PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298

Pacific Gas & Electric Company
ELC (Corp ID 39)
Status of Advice Letter 5809E
As of May 15, 2020

Subject: Approval of a Firming and Shaping Agreement to Replace an Expiring Firming and Shaping Agreement.

Division Assigned: Energy

Date Filed: 04-17-2020

Date to Calendar: 04-22-2020

Authorizing Documents: None

Disposition:	**Accepted**
Effective Date:	**04-17-2020**

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Kimberly Loo
415-973-4587
pgetariffs@pge.com

PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298

To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

Advice Letter Number
Name of Filer
CPUC Corporate ID number of Filer
Subject of Filing
Date Filed
Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
Effective Date of Filing
Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to
edtariffunit@cpuc.ca.gov

Pacific Gas and Electric Company®

Erik Jacobson
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

April 17, 2020

Advice 5809-E
(Pacific Gas and Electric Company – U 39 E)

Public Utilities Commission of the State of California

Subject: **Approval of a Firming and Shaping Agreement to Replace an Expiring Firming and Shaping Agreement.**

Purpose

Pacific Gas and Electric Company ("PG&E" or "Utility") respectfully submits this Advice Letter (AL) seeking California Public Utilities Commission ("CPUC" or "Commission") approval of a new Confirmation Agreement to Edison Electric Institute Master Power Purchase and Sale Agreement Between Morgan Stanley Capital Group, Inc., a Delaware corporation ("MSCG") and Pacific Gas and Electric Company ("Agreement") for energy firming and shaping services. The Agreement replaces an expiring firming and shaping agreement associated with the Vantage Wind Energy, LLC ("Vantage") wind facility, described in further detail below. This transaction is consistent with PG&E's firming and shaping strategy for the Vantage wind facility, approved by the Commission in Resolution E-4321.[1] PG&E does not amend or otherwise modify the underlying Vantage transaction.

Background, Summary, and Consistency with Commission Decisions

In September 2009, PG&E filed AL 3525-E requesting Commission review and approval of: 1) a 15-year renewable power purchase agreement (PPA) with Vantage for generation from a 90 megawatt wind project located in Kittitas County, Washington ("Project"), and 2) an associated firming and shaping strategy. In December 2009, PG&E subsequently filed a firming and shaping agreement with Powerex Corporation ("Powerex"), for a term of ten years, executed as part of PG&E's firming and shaping strategy, through Supplemental AL 3525-E-A.

[1] In Resolution E-4321, the Commission authorized PG&E to file a Tier 1 advice letter for approval of a replacement firming and shaping agreement if such replacement agreement is at or below those costs approved in the Resolution.

Under PG&E's firming and shaping strategy for the Vantage facility, PG&E expected to contract with a separate entity to firm and shape the energy that PG&E receives at the busbar from the Project for the duration of the 15-year Vantage PPA term. On April 22, 2010, the Commission issued Resolution E-4321 approving Vantage PPA, the Powerex firming and shaping agreement, and PG&E's firming and shaping strategy, with modification. Specifically, the Commission Order stated in relevant part:

> If Pacific Gas and Electric Company executes an additional third-party firming and shaping agreement to take effect upon expiration of the Powerex firming and shaping agreement that is at or below the costs approved in this Resolution, as identified in Table 3 of Confidential Appendix B of this Resolution, then Pacific Gas and Electric Company shall file the agreement with the Commission in a Tier 1 advice letter filing within 30 days from the execution date of the agreement.[2]

By this Tier 1 AL, PG&E seeks approval of a firming and shaping agreement to take effect on October 4, 2020, immediately following the expiry of the Powerex agreement. The costs of the Agreement are below the costs approved in Resolution E-4321. The Commission's approval of the Agreement will allow PG&E to continue to manage deliveries to California of approximately 250 gigawatt hours of Renewables Portfolio Standard ("RPS")-eligible energy from the Vantage facility for the remaining five (5) years of the Vantage PPA.

As described above, the transaction supported by this Tier 1 Advice Letter does not amend or modify the RPS-eligible Vantage PPA. As a result, the categorization of the Vantage contract is not impacted by this replacement MSCG firming and shaping transaction. Specifically, Public Utilities Code Section 399.16 (d) provides that

> Any contract or ownership agreement originally executed prior to June 1, 2010, shall count in full toward the procurement requirements established pursuant to this article, if all the following conditions are met:
>
> (1) The renewable energy resource was eligible under the rules in place as of the date when the contract was executed.
>
> (2) For an electrical corporation, the contract has been approved by the commission, even if that approval occurs after June 1, 2010.
>
> (3) Any contract amendments or modifications occurring after June 1, 2010, do not increase the nameplate capacity or expected quantities of annual generation, or substitute a different renewable energy resource. The duration of the contract may be extended if the original contract specified a procurement commitment of 15 or more years.

[2] Resolution E-4321, Ordering Paragraph 3.

Further, in Decision ("D.") 11-12-052, the Commission found that procurement from pre-June 1, 2010 contracts meeting the conditions set out in Public Utilities Code Section 399.16(d) may be counted for compliance with the California RPS without regard to the quantitative requirements for the use of each portfolio content category.[3]

Here, the Vantage RPS-eligible contract will continue to count in full towards PG&E's RPS requirement because all of the above cited statutory conditions are met. First, the criteria set forth in Public Utilities Code Section 399.16 (d) (1) is met because PG&E's contract with the Vantage renewable energy resource was eligible under the rules in place at the time the contract was executed.[4] Second, the criteria set forth in Public Utilities Code Section 399.16 (d) (2) is met because the Vantage PPA was approved by the Commission in Resolution E-4321. Third, the criteria set forth in Public Utilities Code Section 399.16 (d) (3) is met because PG&E does not modify or amend the Vantage procurement contact through this transaction. Here, PG&E is merely executing a replacement firming and shaping agreement consistent with the orders set forth in Resolution E-4321 to deliver volumes of energy associated with the Vantage facility to California. Therefore, procurement from the Vantage transaction should continue to count toward PG&E's RPS requirement without modification to the product content category of the underlying resource.

This AL and attached appendices demonstrate the Agreement is reasonable and in the interest of customers, and thus should be approved. PG&E respectfully requests that the Energy Division issue a disposition letter by no later than 30 days from the filing date. Such approval would provide certainty to PG&E and MSCG and support the continued management of the Vantage agreement in a manner compliant with firming and shaping agreement approved by the Commission in Resolution E-4321.

Replacement Firming and Shaping Contract

PG&E provides background concerning the competitive process to select a replacement firming and shaping contract and provides a summary of the Agreement.

1. Request for Offers Process

The Agreement resulted from PG&E's 2019 Vantage Wind Project Firming and Shaping Agreement - Request for Offers ("RFO") issued on February 15, 2019 to a select group of parties active in the Pacific Northwest region. PG&E identified the prospective counterparties by doing initial outreach first with PG&E staff that transact in the northwest

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[3] See Decision (D.) 11-12-052 at Conclusion of Law 24.

[4] See Resolution E-4321 at Finding 17 stating ("Procurement pursuant to the PPA, as modified, is procurement from eligible renewable energy resources for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables Portfolio Standard (Public Utilities Code Section 399.11 et seq.), D.03-06-071 and D.06-10-050, or other applicable law.")

energy markets and then via outreach to parties identified through industry events for the region. Potential counterparties were subject to an initial polling of interest in participating in the RFO. Once, the interested parties were identified the list was discussed with the IE who concurred with the list of respondents to be included in the RFO.

