

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Application of SAN DIEGO GAS & ELECTRIC COMPANY (U902M) for Approval of its Energy Storage Procurement Framework and Program As Required by Decision 13-10-040.

Application 14-02-006  
(Filed February 28, 2014)

Application of Pacific Gas and Electric Company (U39E) for Authorization to Procure Energy Storage Systems during the 2014 Biennial Procurement Period Pursuant to Decision 13-10-040.

Application 14-02-007  
(Filed February 28, 2014)

Application of Southern California Edison Company (U338E) for Approval of Its 2014 Energy Storage Procurement Plan.

Application 14-02-009  
(Filed February 28, 2014)

**CLEAN COALITION PROTEST ON  
2014 ENERGY STORAGE PROCUREMENT APPLICATIONS**

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## CLEAN COALITION PROTEST ON 2014 ENERGY STORAGE PROCUREMENT APPLICATIONS

The Clean Coalition protests the utilities' 2014 energy storage procurement applications for the following reasons:

- I. Role of the Consistent Evaluation Protocol. The Commission should clarify the role of the Consistent Evaluation Protocol (CEP); the CEP should ensure that the application of utility bid evaluation methodologies reasonably reflects net value to ratepayers, and enable the Commission to fairly and objectively evaluate any utility's claim that it is appropriate to defer its procurement target due to the lack of cost-effective bids.
  
- II. Inclusion of All Quantifiable Transmission & Distribution Benefits in the CEP's Net Market Value Calculations. To improve its effectiveness for evaluating distribution-interconnected storage bids, the CEP's Net Market Value calculation methodology should include all quantifiable transmission and distribution benefits, including (i) transmission upgrade deferral or avoidance value, (ii) avoided transmission access charges, and (iii) avoided line losses and congestion costs.

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement, interconnection, and realizing the full potential of integrated distributed energy resources, such as distributed generation, advanced inverters, demand response, and energy storage. The Clean Coalition also works with utilities to develop community microgrid projects that demonstrate that local renewables can provide at least 25% of the total electric energy consumed within the distribution grid, while maintaining or improving grid reliability. The Clean Coalition participates in numerous proceedings in California agencies and before other state and Federal agencies throughout the United States.

- I. Role of the Consistent Evaluation Protocol

The Energy Division’s March 14, 2014 presentation on the Consistent Evaluation Protocol provided, “The role of the CPUC ED’s consistent evaluation protocol is to re-run short-listed offers, not to rank and select offers.” Decision 13-10-040 provides that the Consistent Evaluation Protocol should be used for “benchmarking and general reporting purposes.”<sup>1</sup> This decision does not limit the use of the CEP to evaluation of short-listed offers, and several aspects of the decision result in greater importance of the use of the CEP for evaluating the cost-effectiveness of a broader range of offers.

D.13-10-040 also provides that each utility will be allowed to “propose its own methodology to evaluate the costs and benefits of bids and evaluate the full range of benefit and costs identified for energy storage in the use-cases,”<sup>2</sup> and that “the IOUs should also be required to utilize a consistent evaluation protocol for assessing bids to provide a consistent comparison across utilities, bids and use-cases.”<sup>3</sup> While each utility may individually determine the system needs and priorities for storage to address, the CEP should be applied to ensure that utility methodologies are effective in recognizing full ratepayer costs and benefits.

Decision 13-10-040 also allows each utility to defer up to 80% of its procurement targets, provided that the utility shows that such a deferral is appropriate.<sup>4</sup> Since the Consistent Evaluation Protocol was designated as the tool for providing a consistent comparison across utilities, the Commission should clarify that it will use this tool to verify a claim by a utility that it is necessary to defer its procurement target for a given period because it did not receive sufficient cost-effective bids. While each utility should have the flexibility to evaluate bids with its own methodology, the Commission should designate one comprehensive and objective tool for determining whether a utility has met its burden of showing that it is appropriate to defer its procurement target due to the lack of cost-effective bids. If deferment is sought, CEP review should be applied to include bids that may not have otherwise been shortlisted due to differences

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<sup>1</sup> Decision 13-10-040, Conclusions of Law #39, at 76

<sup>2</sup> Decision 13-10-040, Conclusions of Law #37, at 75

<sup>3</sup> Decision 13-10-040, Conclusions of Law #38, at 75

<sup>4</sup> Decision 13-10-040, Conclusions of Law #28, at 74

between a utility's shortlisting criteria and CEP results, thereby identifying all available offers that may be cost-effective.

