Second Supplement to Dynamic Transfers Draft Final Proposal

Provided in Support of 2009-2010 Stakeholder Process to Consider Expansion of Dynamic Transfer Services in ISO Tariff

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1. Background

The ISO is nearing completion of a stakeholder process to develop proposed solutions to specific issues affecting dynamic scheduling as presently offered in the California Independent System Operator (ISO) tariff. This initiative is intended to (1) clarify tariff provisions for conventional resources, (2) extend the existing use of dynamic scheduling for imports of conventional resources to include dynamic transfer of “intermittent” renewable energy resources into the ISO, and (3) incorporate pseudo-tie service in the ISO tariff, including intermittent resources. Outstanding issues relate to the management of requests for dynamic transfers (including dynamic schedules and pseudo-ties), under the expectation that the ISO will, for operational reasons, need to limit the amount of such transfers for use by intermittent resources. Through a series of documents and stakeholder discussions, the ISO developed its May 20 Draft Final Proposal (available at http://www.caiso.com/279c/279c8cae45e20.pdf) in which the ISO believes it has developed a sufficient resolution of most issues to present to its Board of Governors. A June 11 Supplement to the Draft Final Proposal focused on the remaining topic of managing requests for dynamic transfer agreements (available at http://www.caiso.com/27b2/27b2c77c63e0.pdf), and this Second Supplement to the Draft Final Proposal furthers that discussion. The ISO will discuss this Second Supplement in a stakeholder conference call on July 21, 2010. The ISO thanks the stakeholders who have submitted comments on previous documents and stakeholder meetings, and these comments have been instrumental in resolving many issues through this process. The ISO requests further comments on this Supplement to the Draft Final Proposal, to be submitted to dynamictransfer@caiso.com on July 28, 2010.

Among the issues under discussion, the ISO’s documents have described the use of technical studies to establish maximum dynamic transfer limits for intermittent resources. Once such limits are determined, the ISO needs to ensure that dynamic
transfers of intermittent resources in any given hour do not exceed the dynamic transfer capacity. This can be done by limiting the amount of dynamic transfer schedules accepted by the ISO markets in any given hour (the “congestion management approach”), by limiting the amount of supply capacity that is approved via dynamic transfer agreements to utilize the available dynamic transfer capacity (the “administrative approach”), or a combination of both approaches. If the ISO were to take the second (“administrative”) approach, it would require establishing queuing or other procedures for managing requests for dynamic transfer agreements.

The Supplement to the Draft Final Proposal summarized the development of stakeholder positions on such procedures, beginning with the Issue Paper in which the ISO invited inputs on how the limited capacity should be allocated if the ISO’s study identifies limits on dynamic import capacity. The stakeholder comments that were submitted on the Issue Paper generally favored congestion management approaches or other market mechanisms rather than administrative mechanisms. The ISO’s subsequent March 10 Straw Proposal identified possible solutions as including both a queuing process for dynamic transfer agreements and a competitive approach of congestion management, and preferred a congestion management mechanism to avoid administrative limitations on market efficiency, and to use existing market functionality. Comments on the Straw Proposal became more varied, but generally expressed needs to use enrollment limits, capacity reservations, and queuing processes. Noting the potential complexity of issues and variation among stakeholder comments, a Supplement to the Straw Proposal, the Draft Final Proposal, and the Supplement to the Draft Final Proposal have invited further stakeholder inputs and guided stakeholder discussion through specific, detailed questions, to further describe their business needs, rather than immediately offering a revised proposal.

2. Request Management Issues Identified in Supplement to Draft Final Proposal

The Supplement to the Draft Final Proposal identified four distinct types of overarching approaches that different stakeholders have advocated for managing the enrollment and participation of dynamic transfers of intermittent resources:

1) Congestion management, in which the ISO would not limit the enrollment of dynamic transfer requests for intermittent resources, but would allocate the capacity for intermittent resources on an hourly basis by creating an additional import constraint for each inter-tie in the day-ahead and real-time markets.

2) Queuing process for dynamic transfer requests by intermittent supply resources, in which the ISO would limit enrollments of dynamic transfers of intermittent

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1 These limits on dynamic transfer capability are based on the amount of intra-hour variability in imports that the ISO can accommodate operationally, which does not depend on whether the dynamic transfer agreement is for a dynamic schedule or a pseudo-tie. Similarly, the rationales that have been offered to support the alternative approaches to managing requests for dynamic transfer agreements have not distinguished between dynamic schedules and pseudo-ties. Thus, the interim and hybrid approaches offered in this document would apply to both forms of dynamic transfers.
resources by prioritizing resources that are further along in the development process. Enrolled resources would then compete in the day-ahead and real-time markets for normal intertie capacity like any other import on the same intertie.