PG&E received offers in April 2019 and upon review of all offers chose to initiate negotiations with MSCG, the counterparty that provided the least cost, best value offers for a firming and shaping product. Due to PG&E's current bankruptcy situation the negotiation of the final agreement and accompanying credit provisions were protracted extending from the summer of 2019 through March of 2020. Further details concerning the RFO are provided in Confidential Appendix B.

The Agreement will allow PG&E to continue to manage deliveries into California of RPS -eligible energy from the Vantage facility for the remaining five (5) years of the Vantage PPA at a substantially lower cost and will provide higher value to customers than the expiring firming and shaping transaction. Further details concerning the transaction structure, firming and shaping fee and resulting energy value are provided in Confidential Appendix A.

2. Independent Evaluator

The Commission requires the use of an Independent Evaluator ("IE") to ensure that RFO processes are undertaken in a fair, consistent, unbiased, and objective manner so that offers selected for shortlisting and resulting in executed agreements are chosen based on reasonable and consistent logic.[5] Specifically, the IE's role is to review PG&E's offer evaluation, monitor negotiations, and review the resulting agreement. PG&E engaged Merrimack Energy Associates as an IE. As required, an IE report is included as part of this advice letter filing with the CPUC in Appendix C.
According to the IE report submitted herein, Merrimack Energy Associates performed its duties overseeing the RFO. In its IE report, it recommends approval of this Agreement and did not identify any concerns with the RFO process carried out by PG&E.

3. Procurement Review Group

PG&E's Procurement Review Group ("PRG") includes representatives from: the Commission's Energy Division and the Public Advocates Office; Coalition of California

[5] *Cf.* Resolution E-4199, p. 69 (Ordering Paragraph ("OP") 4) (requiring an IE for amendments to RPS-eligible PPAs that are "negotiated through a competitive solicitation and for which the contract price is above the [Market Price Referent ("MPR")]"; *id.*, pp. 27-28, 69 (OP 5) (requiring an IE's report when an RPS-eligible PPA is amended to increase the price and when the price is above the MPR and eligible for above-market funds ("AMFs"); D.06-05-039, p. 46 (requiring "each IOU to use an Independent Evaluator to separately evaluate and report on the IOU's entire [RPS] solicitation, evaluation and selection process for this and all future [RPS] solicitations"); D.13-10-040, pp. 10-11 (requiring an IE when conducting competitive solicitations for new energy storage contracts).

Utility Employees; Coast Economic Consulting; The Utility Reform Network ("TURN"), Union of Concerned Scientists, and Woodruff Expert Services (representing TURN). The PRG was informed of the proposed RFO on February 8, 2019 prior to the release of the RFO documents to participants. The Agreement was presented to the PRG prior to execution via email on March 20, 2020. No comments were received from the PRG on the proposed transaction.

4. Agreement Summary

PG&E includes the Agreement in Confidential Appendix D. The Agreement is a confirmation agreement to an Edison Electric Institute Master Power Purchase and Sale Agreement between MSCG and PG&E that confirms terms and conditions specific to this firming and shaping transaction.

As described above, under the Vantage PPA, PG&E receives renewable energy from the Project at the Project's busbar. The Agreement contains the following components to effectuate the firming and shaping of the Project's energy:

1. PG&E will deliver as-available intermittent energy from the Project without the associated renewable energy credits and green attributes to MSCG as it is generated at the Project and delivered at the busbar, and MSCG shall perform the firming and shaping with respect to such energy.

2. MSCG will be responsible for transmission planning, wind generation forecasting, outage coordination, and scheduling for generation from the Project.

3. MSCG will deliver fixed blocks of firm system energy to PG&E at the Palo Verde intertie to the CAISO (or an agreed-upon alternative intertie). The annual quantity of fixed blocks of system energy sold at Palo Verde will reflect the expected annual output from the Project.

Under the Agreement, MSCG is designated the Scheduling Coordinator and firming and shaping agent for the Project. MSCG and PG&E will financially reconcile and settle any difference between the actual quantities of energy delivered from the Project to MSCG on a monthly basis to ensure the volumes are consistent with the Agreement.

In Confidential Appendix A, PG&E provides a detailed comparison of material terms of the expiring firming and shaping agreement with Powerex and the replacement firming and shaping Agreement with MSCG.

5. Description and Benefit of the Agreement

The general purpose of the Agreement is to ensure continued deliveries of the output of the Project to California in order to maximize the value of the existing Vantage PPA for its remaining term. The Agreement result in the deliveries of fixed volumes of energy to PG&E at the Palo Verde interconnection to the California Independent System Operator (CAISO) balancing area, or another agreed upon alternative.

The Agreement specifies a fixed volume of deliveries on a pre-set schedule to Palo Verde during the first, second and fourth quarters of each year. The Agreement's delivery structure will significantly lower costs for PG&E's customers because the delivery fee is substantially lower than the existing firming and shaping fee in the existing Powerex firming and shaping transaction.

Additionally, PG&E analyzed the energy value of the delivered energy for each offer received as compared to the transaction fee, some of which provided third quarter energy deliveries. PG&E chose the offer with the highest net value of the firming and shaping transactions. This offer was also the lowest cost offer of all the offers for delivery of firmed and shaped energy into California. The transaction also results in positive value to PG&E customers when the transaction fee is compared to the expected value of the energy delivered to Palo Verde.

PG&E also received offers to sell the energy at the Mid-C hub in the Pacific Northwest, including one offer that provided higher value than the selected firmed and shaped product. PG&E chose the firmed and shaped product in order to maintain a consistent treatment of output from the facility as originally approved by the CPUC and to avoid potential risk and cost exposure associated with having to manage power deliveries from the Northwest to California.

The reduction in the transaction fee will also translate into lower non-bypassable charges related to the RPS-eligible generation to be recovered from all benefitting customers through the Power Charge Indifference Adjustment ("PCIA").

Emissions Performance Standard

The greenhouse gas Emissions Performance Standard ("EPS") was established by Senate Bill (SB) 1368 and implemented by the CPUC in D.07-01-039. The EPS applies to new long-term (five years or greater) power contracts for baseload generation (defined as a facility with an annualized plant capacity factor of at least 60 percent).[6] Under the rules set forth in D.07-01-039,where intermittent renewable energy is firmed and shaped

[6] D. 07-01-039, p. 4.

with generation with unspecified energy source (e.g. system power), then D.07-01-039 specifically defines the following eligibility condition:

> For specified contracts with intermittent renewable resources (defined as solar, wind and run-of-river hydroelectricity), the amount of substitute energy purchases from unspecified resources is limited such that total purchases under the contract (whether from the intermittent renewable resource or from substitute unspecified sources) do not exceed the total expected output of the specified renewable powerplant over the term of the contract.[7]

The Agreement is compliant with the EPS because MSCG will firm and shape the Vantage output using unspecified sources, and MSCG energy deliveries under the firming and shaping agreement are expected to equal the Vantage output under the Vantage PPA.

