Stakeholder Comments

Bid Cost Recovery and Variable Energy Resource Settlement, Draft Final Proposal, May 20, 2015

Submitted by	Company	Date Submitted
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SDG&E appreciates the opportunity to comment on the CAISO's Bid Cost Recovery and Variable Energy Resource Settlement draft final proposal. We continue to support the position from our previous comments. We believe CAISO should create new energy classifications for real time deviations for Variable Energy Resource.

SDG&E has crafted the following counter-proposal to illustrate our vision of Bid Cost Recovery and Variable Energy Settlement.

San Diego Gas & Electric

Bid Cost Recovery and Variable Energy Resource Settlement Counter Proposal

June 10, 2015

Overview

San Diego Gas & Electric (SDG&E) believes that new Expected Energy (EE) classifications should be created to simplify and prevent unintended consequences for Variable Energy Resource (VER) units. We believe that the new EE classifications are superior to using the existing EE classifications that were created for dispatchable thermal units. This document will outline our counter-proposal which is an attempt to simplify VER energy settlement and prevent future unintended consequences.

Background

The CAISO's elimination of Real Time Self Scheduled Energy (RTSS) for the Spring Release 2014 caused a dramatic increase in Optimal Energy (OE) and Residual Imbalance Energy (RIE). Our concern is that when following a forecast a VER doesn't really have OE or RIE. The energy shouldn't be classified as OE because it's based on a forecast, there's nothing optimal about the energy. OE indexes against the Energy Bid and forecasted energy isn't bid. Classifying forecasted energy as RIE makes even less sense. RIE is extra-marginal which again is based on bid and VER units following forecasts aren't being dispatched based on bid.

The existing EE classifications are robust enough to settle VER energy however the market has already experienced $23M underpayment of VERs due to VER energy being classified as RIE and being subjected to the Performance Deviation Metric (PDM). As the evolving market becomes more complicated we fear that future unintended consequences will continue to plague VER energy when it's treated like thermal units.

New Expected Energy Classifications

VER energy that follows forecast, either the CAISO's or self-generated, should have the energy classified as a new EE classification. For simplicity we'll label this VER-Forecast (VERF). All energy based on forecasted amounts should be classified as VERF. It will have to be incremental to Day Ahead (DA) energy classifications. VERF energy should only be paid at the LMP. VERF would never be considered eligible for Bid Cost Recovery (BCR) and would never be subject to the PDM.

The second necessary energy classification for VERs is for economically dispatched energy which we'll label as VER-Economic Energy (VEREE). This energy should be incremental to the VERF energy. VEREE should be paid LMP. This energy would be eligible for BCR and subject to the PDM.

CAISO will only be economically dispatching the resource based on bids. In theory, if the CAISO is always correct in their dispatches the unit will be paid appropriately. In cases where the actual settled price moves against the CAISO dispatch the resource

will be eligible for BCR which will keep the unit whole for the day. In cases where the unit is intentionally trying to manipulate the market the PDM will be applied.

Examples

Following the CAISO's examples from Table 2 of the BCR and VER Settlement – Straw Proposal from April 9, 2015, scenarios 1-4 with an added scenario 5 to highlight BCR are below:

Scenario 1: self-schedule with forecast change

HE1

Assume: LMP $20/MWh, bid none, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: LMP $5/MWh, bid none, forecast 0 MW and DOT 0 MW

Proposed Expected Energy: VERF 0 MW

Proposed Settlement: VERF 0 MW * LMP $5/MWh *-1 = $0

Scenario 2a: economic bidder and forecast increase (no LMP change)

HE1

Assume: LMP $20/MWh, bid $10/MWh and forecast 25 MW

Proposed Expected Energy: VERF 25 MW

Proposed Settlement: VERF 25 MW * LMP $20/MWh *-1 = $-500

HE2

Assume: LMP $20/MWh, bid $10/MWh and forecast 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

Scenario 2b: economic bidder and forecast decrease (no LMP change)

HE1

Assume: has LMP $20/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: LMP $20/MWh, bid $10/MWh, forecast 25 MW and DOT 25 MW