3) Allocation of available intermittent dynamic transfer capacity to load serving entities (LSEs), in which the ISO would assign the limited capability for dynamic transfers of intermittent resources to LSEs serving load within the ISO area. Potentially useful models for such allocation are the annual allocation of available import deliverability to LSEs for the purpose of resource adequacy, and the allocation of congestion revenue rights.

4) Auction of rights for dynamic transfer agreements.

The Supplement to the Draft Final Proposal reduced the stakeholder comments to brief summaries in two tables totaling four pages, and also highlighted the pros and cons of each alternative for discussion in an additional stakeholder conference call on June 18. In the conference call, the ISO sought to identify a solution that has broad support, invited variations or hybrid approaches that could represent common ground among the stakeholder positions, and asked stakeholders to identify acceptable alternative approaches as well as recognizing their preferred approaches. The ISO recognizes that there are pros and cons to each of the potential solutions. In summary:

1) Limiting the hourly schedules of intermittent dynamic transfers through congestion management is a non-discriminatory, market-based approach that efficiently manages intertie capacity when bids exceed the available capacity. However, using congestion management does not provide certainty to market participants about deliverability, and does not ensure that market participants are able to market energy that does not clear the ISO’s market, which may hinder financing of new generation.

2) A queuing process among requesting projects provides some certainty to the projects that are trying to establish financing, allows an intermittent resource to compete in the market like any other import resource, and places responsibility for interconnection, transmission, shaping, & other operational requirements on resource owners. However, queuing based on projects may disadvantage LSEs in meeting their renewable portfolio standard (RPS) requirements (which can be seen as market power held by renewable resource owners), and may require complicated assessment criteria.

3) Allocation to load serving entities (LSEs) reflects the LSEs’ responsibility for RPS requirements, current responsibility for costs of balancing services, and responsibility for costs of the transmission grid (through the transmission access charge), and also allows LSEs to manage the projects that meet their RPS requirements through their execution of power purchase contracts, within their allocation of import capacity for resource adequacy. However, managing requests for dynamic transfer agreements through the LSEs may create market power held by LSEs who serve high proportions of system demand.

4) An auction of rights for dynamic transfer agreements is a non-discriminatory, market-based approach for awarding dynamic transfer enrollment rights among
market participants, allows market participants to fine-tune the rights that they hold, and may reveal the market value of these rights. However, auction prices may be a mixture of multiple market values including payments for renewable energy credits and resource adequacy capacity as well as the value of participation in the ISO’s markets (thus making the information on market value difficult to interpret), small market participants may not be able to participate in complex auctions as readily as large market participants, the conceptual design of an auction may be more complex than other alternatives, and the ISO’s system development would be significantly more than other alternatives.

In comparing the pros and cons of each alternative, to identify a potential strategy for reaching resolution of this topic, the ISO has reviewed the thirteen comments that were submitted following this conference call, and has sought a solution that most feasibly meets overall market needs. As the ISO noted in the conference call, maximizing the advantages and minimizing the disadvantages is likely to involve a hybrid approach. The ISO notes that with any of the approaches for ex ante allocation of dynamic transfer agreements (approaches 2-4) it may still be necessary to utilize some form of scheduling limits for congestion management in the day-ahead and real-time markets, depending on whether and how much dynamic transfer capacity is allowed to enroll compared to the operational limits determined through the ISO’s technical studies. Notably, some stakeholder comments following the June 18 conference call have offered proposals for hybrid approaches, and the ISO appreciates these efforts at finding a middle ground among the alternatives. Based on the discussion during the June 18 call and in this most recent set of comments, while recognizing that there is significant current interest in establishing dynamic transfer agreements, the ISO proposes an interim approach until studies are completed and a longer-term hybrid approach for consideration after studies are complete in the following sections, and invites further stakeholder inputs on the viability of these approaches in resolving the complex issues of request management in an expeditious but effective manner.