Cost Recovery

The costs incurred by PG&E pursuant to the Vantage PPA and Powerex firming and shaping agreements are recovered from bundled customers and departing load customers through the PCIA. The PCIA is a non-bypassable charge allocated to all customers, including departing load, on a vintaged basis. A PCIA vintage recognizes that all customers should share cost responsibility of contracts entered into by an investor-owned utility on their behalf.

Under the PCIA vintaging rules, departing load customers are generally responsible for procurement costs made on their behalf, prior to departure. A PCIA vintage for a contract is established when the contract is executed.[8] Here, PG&E requests the Agreement's costs be recovered through the PCIA with a 2009 vintage, consistent with the strategy approved by the Commission in Resolution E-4321, and requests that the corresponding energy revenue benefits associated with the Agreement be credited to the 2009 vintage customers. This cost recovery treatment is reasonable and consistent with Resolution E-4321.

First, the Agreement is a successor firming and shaping contract consistent with the strategy approved in Resolution E-4321 for the Vantage PPA which is a 2009 vintage contract. Under the Commission-approved strategy, PG&E would continue to firm and shape Vantage deliveries through the term of the Vantage PPA. As described above, the initial firming and shaping agreement is expiring on October 3, 2020. Consistent with Resolution E-4321, PG&E is replacing the Powerex arrangement with an Agreement resulting in lower customer costs for the remainder of the Vantage PPA term. The costs and benefits of the Agreement should be recovered by 2009 vintage customers because

[7] Id. at Conclusion of Law 40.
[8] D. 08-09-012 at Conclusion of Law 15.

the Agreement was executed as part of PG&E's strategy approved by the Commission in Resolution E-4321.[9] The Agreement is an ancillary instrument to support the underlying Vantage PPA, the costs of which are recovered by the 2009 vintage. As described above, PG&E meets the criteria established by E-4321 to recover the costs of the Agreement through this Tier 1 filing.

Second, PCIA recovery through the 2009 vintage is appropriate because the Agreement preserves customer value of the Vantage Project. The RPS benefits of the Vantage PPA are retained through the continued delivery of the RPS-eligible energy to California in a manner consistent with the originally approved PPA. The Agreement provides for continued delivery of the expected Project output to the CAISO market, thereby maintaining expected energy value from the Project as approved in Resolution E-4321. The Agreement will benefit all customers by reducing the total costs of RPS procurement through both a reduced firming and shaping fee and through offsetting energy revenues. Together, these features reduce the above-market costs that are allocated through the PCIA.

In summary, the cost of the Agreement should be recovered through the 2009 PCIA vintage for the following reasons: (a) the Agreement is consistent with the firming and shaping strategy approved by the Commission for a 2009 vintage contract; (b) the Agreement reduces the cost of delivering the energy from the Vantage Project and maintains the expected energy value; and (c) because the energy revenue stems from the shaping and firming transaction, and the costs are tied to the original PPA, separating the vintage of these two transactions will lead to diversion between the customers who pay for the energy versus the customer who receive the benefit.

Confidentiality and Attachments

In support of this Advice Letter, PG&E has provided the confidential information listed below. This information includes the Agreement and other information that more specifically describes the rights and obligations of the parties involved. This information is being submitted in the manner directed by D.08-04-023 and the August 22, 2006, Administrative Law Judge's Ruling Clarifying Interim Procedures for Complying with D.06-06-066 to demonstrate the confidentiality of the material and to invoke the protection of confidential utility information provided under either the terms of the Investor Owned Utility Matrix, Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023, or Public Utilities Code section 454.5(g). A separate Declaration Seeking Confidential Treatment is being submitted concurrently with this Advice Letter.

[9] Resolution E-4321 at Finding 13 (finding costs below those specified in Confidential Appendix B recoverable for the term of the Vantage PPA).

Confidential Attachments:
Appendix A1: Summary of Agreement, Terms and Conditions and Value Assessment Compared to the Expiring Agreement, and Consistency with Commission Decision (Confidential)

Appendix B: Request for Offer Process and Offer Evaluation and Selection Methodology Overview (Confidential)

Appendix C1: Independent Evaluator Report (Confidential)

Appendix D: Confirmation Agreement to EEI Master Power Purchase and Sale Agreement between Morgan Stanley Capital Group, Inc. and Pacific Gas and Electric Company (Confidential)

Public Attachments:
Appendix A2: Summary of Agreement, Terms and Conditions and Value Assessment Compared to the Expiring Agreement, and Consistency with Commission Decision (Redacted)

Appendix C2: Independent Evaluator Report (Redacted)

Request for Commission Approval

Consistent with Resolution E-4321, PG&E is submitting this advice letter with a Tier 1 designation to be effective upon date of submittal. Any such disposition that makes this advice letter effective shall be deemed to constitute the following

1. Approves the Agreement in its entirety, including payments to be made by PG&E pursuant to the Agreement, subject to the approval of the Commission's review of PG&E's administration of the Agreement.

2. Adopts the following finding of fact and conclusion of law in support of CPUC Approval:

   a. The terms of the Agreement are reasonable.
   b. The Agreement does not amend or modify the Vantage PPA.

3. Adopts the following findings of fact and conclusions of law in support of cost recovery for the Agreement:
   a. The Utility's payments under the Agreement shall be recovered through PG&E's Portfolio Allocation Balancing Account by the 2009 customer vintage.
   b. The Utility's energy revenues resulting from the Agreement shall be credited to PG&E's Portfolio Allocation Balancing Account for the benefit of the vintage 2009 customers.

This submittal would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

Protests

*****Due to the COVID-19 pandemic and the shelter at home orders, PG&E is currently unable to receive protests or comments to this advice letter via U.S. mail or fax. Please submit protests or comments to this advice letter to EDTariffUnit@cpuc.ca.gov and PGETariffs@pge.com*****

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than May 7, 2020, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B13U
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-3582
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 1 advice letter become effective upon date of submittal, which is April 17, 2020.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.18-07-003**.** Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/

Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List R.18-07-003

Limited Access to Confidential Material

The portions of this Advice Letter marked Confidential Protected Material are submitted under the confidentiality protection of Section 583 and 454.5(g) of the Public Utilities Code. This material is protected from public disclosure because it consists of, among other items, the Agreement itself, price information, and analysis of the Agreement, which is protected pursuant to D.06-06-066 and D.08-04-023. A separate Declaration Seeking Confidential Treatment regarding the confidential information is filed concurrently herewith.

ADVICE LETTER SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39E)

Utility type:
- [x] ELC
- [ ] GAS
- [ ] WATER
- [ ] PLC
- [ ] HEAT

Contact Person: Kimberly Loo
Phone #: (415)973-4587
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: KELM@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 5809-E

Tier Designation: 1

Subject of AL: Approval of a Firming and Shaping Agreement to Replace an Expiring Firming and Shaping Agreement.

Keywords (choose from CPUC listing): Compliance

AL Type: [ ] Monthly [ ] Quarterly [ ] Annual [x] One-Time [ ] Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? [x] Yes [ ] No

If yes, specification of confidential information: See Confidentiality Declaration and Matrix
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/access to confidential information: Jeff Henderson, (415)972-5779, J2H0@pge.com

Resolution required? [ ] Yes [x] No

Requested effective date: 4/17/20

No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

[1]Discuss in AL if more space is needed.

