Storage as a Transmission Asset

Issue Paper

Comments by Department of Market Monitoring

May 10, 2018

I. Overview

DMM appreciates the opportunity to comment on the ISO's *Storage as a Transmission Asset Issue Paper*. The ISO's Issue Paper considers how storage resources providing regulated cost-of-service-based transmission reliability service can also provide market-based services.

DMM believes this policy should not apply only to storage resources if other types of generation can be selected as transmission solutions through the Transmission Planning Process (TPP). While DMM supports efforts of the ISO and FERC[1] to consider how cost-of-service transmission assets can also provide market-based services, participation rules must be carefully designed. Resources owners must be incentivized to ensure assets are available when called to provide designated reliability functions. Rules should also support efficient long-term operation of these generation assets in the ISO market.

The ISO proposes two potential cost recovery models for transmission-connected storage resources that provide reliability-based transmission services: Option (a) where market revenues offset the Participating Transmission Owner (PTO) Transmission Revenue Requirement (TRR), and Option (b) where only a portion of cost recovery is guaranteed through the TRR and the asset owner risks recovering a portion of its costs (but also has the opportunity to earn returns) through market revenues.

DMM supports an Option (a) framework consistent with the Western Grid proposal approved by FERC in 2010.[2] Under this framework, a generation asset approved as a least-cost solution through the TPP is operated as transmission facility under the direction of the ISO and the resource owner foregoes wholesale market sales, credits any incremental market revenues back to the relevant PTO TRR, is responsible for day to day operations and maintenance, and ensures the resource is available when called upon by the ISO.

Any option that allows market participation, however, raises issues that will require further discussion. DMM provides more detail on these concepts below.

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[1] *Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Recovery Policy Statement*, Docket No. PL17-2, 2017: https://www.ferc.gov/whats-new/comm-meet/2017/011917/E-2.pdf

[2] *Petition for Declaratory Order of Western Grid Development*, LLC. EL10-19, Western Grid, January 21, 2010: https://www.ferc.gov/whats-new/comm-meet/2010/012110/E-6.pdf

II. Applicability to transmission-connected storage

The ISO states that "[t]he scope of this initiative is to enable storage to provide cost-based transmission services and participate in the market and receive market revenues."[3] DMM questions why this policy only applies to storage and excludes other generation resources when the TPP does not appear to preclude other types of generation from being identified as transmission solutions? Language in the CAISO Tariff and TPP Business Practice Manual (BPM) regarding non-transmission solutions is not specific to storage. The ISO Tariff Section 24.4.5 states:

> To determine which transmission solutions should be included in the comprehensive Transmission Plan, the CAISO will evaluate the conceptual transmission facilities identified by the CAISO during the Phase 2 studies… and will consider potential transmission solutions and non-transmission or generation alternatives proposed by interested parties.[4]

Additionally the CAISO TPP BPM states the following regarding solution proposals submitted in Phase 2 of the TPP:

> Parties may submit through the request window demand response programs or non – transmission solutions to be studied as alternatives to needs identified in the CAISO technical studies.[5]

DMM believes this policy should not apply narrowly to storage resources if other types of generation are eligible to be selected as transmission solutions through the TPP.

III. Cost recovery options

The ISO states that the objective of this initiative is to "enable transmission connected storage assets that are providing a regulated cost-of-service-based transmission service to also access other market revenue streams to provide ratepayer benefits and provide greater flexibility to the grid."[6]

The ISO proposes two potential cost recovery options for transmission-connected storage resources that provide reliability-based transmission services: Option (a) where market revenues offset the Participating Transmission Owner (PTO) Transmission Revenue Requirement (TRR), and Option (b) where only a portion of cost recovery is guaranteed through

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[3] *Issue Paper – Storage as a Transmission Asset*, California ISO, March 30, 2018, p. 8: http://www.caiso.com/Documents/IssuePaper-StorageasaTransmissionAsset.pdf

[4] CAISO Tariff Section 24.4.5: http://www.caiso.com/Documents/Section24_ComprehensiveTransmissionPlanningProcess_asof_Sep27_2017.pdf

[5] *CAISO Transmission Planning Process Business Practice Manual v15*, Section 4.4.1.4, p. 38: https://bpmcm.caiso.com/BPM%20Document%20Library/Transmission%20Planning%20Process/Transmission%20Planning%20Process%20BPM_V15_Clean.doc

[6] *Issue paper*, p. 8

the TRR and the asset owner risks recovering a portion of its costs (but also has the opportunity to earn returns) through market revenues.

