production.

Five-minute schedule updates: The CAISO is still proposing an “optional” 5-minute schedule update. DT generators would have the option to update the hourly schedule every 5 minutes, with a rolling two-hour non-binding look-ahead. The CAISO would return a dispatch instruction at the generator’s 5-minute set point, where there was capacity available to accommodate the change. As noted above, the original purpose of this feature was to:

- **Help DT generators avoid the tolerance-band violations that could result in DT termination** (see above), because the “set point” for the tolerance band would have been re-set by the CAISO’s 5-minute dispatch. This purpose no longer applies, since the CAISO is proposing to do away with the tolerance band.
- **Help the CAISO use inertia capacity more efficiently** (assuming that the generator can forecast its output better than the CAISO), including allowing the generator to increase their output above their forward schedule if capacity is available.

As noted above, the 5-minute update would not relieve the DT generator from 10-minute imbalances. Given the changes in the Supplement, it is not clear:

- **Why a generator would elect this “option,”** since it is no longer needed to mitigate the schedule-deviation tolerance band; or
- **What the consequences would be for failure to elect it.**

The CAISO should clarify these points in the Draft Final Proposal.

Firm transmission requirement: The Supplement would allow Dynamic Schedules (DS) of energy under non-firm transmission arrangements. Firm transmission would still be required for: (1) Pseudo Tie (PT) schedules, because the resource would be in the CAISO BAA and the CAISO would “rely on” the unit in the same manner as inside-CAISO resources; and (2) DS providing Ancillary Services, because the CAISO would rely on them for reliability services specifically.

While we welcome changes that might increase DT scheduling flexibility, we have some concerns about the CAISO proposal:

- **The rationale for the distinction between DS and PT transactions does not seem logical.** For example, it is not clear how the CAISO would “rely on” PT resources in a different manner than DS resources. Resources under both types of schedules would still be subject to CAISO dispatch instructions and operating orders.

Moreover, Resource Adequacy (RA) Resources, upon which the CAISO relies specifically to provide reliability services, could be scheduled into the CAISO under either type of arrangement. The CAISO requires RA Resources to be “deliverable,” and it’s not clear how they could be so considered if scheduled into the CAISO using non-firm transmission.

- **There could be unintended consequences of allowing DT transactions with non-firm transmission.** For example, CAISO acceptance of non-firm transmission could lead to under-utilization of intertie capacity and corresponding transmission inside the CAISO. If scheduled non-firm energy imports are curtailed in real time due to constraints outside the CAISO, the import capacity they would have used, and the corresponding transmission inside the CAISO, could go unused.

Thus, we believe that the CAISO should continue to require firm transmission arrangements for all DT schedules – both Pseudo Ties and Dynamic Schedules – pending further consideration of these issues. It should also work with neighboring BAAs to increase availability of firm transmission, including freeing up unused firm transmission generally and establishing availability of hourly firm transmission service.

Additional comments requested in the Supplement

Multiple schedules for a single DT resource: The Supplement says that CAISO systems could support multiple Dynamic Schedules for a single “physical generator,” with “certain qualifications;” DS generators seeking to submit multiple schedules must:

- ***Justify the need for the multiple schedules***, i.e., “a clear business need for this arrangement;”
- ***Establish a “fixed proportion of the total capacity that would comprise each resource;”***
- ***Establish “a clear mechanism for allocating the generator’s output*** between the separate dynamically-scheduled resources; and
- ***Separate the “dynamic interchange communications into separate data streams*** that appear to the ISO as if the resources are actually separate.”

The Supplement says that CAISO systems could not support multiple Pseudo Tie schedules for such generators, however. “The ISO’s business systems (particularly metering, since the generator’s physical metering would see the plant as a whole) would not be able to support separate pseudo-tie resources based on a single generator, just as the ISO cannot divide generators within the ISO BAA between multiple resources.”

However, we are aware of situations where a resource is (or will be) covered by a single Participating Generator Agreement (PGA) and Meter Service Agreement (MSA) but is (will be) divided into separately metered entities, each with its own CAISO Resource ID and able to be scheduled and settled separately. Those resources should be eligible for Pseudo Tie status as well, since the CAISO system (including metering) would effectively see the separate entities as individual generating plants.

DT “queuing” system: The CAISO described orally a potential alternative to a congestion-management-based system for allocating DT capability on a transmission path where SCs desire to schedule a greater volume of such transactions than allowed under limits that may be established. The CAISO would normally first accept economic bids to resolve the congestion and then curtail the schedules based on effectiveness factors. All imports at a given point would likely have the same effectiveness factors, so the curtailments would effectively be pro rata.

The CAISO did not provide any details on the call about the kind of system it has in mind. However, we understand this concept to be more like a “priority list” than an interconnection queue or capacity allocation. In other words, the CAISO would go in reverse order of the entities on this list instead of curtailing schedules pro rata, after accepting all effective economic bids. Using a list, instead of a capacity allocation, would avoid complexities like assessing the viability of applicants (those that don’t schedule would simply be skipped over on the list) and potential trading of capacity allocations.

We would support this kind of system, based on a first-come, first-served listing, i.e., based on the date the CAISO request was received. Requests should be tied to specific resources in the interconnection queues of their Host BAAs, and generators not scheduling DT imports into the CAISO within 3 years of the CODs in their interconnection applications should lose their place on the CAISO priority list.