Clear Form

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division Attention: Tariff Unit 505 Van Ness Avenue San Francisco, CA 94102 Email: EDTariffUnit@cpuc.ca.gov	Name: Erik Jacobson, c/o Megan Lawson Title: Director, Regulatory Relations Utility Name: Pacific Gas and Electric Company Address: 77 Beale Street, Mail Code B13U City: San Francisco, CA 94177 State: California Zip: 94177 Telephone (xxx) xxx-xxxx: (415)973-2093 Facsimile (xxx) xxx-xxxx: (415)973-3582 Email: PGETariffs@pge.com	
	Name: Title: Utility Name: Address: City: State: District of Columbia Zip: Telephone (xxx) xxx-xxxx: Facsimile (xxx) xxx-xxxx: Email:	

Clear Form

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY

DECLARATION OF JEFF HENDERSON SEEKING CONFIDENTIAL TREATMENT FOR CERTAIN DATA AND INFORMATION CONTAINED IN ADVICE LETTER 5809-E

I, Jeff Henderson, declare:

1. I am a Principal Structured Energy Transactions Analyst in Structured Energy Transactions within the Energy Policy and Procurement organization at Pacific Gas and Electric Company (PG&E). In this position, my responsibilities include evaluating and negotiating structured energy transactions, including power purchase agreements, contract amendments and firming and shaping agreements This declaration is based on my personal knowledge of PG&E's practices and my understanding of the Commission's decisions protecting the confidentiality of market-sensitive information.

2. Based on my knowledge and experience, and in accordance with Decisions 06-06-066, 08-04-023, and relevant Commission rules, I make this declaration seeking confidential treatment for certain data and information contained in the attachments to Advice Letter 5809-E.

3. Attached to this declaration is a matrix identifying the data and information for which PG&E is seeking confidential treatment. The matrix specifies that the material PG&E is seeking to protect constitutes confidential market sensitive data and information covered by Public Utilities Code section 454.5(g), D.06-06-066, D.08-04-023 and/or relevant Commission rules. The matrix also specifies why confidential protection is justified. Further, the data and information: (1) is not already public; and (2) cannot be aggregated, redacted, summarized or

otherwise protected in a way that allows partial disclosure. By this reference, I am incorporating into this declaration all of the explanatory text that is pertinent to my testimony in the attached matrix.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct. Executed on April 9, 2020 at San Francisco, California.

/s/ Jeff Henderson

Jeff Henderson

Principal Structured Energy Transactions

Pacific Gas & Electric Company

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
Advice Letter 5809-E
April 17, 2020

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time
Appendix A1, grey shaded sections	Item VII B) Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS) Item VIII B: Specific quantitative analysis involved in scoring and evaluation of participating bids	If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential. The Appendix contains a summary of contract terms, including pricing terms confidential terms. The Appendix also contains quantitative information related to bid evaluation, If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential.	For Item VII(B) confidential for three years from date contract states deliveries to begin; or until one year following expiration, whichever comes first. VIII(B): Three years after winning bidders selected
Appendix B,	Item VIII(B) Specific quantitative analysis involved in scoring and evaluation of participating bids	This appendix contains confidential bid information and bid evaluations from PG&E's solicitation. If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential.	VIII(B): Three years after winning bidders selected

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
Advice Letter 5809-E
April 17, 2020

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time
Appendix C1, Independent Evaluator Report – grey shaded sections	Item VIII(B): Specific quantitative analysis involved in scoring and evaluation of participating bids Public Utilities Code section 454.5(g)	This appendix contains the IE report, which includes confidential bid information and bid evaluations from PG&E's solicitation. The confidential IE report also discusses, analyzes and/or evaluates the terms of the Confirm and confidential negotiations between PG&E and MSCG. If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential.	VIII(B): Three years after winning bidders selected Public Utilities Code § 454.5(g): Three years
Appendix D, Confirmation Agreement to EEI Master Power Purchase and Sale Agreement between Morgan Stanley Capital Group, Inc. and Pacific Gas and Electric Company	Item VII B) Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS)	This appendix contains terms of the Confirmation Agreement. If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential.	For Item VII(B) confidential for three years from date contract states deliveries to begin; or until one year following expiration, whichever comes first.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX A

SUMMARY OF AGREEMENT, TERMS AND CONDITIONS AND VALUE ASSESSMENT COMPARED TO THE EXPIRING AGREEMENT, AND CONSISTENCY WITH COMMISSION DECISION

(REDACTED)

APPENDIX A

Comparison of Terms and Conditions of Powerex Corp. and Morgan Stanley Capital Group Inc. ("MSCG") Firming and Shaping ("F&S") Agreements

A. Summary of Terms and Conditions Comparison

The Confirmation Agreement provides for MSCG to receive all of the output of the Vantage Wind Project, provide Scheduling Coordinator ("SC") services, including scheduling, forecasting and receipt of the energy from the project into the Puget Sound Energy Balancing Area Authority. MSCG then has the right to the energy from the project. MSCG then delivers firm pre-scheduled energy to PG&E at Palo Verde on the California Independent System Operator ("CAISO") system. [redacted]

The forecasted volume of the Vantage Project output is equal to the amount of energy delivered to PG&E at Palo Verde, a CAISO intertie. Each month the volume of actual energy delivered from the project is reconciled with the forecast volume such that PG&E only pays the fee for the actual volume of energy produced by the Vantage Wind Project.

The Agreement is a Confirmation of a specific transaction that is subject to the terms of an Edison Electric Institute Master Agreement. The Master Agreement serves as the overriding document regarding the essential terms governing forward purchases and sales of wholesale electricity with regard to credit provisions and standardized product definitions. In this, and most instances, the specific terms in the Confirmation Agreement are superior to any contradictory terms in the Master.

PG&E provides a summary of contract terms, with a comparison to the applicable terms of the expiring firming and shaping Agreement below.

Issue/Provision	Powerex Corp. F&S Agreement	MSCG F&S Agreement
Term	October 4, 2010 – October 3, 2020	October 4, 2020 – October 3, 2025
Product	<u>Product A:</u> all energy generated by Vantage Wind Energy Center project, excluding any renewable attributes, Renewable Energy Credits, WREGIS Certificates, and/or Green Attributes associated with such energy. <u>Product B:</u> Energy from one or more unspecified sources, each with a quality consistent with the most widely traded wholesale power product at Mid-C, and in fixed uniform blocks of the quantity.	<u>Product A:</u> all energy generated by Vantage Wind Energy Center project, Western System Power Pool ("WSPP") Service Schedule B Electricity, unit contingent energy as defined in the WSPP Agreement, excluding any renewable attributes, Renewable Energy Credits, WREGIS Certificates, and/or Green Attributes associated with such energy. <u>Product B:</u> WSPP Service Schedule C Electricity, firm service, as defined in

<table>
<tr><th>Issue/Provision</th><th>Powerex Corp. F&S Agreement</th><th>MSCG F&S Agreement</th></tr>
<tr><td></td><td></td><td>the WSPP Agreement. The volume is fixed for each month of the Delivery Period.