Any cost recovery model should ensure resource owners are incentivized to have assets available when called to provide designated reliability functions. If market participation is allowed, rules should support efficient long-term operation of these generation assets in the ISO market.

Western Grid model

DMM supports an Option (a) cost recovery framework consistent with the Western Grid proposal approved by FERC.[7] Under this framework a resource is operated as a transmission asset under the direction of the ISO, the asset owner foregoes market revenues, and any incremental market revenues accrued when operating the resource for its reliability function are credited back to the relevant PTO TRR. The asset owner retains responsibility for ensuring the resource is available to meet the ISO's reliability needs and is responsible for day to day operations and maintenance.

If generation can meet the same reliability needs as a wires solution at lower cost (without accounting for potential market revenues outside of intervals where the resource is operated for reliability), then the generating asset should be selected as the preferred transmission solution.

Under any option, however, if market participation is allowed then further issues should be considered. We discuss some considerations below.

Efficient market participation depends on the competitiveness of the solution evaluation process in the TPP.

Cost recovery options for generation selected as transmission solutions should depend on the competitiveness of the project evaluation process in the TPP. If the TPP selection process is not competitive, then project developers have no incentive to minimize costs eligible for guaranteed recovery through the TRR. Developers would have little incentive to discount submitted project costs by projected market revenues and could overstate marginal operating costs. If a resource selected as a transmission solution under a non-competitive process and is allowed to participate in the market and retain market revenues, ratepayers could be subjected to over-compensating the resource for the services it provides. Additionally, a non-competitive selection process in the TPP would result in ratepayers greatly subsidizing the resource's participation in the market. This framework could adversely impact the efficiency of the resource's participation in the ISO market.

[7] *Order on petition for declaratory order*, EL10-19, 130 FERC ¶ 61,056, January 21, 2010: https://www.ferc.gov/whats-new/comm-meet/2010/012110/E-6.pdf

Under a *non-competitive* selection process in the TPP, DMM questions whether resources acting as transmission assets should be eligible to also participate in the market and retain market revenues.

If the selection process in the TPP is *competitive*, then DMM believes provisions allowing a resource to participate in the market and earn market revenues could enhance market efficiency. The resource owner would have an incentive to minimize project costs in the selection process, possibly foregoing guaranteed cost recovery in favor of market participation and potential market revenues. This construct could reduce overall TRR costs, while providing a framework for a resource owner to offer competitively and operate its asset efficiently in the ISO market in the long term.

However, a framework that allows market participation would require supplemental provisions to ensure the resource owner is incentivized to make its resource available when it is needed for reliability. DMM notes some of these considerations below, but looks forward to discussing these details further with the ISO and other stakeholders.

If transmission assets are allowed to participate in the market, penalty structures should be developed to incentivize availability when the resource is needed for ISO reliability.

In conjunction with a framework to support market participation for transmission assets, the ISO should develop penalty structures for non-performance or non-availability that incentivize resources to be available to meet an ISO reliability call.

If transmission assets are able to participate in the market, resources should be required to submit cost-based bids in intervals when the resource is needed for ISO reliability.

When transmission resources also participating in the market are called by the ISO to meet a reliability need in a specific timeframe, the resource should be required to submit cost-based bids as the resource has market power in these intervals.

DMM believes cost-based bids should be required at a minimum in intervals when the resource is identified as needed for reliability. However, cost-based bids may be warranted in other instances as well (i.e. intervals leading up to the reliability need if a storage device must charge, if a resource selected in a non-competitive TPP selection process is allowed to participate in the market).