Proposed Expected Energy: VERF 25 MW

Proposed Settlement: VERF 25 MW * LMP $20/MWh *-1 = $-500

Scenario 3a: economic bidder and LMP less than bid (no forecast change)

HE1

Assume: LMP $20/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: LMP $5/MWh, bid $10/MWh, forecast 50 MW and DOT 0 MW

Proposed Expected Energy: VERF 50 MW, VEREE -50 MW

Proposed Settlement: VERF 50 MW * LMP $5/MWh *-1 = $-250

VEREE -50 MW * LMP $5/MWh *-1 = $250

BCR revenues of $-250 (VEREE -50 MW * LMP $5/MWh), bid costs $-500 (VEREE -50 MW * Bid $10/MWh) = $0 BCR

Note that the unit was charged $250 to reduce generation and saved $500 in cost by reducing generation therefore was not eligible for BCR.

Scenario 3b: economic bidder and LMP higher than bid (no forecast change)

HE1

Assume: LMP $20/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: LMP $30/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $30/MWh *-1 = $1,500

Scenario 4a: economic bidder and LMP less than bid and forecast decrease

HE1

Assume: LMP $20/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: has LMP $5/MWh, bid $10/MWh, forecast 25 MW and DOT 0 MW

Proposed Expected Energy: VERF 25 MW, VEREE -25 MW

Proposed Settlement: VERF 25 MW * LMP $5/MWh *-1 = $-125

VEREE -25 MW * LMP $5/MWh *-1 = $125

BCR revenues of $-125 (VEREE -25 MW * LMP $5/MWh), bid costs $-250 (VEREE -25 MW * Bid $10/MWh) = $0 BCR

Note that the unit was charged $125 to reduce generation and saved $250 in cost by reducing generation therefore was not eligible for BCR.

Scenario 4b: economic bidder and LMP higher than bid and forecast increase

HE1

Assume: LMP $20/MWh, bid $10/MWh, forecast 25 MW and DOT 25 MW

Proposed Expected Energy: VERF 25 MW

Proposed Settlement: VERF 25 MW * LMP $20/MWh *-1 = $-500

HE2

Assume: has LMP $30/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: VERF 50 MW

Proposed Settlement: VERF 50 MW * LMP $30/MWh *-1 = $-1,500

Scenario 5: economic curtailment with LMP higher than bid (no forecast change)

HE1

Assume: HE 1 has LMP $20/MWh, bid $10/MWh, forecast 50 MW and DOT 50 MW

Proposed Expected Energy: HE 1 VERF 50 MW

Proposed Settlement: HE 1 VERF 50 MW * LMP $20/MWh *-1 = $-1,000

HE2

Assume: LMP $30/MWh, bid $10/MWh, forecast 50 MW and DOT 0 MW

Proposed Expected Energy: VERF 50 MW, VEREE -50 MW

Proposed Settlement: VERF 50 MW * LMP $30/MWh *-1 = $-1,500

VEREE -50 MW * LMP $30/MWh *-1 = $1,500

BCR revenues of $-1,500 (VEREE -50 MW * LMP $30/MWh), bid costs $-500 (VEREE -50 MW * Bid $10/MWh) = $1,000 BCR

Note that the unit was charged $1,500 to reduce generation and saved $500 in cost by reducing generation therefore was eligible for $1,000 of BCR.

Next Steps

We would like the CAISO to consider this proposal in light of the fact that the CAISO's proposal is essentially creating new EE types by having two flavors of RIE, one for forecasted energy and one for economically bid energy. Rather than continuing to use the existing EE types and continue to experience the unintended consequences resulting from that decision we feel that creating new EE types is a more effective method of achieving the goal of paying VERs correctly.

SDG&E would be open to proposals to eliminate the use of RIE for all units. Our internal analysis indicates that RIE has a minor impact on settlements for non-VER units. Yet it creates unnecessary complexity to validating and settling the market. Eliminating the RIE for all units would result in units being paid LMP instead of reference hour bid. BCR would apply to keep units whole so the impact on being paid LMP, which our analysis finds is minimal, would further be minimized. We would like to see a CAISO proposal to eliminate RIE and as part of that proposal what has been the market impact in dollars since the Spring Release 2014 for paying units reference bid instead of LMP from RIE.