PG&E retains all renewable energy attributes, Renewable Energy Credits, WREGIS Certificates, and/or Green Attributes associated with such energy,

Any energy from the Vantage Project that MSCG imports- to California is a specified source import consistent with the Cap and Trade Regulations.</td></tr>
<tr><td>Contract Price</td><td>$12.00/MWh for each MWh of actual output from the Vantage Wind Project plus $17.50/MWh for each MWh of forecasted output from the Vantage Wind Project, for an expected total of approximately $29.50/MWh, with a floor at $25.50/MWh and cap of $33.50/MWh for the total cost in each year.

This price was subject to adjustment if the spread of the five-year forward price curves at Mid-C and NP15 moved more than $2.00/MWh during the period from filing the Advice Letter and final approval of the agreement by the CPUC.</td><td>[redacted]</td></tr>
<tr><td>Product B Delivered Energy Shape</td><td>
<table>
<tr><th>Month
Jan - Dec</th><th>On Peak (6X16) MW</th><th>Off Peak (6X8 &1X24) MW</th></tr>
<tr><td>Jan</td><td>0</td><td>0</td></tr>
<tr><td>Feb</td><td>0</td><td>0</td></tr>
<tr><td>Mar</td><td>0</td><td>0</td></tr>
<tr><td>Apr</td><td>0</td><td>0</td></tr>
<tr><td>May</td><td>80</td><td>80</td></tr>
<tr><td>Jun</td><td>80</td><td>80</td></tr>
<tr><td>Jul</td><td>80</td><td>80</td></tr>
<tr><td>Aug</td><td>80</td><td>80</td></tr>
</table>
</td><td>
<table>
<tr><th>Month
Jan - Dec</th><th>On Peak (6X16) MW</th><th>Off Peak (6X8 &1X24) MW</th></tr>
<tr><td colspan="3">[redacted]</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Issue/Provision</th><th>Powerex Corp. F&S Agreement</th><th>MSCG F&S Agreement</th></tr>
<tr><td></td><td><table><tr><td>Sep</td><td>57</td><td>57</td></tr><tr><td>Oct</td><td>0</td><td>0</td></tr><tr><td>Nov</td><td>0</td><td>0</td></tr><tr><td>Dec</td><td>0</td><td>0</td></tr></table></td><td>[redacted]</td></tr>
<tr><td>Product B Delivery Point</td><td>Primary Delivery point: Cascade
Alternate Delivery point: COB</td><td>Primary Delivery point: Palo Verde
Alternate Delivery point: agreed-upon alternative intertie</td></tr>
<tr><td>Product Volume Reconciliation</td><td>The volume of Product A and Product B are subject to a financial reconciliation on a yearly basis based on the weighted average price of the energy delivery price at the point that was overdelivered.</td><td>The volume of forecasted energy at Delivery Point A is adjusted to match to the amount of actual energy delivered from Delivery Point A each month by a financial settlement. There is not a reconciliation to the Product B deliveries necessary because Product A forecasted deliveries and the Product B volumes are fixed for the delivery term. PG&E will therefore pay the fee only for the actual MWh delivered from the project and will always receive a delivered volume of energy commensurate to the reconciled (forecast) volume.</td></tr>
<tr><td>Transmission Cost for Product A Delivery from the Vantage project to CAISO</td><td>Powerex Corp. is responsible for the following transmission costs related to Product A delivery to Product A Delivery Point:
1. PSE Schedule 1: Scheduling, System Control, and Dispatch Service ($/kW-year) up to a maximum of $1,125.00/month.
2. PSE Schedule 2: Reactive Supply and Voltage Control ($/kW-year) up to a maximum cost of $675.00/month.
3. PSE Schedule 5: Operating Reserve-Spinning Reserve Service ($/kW-year)
4. PSE Schedule 6: Operating Reserve – Supplemental Reserve Service
5. PSE Schedule 7 – Part 1: Long Term Firm PTP ($/kW-year) up</td><td>Unless MSCG joins EIM, PG&E is responsible for all transmission cost related to Product A delivery to Product A Delivery Point, for which PG&E will reimburse MSCG should it incur any such transmission costs. [redacted]</td></tr>
</table>

Issue/Provision	Powerex Corp. F&S Agreement	MSCG F&S Agreement
	to a maximum cost of $24,225.00/month. 6. PSE Schedule 11: Tax Rider (%) 7. PSE Schedule 13 Wind Integration Charges up to a maximum of $9,900.00/month.	[redacted]

B. **Market Value Comparison of the Existing and Proposed Firming and Shaping Transactions**

The market value of all offers received and the estimated value of the existing Powerex transaction terms was determined by comparing the forward market value of the energy to be delivered under each alternative location and delivery shape to the required firming and shaping fee in a manner consistent with their standard market valuation practices. As noted in the Advice Letter the selected option was the lowest cost and highest value of all offers received for a firming and shaping product.

The transmission cost below represents the actual cost per MWh that Powerex is required to pay as part of its current firming and shaping agreement for deliveries in 2019. [redacted] This is a reasonable proxy for future transmission cost benefit to ensure that the cost of the MSCG transaction is fairly compared with the existing firming and shaping transaction value since PG&E will be responsible for these costs going forward.

Vantage Firming and Shaping Value ($/MWh)	Forecasted Powerex Transaction Value[1]	Proposed MSCG Transaction
Expected Energy Revenue	[redacted]	
Firming and Shaping Fee		
Transmission and Facilities Cost Subsidy		
Net Value to PG&E		

C. **Consistency with Resolution E-4321**

[1] [redacted]

On April 22, 2010, the Commission issued Resolution E-4321 approving Vantage PPA, the Powerex PPA, and PG&E's firming and shaping strategy, with modification. Specifically, the Commission Order stated in relevant part:

> If Pacific Gas and Electric Company executes an additional third-party firming and shaping agreement to take effect upon expiration of the Powerex firming and shaping agreement that is at or below the costs approved in this Resolution, as identified in Table 3 of Confidential Appendix B of this Resolution, then Pacific Gas and Electric Company shall file the agreement with the Commission in a Tier 1 advice letter filing within 30 days from the execution date of the agreement.[2]

[redacted] $29.50/MWh from the original firming and shaping agreement with Powerex which meets the standard outlined in Resolution E-4321. Further, based on the analysis above in Section B the transaction also shows greater portfolio value to PG&E than the Powerex transaction and provides positive overall value to PG&E's bundled service and departing load customers through the delivery of the energy to PG&E at Palo Verde.

[2] Resolution E-4321, Ordering Paragraph 3.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX B

REQUEST FOR OFFER PROCESS AND OFFER EVALUATION AND SELECTION METHODOLOGY OVERVIEW

(CONFIDENTIAL IN ITS ENTIRETY)

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX C

INDEPENDENT EVALUATOR REPORT

(REDACTED)

Pacific Gas & Electric Company

Submission of a Shaping and Firming Agreement for Vantage Wind Energy Center with Morgan Stanley Capital Group, Inc.

Final Report of the Independent Evaluator

April 2, 2020

Prepared by

Merrimack Energy Group, Inc.