## **II. Inclusion of Additional Transmission & Distribution Benefits in the Consistent Evaluation Protocol's Net Market Value Calculations**

The proposed Consistent Evaluation Protocol only includes one element of transmission and distribution values – Distribution Investment Deferral Value – in its Net Market Value calculation.<sup>5</sup> Three other transmission and distribution values were included in the CEP's qualitative section: (i) Transmission peak capacity support (upgrade deferral), (ii) Transmission congestion relief, and (iii) Distribution operation (voltage support).

To improve its effectiveness for evaluating the cost-effectiveness of distribution-interconnected storage bids, the Consistent Evaluation Protocol's Net Market Value calculation methodology should capture all readily quantifiable transmission and distribution benefits. The qualitative elements are primarily useful for determining whether bids met a utility's operational criteria for a solicitation. All quantifiable benefits must also be included in the Net Market Value calculation methodology so that the tool captures full net value.

Specifically, while Net Market Value includes an "Energy Value" category, it is not clear whether Energy Value necessarily refers to simply the generic wholesale market procurement cost of energy or the full market value of energy at the storage location. Since the delivery of transmission-sourced energy incurs significant ratepayer costs beyond the busbar procurement price,<sup>6</sup> the Energy Value should consider the location of storage in relation to its charging source and load served. Likewise, while Network Upgrade costs associated with the addition of storage are included as a cost in the Net Market Value calculations, avoided or deferred Network Upgrade value is not included in the Net Market Value and only noted in the qualitative factors,

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<sup>5</sup> Energy Division Consistent Evaluation Protocol presentation on March 14, 2014, at 5

<sup>6</sup> See Kenneth Sahm White & Stephanie Wang, *Planning Distributed Generation for Transmission Savings*, March 2014, available at <http://www.clean-coalition.org/site/wp-content/uploads/2014/02/Planning-Distributed-Generation-for-Transmission-Savings-1-ssw-19-Mar-2014.pdf>

potentially biasing utility shortlist selection as well as CEP benchmarking and evaluation of cost-effectiveness.

Further, recent legislation requires utilities to propose methods for existing programs to maximize the full locational benefits of distributed energy resources. AB 327 (2013) added Section 769 to the Public Utilities Code, which requires utilities to submit Distribution Resource Plans by July 1, 2015 to identify optimal locations on the distribution grid through cost-benefit analyses, and guide distributed resources towards optimal locations on the grid. Each Distribution Resource Plan must “[e]valuate locational benefits and costs of distributed resources located on the distribution system. This evaluation shall be based on reductions or increases in local generation capacity needs, avoided or increased investments in distribution infrastructure, safety benefits, reliability benefits, and any other savings the distributed resources provides to the electric grid or costs to ratepayers of the electrical corporation.” Each plan must also “[p]ropose cost-effective methods of effectively coordinating existing commission-approved programs, incentives, and tariffs to maximize the locational benefits and minimize the incremental costs of distributed resources.”<sup>7</sup>

Accordingly, storage cost-effectiveness evaluations must include all quantifiable transmission and distribution costs and benefits, including (i) transmission upgrade deferral or avoidance value, (ii) avoided transmission access charges, and (iii) avoided line losses and congestion costs.

#### *Transmission Upgrade Deferral or Avoidance Value*

Decision 13-10-040 provides that the proposed cost-benefit methodology should include “The full range of benefits and costs identified in the use case framework developed and the EPRI and DNV KEMA reports submitted in this proceeding.” The DNV KEMA report on cost-effectiveness of energy storage showed that avoided transmission and distribution costs associated are major components of the *quantifiable* value of the distribution-interconnected

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<sup>7</sup> Public Utilities Code, Section 769(b)

storage use case.<sup>8</sup> DNV KEMA found, “For the Distribution Level Energy Storage category Use Cases, the primary benefits used in the cost-effectiveness modeling and evaluation are transmission and distribution (T&D) upgrade deferral (annual carrying charge for the upgrade deferral period) and T&D upgrade avoidance (first-year T&D installed cost avoided).”