3. Interim Approach to Request Management

Critical factors in planning a strategy for opening dynamic transfers to intermittent resources are that the ISO has already received multiple requests for dynamic transfer agreements with intermittent resources, but that the ISO studies of dynamic transfer capability are scheduled for completion around the end of the 2010. To cover the most immediate needs for intermittent resources to execute dynamic transfer agreements, the ISO proposes the following principles for interim criteria to establish dynamic transfer agreements, until the studies of dynamic transfer capability are complete:  

1. Until the ISO completes the dynamic transfer studies, the ISO will establish a default limit on dynamic transfers of intermittent resources equal to 10% of each

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2 The dynamic transfer agreements established under these interim criteria would be ongoing agreements, and would not be subject to sunset provisions.
Each resource’s contribution to the dynamic transfer capability for intermittent resources will be based on its nameplate capacity. This limit will be applied in establishing the maximum capacity of the affected generation resource in the ISO’s master file data, if needed to stay within the dynamic transfer capability for intermittent resources.

2. Enrollment of dynamic transfers under this limit will be on a first-come basis based on a supply resource’s completion of external interconnection agreements, dynamic transmission agreements with host and any intermediary balancing authorities, and a signed power purchase agreement with an LSE serving load within the ISO area, and having an expected commercial operation date prior to July 1, 2011. The time that determines a resource’s priority under the first-come basis is the time when all of the listed agreements have been submitted to the ISO, and not the time of initiating the process of submitting the agreements.

3. Tariff provisions that apply in general to dynamic transfers also apply to dynamic transfers of intermittent resources.

The ISO proposes these interim criteria as a balance among the considerations provided in stakeholder comments. Until the completion of the ISOs technical studies, the ISO needs to limit flows within the ISO grid resulting from intermittent dynamic transfers to a conservative value. However, applying this as a constraint in congestion management could risk the market impacts that are discussed in some stakeholder comments, until additional details can be added, and could result in different LMPs for different resources at the same location, if a congestion management constraint were applied to intermittent resources that would not affect conventional resources. The proposed interim criteria recognize the roles of both the project developers and LSEs, since the required agreements involve both of these parties. These interim criteria are readily implemented using the existing functionality in the ISO’s markets.

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3 Section 5 of the existing Dynamic Scheduling Protocol (Appendix X of the ISO tariff) allows the ISO to limit imports from dynamic schedules, based on specific import limits or percentages applicable to total ISO BAA requirements; a specific import limit or percentage applicable to a particular scheduling point or transmission interface; a specific import limit or percentage applicable to total requirements in a specific ancillary service region; or other operating factors. Limiting the eligible capacity of dynamically scheduled intermittent resources is an effective way of ensuring that the flows produced by the intermittent resources do not exceed the dynamic transfer capability. An existing pseudo-tie pilot will be within, and will be subject to, this limit. To the extent that intermittent resources may have already been dynamically transferred to the ISO as part of non-resource specific system resources, but wish to be recognized as intermittent dynamic transfer requests to qualify for scheduling priority as intermittent resources, will also be subject to this limit. In the case of aggregated intermittent and conventional generation, only the intermittent proportion of the schedule in a particular hour is subject to the dynamic transfer capability limit for intermittent resources, and only that proportion of the resource’s schedule would be eligible to receive an allocation of scheduling priority under the straw proposal of a hybrid approach.

4 As the ISO gains operational experience with dynamic transfers of intermittent resources, the ISO may be able to allow the enrollment of intermittent capacity beyond to the dynamic transfer capability limit for intermittent resources.

5 If the host or intermediary balancing authorities apply limitations to the delivery as dynamic transfers, such limitations will limit the eligible capacity of dynamically scheduled intermittent resources.
4. Potential Long-Term Hybrid Approach to Request Management

Completion of the studies to establish any to the dynamic transfer capability limit for intermittent resources will remove a current source of uncertainty as to what policy is appropriate in the long term for management of requests for dynamic transfer agreements. After the studies’ completion, the ISO will re-examine and complete the policy discussion for how to manage dynamic transfer requests from that point forward (e.g., whether to extend the above interim approach, or to develop an alternative hybrid approach as described below). To illustrate a straw proposal for a hybrid approach additions for management of the dynamic transfer requests that seeks to balance the perspectives of the stakeholder comments to date, the ISO offers the following potential additional mechanisms for consideration to a congestion management approach.