Merrimack

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Energy

Table of Contents

I. Introduction

A. Overview

Pacific Gas & Electric Company ("PG&E") is submitting a Tier 1 Advice Letter[1] to the California Public Utilities Commission ("CPUC") seeking approval of a Firming and Shaping Agreement for the Vantage Wind Energy Center ("Vantage Wind") with Morgan Stanley Capital Group, Inc. ("Morgan Stanley" or "MSCG"). The Firming and Shaping Agreement will replace the existing ten-year Firming and Shaping Agreement with Powerex, which terminates in October, 2020, with five years remaining on the PPA with Vantage Wind. Under the terminating firming and shaping agreement the energy deliveries by Powerex are limited to total expected Vantage output under the PPA with Vantage.

Under this new Agreement, PG&E shall purchase Firming and Shaping service from Morgan Stanley for a five-year term beginning on October 4, 2020 and extending to October 3, 2025. Through this agreement, PG&E will "sell" (i.e. deliver) the energy output of the Vantage Wind project to Morgan Stanley and will purchase Term Sheet B product from Morgan Stanley which will be shaped to reflect firm deliveries at Palo Verde.

On March 26, 2020 PG&E executed the Confirmation Agreement to the EEI Master Power Purchase and Sale Agreement with Morgan Stanley Capital Group for a Firming and Shaping Service with an expected Delivery Period Start Date of October 4, 2020 as a replacement for the Firming and Shaping Agreement with Powerex. [2]

B. Background to PG&E's Solicitation Process

PG&E initiated its "targeted" Vantage Wind project firming and shaping solicitation process in February 2019. PG&E contacted 6 potential suppliers to assess their interest in supplying the product of interest based on PG&E's knowledge of potential market participants for the requested type of service and issued its Request for Offers (RFO) to the 6 potential firming and shaping providers identified to manage the Vantage project output for the remaining 5 year term of the Vantage Wind contract.

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[1] Resolution E-4321 (April 2010) approved cost recovery for a power purchase agreement ("PPA") resulting from PG&E's 2008 Renewable Portfolio Standard (RPS) solicitation between PG&E and Vantage Wind Energy, LLC, PG&E's firming and shaping strategy, and a firming and shaping agreement with Powerex Corporation. In the Resolution, the Commission ordered that if Pacific Gas and Electric executes an additional third-party firming and shaping agreement that is at or below the costs approved in this Resolution, then Pacific Gas and Electric shall file the agreement with the Commission in a Tier 1 advice letter filing within 30 days from the execution of the agreement. If the additional third-party firming and shaping agreement is above the costs of a firming and shaping agreement as approved in this Resolution and as identified in Table 3 of Confidential Appendix B of this Resolution, then Pacific Gas and Electric shall file the agreement with the Commission in a Tier 3 advice letter filing within 30 days from the execution date of the agreement.

[2] The contract is effective upon execution. It becomes binding upon CPUC Approval. The Delivery Period Start Date occurs on the first day of the first showing month following CPUC Approval, expected to be October 4, 2020.

PG&E initially identified potential firming and shaping providers for the RFO. The IE also identified potential providers for consideration, which overlapped with the list compiled by PG&E. In the notification sent to perspective suppliers on February 15, 2019, PG&E stated that it was seeking offers from service providers for a variety of services including Scheduling Coordinator (SC) and/or energy delivery and shaping services. Offers for such services were requested for energy output generated under a power purchase agreement (PPA) between PG&E and Vantage Wind Energy LLC (Vantage), dated as of August 17, 2009. Offers were requested to be delivered to PG&E electronically via email no later than 4:00 PM PST on March 15, 2019.[3]

PG&E noted in its email to potential suppliers that it's existing firming and shaping agreement which provides SC services and the delivery of firm blocks of energy from the Vantage facility to a California-Oregon Border intertie (Border) will expire in October 2020 with 5 years remaining on the PPA for deliveries from the wind project. PG&E provided three draft term sheets and requested indicative prices and terms to provide the products and services described in the respective term sheets. PG&E noted that the existing Vantage PPA includes firm delivery service to the Wanapum (Grant PUD) substation from the Vantage facility's delivery point (Puget Sound Energy Poison substation), and such firm delivery service will continue to be made available for the reminder of the delivery term of the PPA.

PG&E also described each Term Sheet or product solicited in the email communications with prospective bidders. These are summarized below.

Term Sheet A – Firmed and Shaped Product– this Term Sheet is for a firmed and shaped product to essentially replace the firming and shaping agreement which is terminating in October 2020. This Term Sheet requests a quote for the bidder to accept delivery of the Vantage Wind plant output at the Wanapum substation, provide Scheduling Coordinator services for the energy from the plant delivery point, and then to deliver firm 6x16 blocks of energy to the Border in each month of the year. The monthly blocks do not have to be equal by month but they have to be pre-set volumes prior to the beginning of each delivery year. PG&E noted it was flexible as to the point of delivery at the Border.

Term Sheet B – California Border Flexibly Delivered Product – this Term Sheet requests a quote to accept delivery of the plant output at Wanapum substation, provide Scheduling Coordinator service for the energy from the plant delivery point, and then to deliver firm blocks of energy to the Border. For this Product offer PG&E is requesting that the Firming and Shaping party develop a delivery profile that creates the least cost for the delivery of energy to the border and the provision of Scheduling Coordinator service. The monthly blocks do not have to be equal by month, the delivery profile can be heavy or light load, but they have to be pre-set volumes prior to the beginning of each month (with notice to PG&E in advance of each month).

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[3] The due date for submission of offers was revised to April 4, 2019 to allow prospective bidders time to review and assess meter data for the Vantage Wind project from 1/1/2014 to 12/31/2018.

<u>Term Sheet C – Sale of Product and Mid-C Transmission Service Rights –</u> Term Sheet C requests a quote for the provision of SC services for the energy and purchase of the energy output of the facility by a third-party. The price requested is for the receipt of the energy at the Wanapum substation and PG&E will accept floating price or fixed price offers. No California Renewable Energy Credits (RECs) will be included in the delivered energy product as PG&E will be retaining the green attributes of the output.

In addition to providing prospective bidders with the three term sheets identified above, PG&E also provided meter data for the Vantage project on an hourly basis from January 1, 2014 through December 31, 2018. In addition, PG&E received questions from one counterparty and provided responses to the questions to all counterparties. The questions were related to the willingness of PG&E to take delivery at NOB, CARB rules regarding imports, EIM fees and requirements, and responsibility for transmission charges.

As background to the solicitation, the Vantage Wind project was bid into PG&E's 2008 RPS solicitation. PG&E selected the project for its shortlist and subsequently negotiated a 15-year PPA with Invenergy, the developer of the Vantage Wind Project.[4] The Vantage Wind Project is a 90 MW wind generation facility located in Kittitas County, Washington. The project was expected to deliver approximately 277 GWh/year. PG&E filed Advice Letter 3525-E on September 16, 2009 requesting CPUC review and approval of: (1) a renewable PPA with Vantage Wind Energy, LLC for generation from a new wind project, and (2) an associated firming and shaping strategy. On December 1, 2009, PG&E submitted Supplemental Advice Letter 3525-E-A to include a ten-year firming and shaping agreement with Powerex Corporation ("Powerex") that was executed as part of PG&E's firming and shaping strategy.[5] Through Resolution E-4321 issued on April 22, 2010, the Commission approved cost recovery for a power purchase agreement (PPA) resulting from PG&E's 2008 Renewable Portfolio Standard (RPS) solicitation between PG&E and Vantage Wind Energy, LLC, PG&E's firming and shaping strategy, and a firming and shaping agreement with Powerex Corporation. The PPA and associated firming and shaping strategy were approved with modification.