Further, Pacific Gas & Electric’s workshop presentation on March 14, 2014 on A.14-02-007 shows that it plans to quantify both transmission and distribution investment deferral value, which shows that a utility can quantify such values.<sup>9</sup>

### Transmission Access Charges

Use charges in the form of Transmission Access Charges or their equivalent apply to the delivery of energy from generator bids when this energy utilizes the transmission system. These charges are applied by the transmission operator on each unit of energy (MWh) passing through its transmission system and passed through to customers in addition to the contracted energy price reflected in the energy bid offers.

Transmission Access Charges specific to each utility are calculated by CAISO each year. These charges currently average at 1.5¢/kWh in California, are increasing rapidly, and have a projected levelized cost of at least 2.4¢/kWh across twenty-year contracts. As such, a bid that avoids these energy delivery charges will save ratepayers 2.4¢/kWh.<sup>10</sup>

Any portion of a storage project’s charge and discharge, in association with distribution resource output, that is below minimum coincident load at the substation level will not utilize the transmission system, and therefore should be credited for avoided Transmission Access Charge costs. For example, if a storage facility managed load to avoid distributed generation back-

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<sup>8</sup> DNV KEMA Energy & Sustainability, *Draft Energy Storage Cost-Effectiveness Methodology and Preliminary Results*, June 21, 2013, at 17

<sup>9</sup> Pacific Gas & Electric’s energy storage application presentation on March 14, 2014, at 4

<sup>10</sup> See Kenneth Sahm White & Stephanie Wang, *Planning Distributed Generation for Transmission Savings*, March 2014, available at <http://www.clean-coalition.org/site/wp-content/uploads/2014/02/Planning-Distributed-Generation-for-Transmission-Savings-1-ssw-19-Mar-2014.pdf>

feeding on to the transmission system, the project should be credited with the additional value of avoided Transmission Access Charges for the term of its operational life.

### Line Losses and Congestion Costs

Average transmission losses are tracked by CAISO for each regional transmission zone and average 3% statewide (with the exception of the LA Basin).<sup>11</sup> Losses also occur on the distribution system, averaging 3%, and proportional to the distance between energy supply and load. Where generation is located in closer proximity to load, these losses may also be reduced. System wide losses are substantially higher due to congestion factors during peak demand periods, averaging approximately 10%, and time of delivery differentials should be recognized.<sup>12</sup> Losses for each applicable section of grid utilization should be considered. Projects located close to actual load served will avoid all transmission and significant distribution losses. Standardized values based on the methodologies described above may be applied to efficiently manage the process of bid equalization during procurement evaluation.

Pacific Gas & Electric's Least Cost Best Fit calculations of Energy Benefit accounts for both transmission losses and congestion costs or congestion reduction values that vary by the location of the bid project relative to the Locational Marginal Price (LMP) at the corresponding Trading Hub. This approach could be extended to account for the complete avoidance of transmission losses where distribution-interconnected storage serves local load. Distribution losses, which can be equally significant between the substation and load, may be substantially reduced where distribution-interconnected storage is located closer to coincident loads within the distribution system.

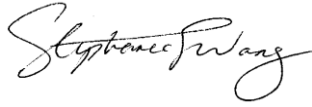
For the foregoing reasons, the Clean Coalition respectfully requests that the Commission adopt the above recommendations regarding the Consistent Evaluation Protocol and Net Market Valuation associated with the proposed utility energy storage procurement plans.

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<sup>11</sup> CAISO, *2012 Local Capacity Technical Analysis Final Report and Study Results*, April 29, 2011

<sup>12</sup> Table ES-1: Comparison of Loss Factors, *A Review of Transmission Losses in Planning Studies*, August 2011, California Energy Commission, CEC-200-2011-009

Respectfully submitted,



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Dated: April 7, 2014



VERIFICATION

I, Dyana Delfin-Polk, am Policy Manager for the Clean Coalition and am authorized to make this verification on its behalf. I am informed and believe that the matters stated in the foregoing pleading are true.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 7<sup>th</sup> of April, 2014 in Berkeley, California.

A handwritten signature in cursive script that reads "Dyana Delfin-Polk". The signature is written in dark ink and is centered on the page.