1. The ISO will ultimately rely on congestion management in the day-ahead and hour-ahead/ real-time markets as the means of limiting dynamic transfers to the identified dynamic transfer capability, with no limit on resources’ ability to enter dynamic transfer agreements. The ISO recognizes that some stakeholder comments have expressed concerns such as that the congestion management approach does not provide sufficient assurance that a resource’s output will be deliverable to the ISO or other markets, while other comments have supported the congestion management approach. In the case where the amount of self-scheduled dynamic transferred intermittent resources on an intertie exceeds the dynamic limit, one stakeholder has proposed use a priority system in the order the date the resource interconnected in lieu of a pro-rata approach. The mechanisms described below are additional mechanisms not previously considered by stakeholders to enhance the congestion management approach via either information transparency or other forms of scheduling priority for certain eligible resources, similar to priority provided to regulatory must-take resources.

2. To facilitate project developers and load serving entities the ability to self-manage the risks created by excess reliance on dynamic transfers under a congestion management approach, an enhancement that could be considered is having the ISO share data regarding the amount of dynamic transfers that have that have been registered and/or operational relative to specific intertie. With this information and knowing the limit on dynamic transfers on the specific intertie, parties will be able to evaluate and factor in the risk and benefit of developing and adding an additional dynamic transfer across a specific intertie and thereby self-manage the risk of congestion of the dynamic transfer limit for intermittent resources.

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6 Congestion management applies to transmission reservations as well as energy schedules in the day-ahead market and hour-ahead scheduling process, and to real-time energy schedules. Although the ISO will allow a dynamic resource’s real-time energy schedule to exceed its transmission reservation by being recognized as using recallable transmission, a dynamic resource that does not receive any transmission reservation in the day-ahead market or hour-ahead scheduling process will not be a scheduled resource in the real-time market (i.e., no e-tag would have been processed), and could not be dispatched in real-time.
3. Another approach for consideration to address the expressed concern of the congestion management approach, of not providing certainty that resources' output will be deliverable, is use and allocation of a scheduling priority for self-scheduled quantities to whichever entity has accepted responsibility for scheduling the dynamic transfer of intermittent resources across the intertie, for the eligible capacity of dynamic transfer agreements for which they have such responsibility. Intermittent resources that meet the qualifications of the interim approach (interconnection agreement, dynamic transmission agreements, and power purchase agreements), and that receive eligibility on the first-come basis within the dynamic transfer capability for intermittent resources, provide that eligibility to the scheduling coordinator that schedules the resource across its intertie. The ISO expects that changes in the assignment of scheduling responsibility will be infrequent, since they would be established by power purchase agreements.

- If the LSE takes delivery of the intermittent resource’s output at a location outside the ISO, and is therefore responsible for the scheduling of a dynamic transfer across the intertie, the ISO will assign a quantity of priority rights to the LSE for the eligible capacity of dynamic transfer agreements that it is scheduling.

- If the scheduling coordinator is responsible for scheduling the transfer across the intertie, and delivers the energy to an LSE through its power purchase agreement, the SC representing the resource will similarly be assigned a quantity of priority rights.

Once the scheduling priority is associated with the scheduling coordinator for the LSE or the resource owner, the scheduling coordinator may use the scheduling priority rights to identify the dynamic transfer of intermittent resources (including but not limited to the resource that establishes the scheduling priority) that the assigned rights-holder is scheduling on the same intertie and wants to assign for any given hour. For example, if the eligible resource is unable to schedule its eligible capacity, e.g., due to an outage, the scheduling coordinator may use the scheduling priority for a substitute intermittent resource that is also a dynamic transfer on the same intertie.

If the intermittent resources that are designated in any hour as having these scheduling priorities do not fully utilize the dynamic transfer capability (i.e., the intermittent dynamic transfer scheduling limit is not exceeded), then other dynamic transfers of intermittent resources may schedule up to the dynamic transfer limit, even though they do not have scheduling priority.

5. Next Steps

The ISO believes the interim approach described above is a workable resolution of the issues of managing requests for dynamic transfer agreements for intermittent resources, until the ISO’s technical studies of dynamic transfer capability for intermittent resources are completed. In addition, the ISO believes the straw proposal for a long-
term hybrid approach for management of the dynamic transfer requests achieves a balance of the perspectives of the stakeholder comments to date, and will be useful in focusing further discussion. The ISO will use the July 21 conference call to discuss these approaches, to seek resolution of an interim approach and set the stage for further discussion of a long-term approach. The ISO has also requested participation of the Market Surveillance Committee (MSC) members on this specific subject.