In the Resolution, the Commission stated that the Vantage project compares favorably to the results of PG&E's 2008 solicitation. The total all-in costs of the PPA, as modified, including the firming and shaping strategy and firming and shaping agreement are reasonable compared to bids received in response to PG&E's 2008 solicitation and other comparable procurement options. The Commission also ordered that if Pacific Gas and Electric manages the energy from the Vantage project itself for the last five years of the power purchase agreement, then PG&E shall record the incurred costs as a separate line item in its Energy Resource Recovery Account so that such costs may be readily identified for auditing purposes. If PG&E executes an additional third-party firming and shaping agreement to take effect upon expiration of the Powerex firming and shaping agreement that is at or below the cost approved in this Resolution, as identified in Table 3 of Confidential Appendix B of this Resolution, then Pacific Gas and Electric Company shall

[4] The contract price for Vantage Wind is between $106.10 to $118.59 for the remaining contract years.
[5] The Shaping and Firming Agreement was designed to deliver energy produced in Washington to California (delivery at Cascade).

file the agreement with the Commission in a Tier 1 advice letter filing within 30 days from the execution date of the agreement. If the additional third-party firming and shaping agreement is above the costs of a firming and shaping agreement as approved in this Resolution and as identified in Table 3 of Confidential Appendix B of this Resolution, then Pacific Gas and Electric Company shall file the agreement with the Commission in a Tier 3 advice letter filing within 30 days from the execution date of the agreement.

C. Regulatory Requirements for the IE

The requirements for participation by an IE in utility solicitations are outlined in Decisions ("D").04-12-048 (Findings of Fact 94-95, Ordering Paragraph 28), D.06-05-039 (Finding of Fact 20, Conclusion of Law 3, Ordering Paragraph 8) of the CPUC, D.09-06-050 and D.10-07-042.

In D.04-12-048 (December 16, 2004), the CPUC required the use of an IE by investor-owned utilities (IOUs) in resource solicitations where there is an affiliated bidder or bidders, or where the utility proposed to build a project or where a bidder proposed to sell a project or build a project under a turnkey contract that would ultimately be owned by a utility. The CPUC generally endorsed the guidelines issued by the Federal Energy Regulatory Commission ("FERC") for independent evaluation where an affiliate of the purchaser is a bidder in a competitive solicitation, but stated that the role of the IE would not be to make binding decisions on behalf of the utilities or administer the entire process.[6] Instead, the IE would be consulted by the IOU, along with the Procurement Review Group ("PRG") on the design, administration, and evaluation aspects of the Request for Proposals ("RFP"). The Decision identifies the technical expertise and experience of the IE with regard to industry contracts, quantitative evaluation methodologies, power market derivatives, and other aspects of power project development. From a process standpoint, the IOU could contract directly with the IE, in consultation with its PRG, but the IE would coordinate with the Energy Division.

In D.06-05-039 (May 25, 2006), the CPUC required each IOU to employ an IE regarding all RFPs issued pursuant to the RPS, regardless of whether there are any utility-owned or affiliate-owned projects under consideration. In addition, the CPUC directed the IE for each RFP to provide separate reports (a preliminary report with the shortlist and final reports with IOU advice letters to approve contracts) on the entire bid, solicitation, evaluation and selection process, with the reports submitted to the utility, PRG, and CPUC and made available to the public (subject to confidential treatment of protected information). The IE would also make periodic presentations regarding its findings to the utility and the utility's PRG consistent with preserving the independence of the IE by ensuring free and unfettered communication between the IE and the CPUC's Energy Division, and an open, fair, and transparent process that the PRG could confirm.

In D.09-06-050 issued on June 18, 2009 in Rulemaking 08-08-009, Order Instituting

[6] Decision 04-12-048 at 129-37. The FERC guidelines are set forth in Ameren Energy Generating Company, 108 FERC ¶ 61,081 (June 29, 2004).

Rulemaking to Continue Implementation and Administration of California Renewable Portfolio Standard Program, the CPUC required that bilateral contracts should be reviewed according to the same processes and standards as contracts that come through a solicitation. This includes review by the utility's PRG and its IE, including a report filed by the IE.

In D.10-07-042 issued on July 29, 2010, the Commission reaffirmed the role of the IE and required the Energy Division to revise the IE Template to ensure that the IEs focus on their core responsibility of evaluating whether an IOU conducted a well-designed, fair, and transparent RFO for the purpose of obtaining the lowest market prices for ratepayers, taking into account many factors (e.g. project viability, transmission access, etc.).

This IE report is submitted in conformance with the above requirements and is generally consistent with the requirements outlined in the CPUC's Short Form IE Report Template.

D. Issues Addressed in this Report

This report addresses Merrimack Energy's assessment regarding the following issues associated with the evaluation and execution of the Morgan Stanley Confirmation Agreement.

1. Describe the role and requirements of the IE;

2. How did the IOU conduct outreach to bidders? Was the solicitation robust?

3. Describe the IOU's Least Cost Best Fit ("LCBF") methodology for evaluating offers. Was the LCBF process fairly administered? Evaluate the strengths and weaknesses of the IOU's methodology?

4. Describe the administration of the solicitation process by PG&E;

5. Describe project specific negotiations. Highlight any areas of concern including unique terms and conditions;

6. Does the contract merit CPUC approval? Is the contract reasonably priced and does it reflect a functioning market?

7. Recommendations

II. Description of the Role of the IE throughout the Solicitation Process

Based on the requirements listed in the Contract Work Authorization ("CWA"), executed between PG&E and Merrimack Energy for this assignment, the consultant shall perform the following tasks for PG&E solicitations:

- Advise on the consistency of solicitation activities with the CPUC's procurement related rules and procedures and PG&E's Commission-approved procurement authority;

- Assist in the development, design and review of solicitations. Promptly submit any recommendations to PG&E and/or the CPUC, consistent with the objective of ensuring a competitive, open and transparent process, and to ensure that the overall scope of the solicitation process is not unnecessarily broad or too narrow;

- Monitor all communications and/or negotiations between PG&E and counterparties, as required by the solicitation's objectives as outlined in the solicitation protocol and approved by the CPUC;

- Provide recommendations and reports, if required by PG&E and/or the CPUC, concerning the definition of products sought and price and non-price evaluation criteria, so that all aspects of the products are clearly understood and all participants may effectively respond to the solicitations, as applicable;

- Review the comprehensive quantitative and qualitative bid evaluation criteria and methodologies applied to the 2019 Vantage Project solicitations and assess whether these are applied to all bids in a fair and non-discriminatory manner. The Consultant will be provided access to PG&E's personnel, modeling tools, meeting documentation in order to credibly evaluate the bid valuation and selection processes;

- Report on the outcome of a solicitation using the appropriate CPUC-approved Independent Evaluator Report Template, which may be amended from time to time, for inclusion in any Advice Letter, Application, and /or Quarterly Compliance Report filings;

- Monitor the solicitation, bilateral negotiation and/or contract amendment processes and promptly submit recommendations to PG&E's management to ensure that no participant has an information advantage and that all participants or counterparties, if applicable, receive access to relevant communications in a non-discriminatory manner. This task may include monitoring contract negotiations and/or keeping appraised of negotiation status and major issues;

- Provide presentations to PG&E's management, the Procurement Review Group (PRG), and the CPUC Energy Division (ED), if requested, regarding the Consultant's findings or status. Communicate periodically with the ED as a check on the solicitation process;

- Provide a final written assessment as to whether the solicitation, bilateral negotiations and/or contract amendment processes were open, transparent and fair, and whether any participant received material information that gave them a competitive advantage or disadvantage relative to other participants;

- Provide a final written assessment as to whether, or not, PG&E's evaluation criteria and methodologies were reasonable, appropriate and applied in a fair/non-discriminatory manner for all offers received;

- Prepare or assist in the preparation of direct and/or rebuttal testimony, and participate as a witness or in an advisory capacity during administrative hearings, as required, before the CPUC and/or FERC in any associated proceedings;

- Perform other duties as may be further defined in subsequent relevant regulatory proceedings or required by PG&E's senior management.

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III. Adequacy of Outreach to Potential Sellers

Since PG&E was seeking offers for a replacement to the expiring Firming and Shaping Agreement with Powerex for the Vantage Wind project for the remaining five years of the contract term with Vantage Wind, PG&E's focus was to target those firms that offer a Firming and Shaping service based on knowledge of the market for such services. The IE refers to this solicitation as a "targeted solicitation" as opposed to an open solicitation since there are a limited number of potential suppliers at least for the Firming and Shaping options sought through this solicitation.

PG&E directly contacted a list of six potential suppliers to gauge their interest prior to submitting the list of documents to potential suppliers.[7] While there may have been more bidders interested in Product C – Sale of the output from the Vantage Wind project, the bidders selected all expressed an interest in offering a Firming and Shaping product.

The IE felt the outreach efforts for this type of solicitation were reasonable and consistent. PG&E was flexible with regard to the schedule to allow the opportunity for more parties to compete. Furthermore, PG&E engaged prospective counterparties prior to issuing the solicitation email and Term Sheets to address counterparty questions.

PG&E received a total of eight offers from three counterparties.

IV. Administration of the Solicitation Process

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[7] As previously noted, the IE also identified potential firming and shaping providers that overlapped PG&E's list.

A. Products Requested (Term Sheets)

As noted, PG&E sent prospective bidders an email describing the products solicited and other information associated with the solicitation along with three Term Sheets, one for each of the products solicited. Merrimack Energy reviewed the Term Sheets and prepared comments and questions for PG&E. The parties held a conference call to discuss the requirements identified in the Term Sheets. Table 1 provides a side-by-side comparison of the three products solicited, as described in each of the term sheets.

Table 1: Summary of Term Sheet Provisions by Product

Components of Term Sheets	**Term Sheet A – Firmed and Shaped Product**	**Term Sheet B – California Border Flexibly Delivered Product**	**Terms Sheet C – Sale of Product and Mid-C Transmission Service Rights**
Transaction	The non-simultaneous purchase and sale of Product A and Product B and provision of Scheduling Coordinator (SC) services and utilization of transmission rights. All services relate to the output from the Vantage Wind facility.	The non-simultaneous purchase and sale of Product A and Product B and provision of Scheduling Coordinator (SC) services and utilization of transmission rights. All services relate to the output from the Vantage Wind facility.	The purchase of Product A and provision of Scheduling Coordinator (SC) services and utilization of transmission rights under the terms and conditions of the Agreement. Product A, the SC services and the utilization of Transmission Service all relate to the output from the Vantage Facility.
Product A	PG&E delivers Product A – Product A means all Energy generated by the Vantage Wind Facility as measured in MWh at the Puget Sound Energy (PSE) revenue meter of the Vantage Facility (PSE Poison Substation) net of all electrical losses. Product includes all associated renewable attributes.	PG&E delivers Product A – Product A means all Energy generated by the Vantage Wind Facility as measured in MWh at the Puget Sound Energy (PSE) revenue meter of the Vantage Facility (PSE Poison Substation) net of all electrical losses. Product includes all associated renewable attributes	PG&E is Deliverer of Product A – Product A means all Energy generated by the Vantage Facility as measured in MWh at the Puget Sound Energy (PSE) revenue meter of the Vantage Facility, net of all Electrical losses.
Product B	PG&E receives Product B – Product B means Energy from one or more unspecified sources, each with a quality consistent with the most widely traded wholesale power product at the CAISO intertie with Oregon (location TBD), and in fixed uniform blocks of the quantity as agreed pursuant to this Agreement.	PG&E receives Product B – Product B means Energy from one or more unspecified sources, each with a quality consistent with the most widely traded wholesale power product at the CAISO intertie with Oregon (location TBD), and in a quantity equal to the volume of Product A (with a post year-end volume make-up) as agreed pursuant to this Agreement. The Delivery Profile will be based on the preferred profile detailed by the Product B delivery party.	N/A
Transaction Terms	The transaction involves the Firming and Shaping Party (FSP) providing PG&E with calendar year forecast of	The transaction involves the Product B party (PBP) taking delivery of Product A at the project busbar ("Annual	The transaction involves the Buyer taking delivery of Product A at the project busbar and making payment

	hourly Vantage Wind Energy production at the project busbar ("Annual Forecasted MWh"), and the obligation of the FSP to separately deliver the Annual Forecasted MWh in accordance with the energy profile specified at the CAISO intertie and [TBD] during each calendar year. The transaction period is October 4, 2020 through October 3, 2025. The Calendar Year Delivery Profile at the CAISO Intertie shall consist of a monthly pre-set MW On-Peak hours only. Each month to be pre-determined MW based on expected delivery volume from Vantage.	Forecasted MWh), and the obligation of PBP to separately deliver the equivalent volume of energy in accordance with the energy profile specified to PG&E at the CAISO intertie at [TBD] during the calendar year. The transaction period is October 4, 2020 through October 3, 2025. The Calendar Year Delivery Profile at the CAISO intertie will be specified by PBP. The volume and delivery hours will have to be fixed prior to each month but specific hours and volume by month are up to PBP. PBP must attempt to deliver the expected volume of Product A for the year each year and include a make-up provision either through post year-end deliveries or a financial settlement at year-end.	to PG&E for Product A [this payment may be structured as a fixed price for the term or an index price based on the monthly volume of Mid-C Heavy and Light load deliveries]. The Buyer will have full rights to the transmission service per Section 7 of the Term Sheet. The transaction period is October 4, 2020 through October 3, 2025
Annual Reconciliation	PG&E and FSP will financially reconcile and settle any differences between the Vantage Wind Energy production and the separately delivered energy at the CAISO intertie at the end of each calendar year based on the provisions outlined in the Agreement.	PG&E and FSP will financially reconcile and settle any differences between the Vantage Wind Energy production and the separately delivered energy at the CAISO intertie at the end of each calendar year based on the provisions outlined in the Agreement.	N/A
Contract Price	The price for all components of this transaction shall be comprised of the following: (a) the Firming and Shaping Fee, (b) the non-simultaneous exchange of equal quantities of Product A and Product B in each Contract Year, (c) the Annual Volume Reconciliation Payment and (d) the transmission charges payable.	The price for all components of this transaction shall be comprised of the following: (a) the Delivery Fee, (b) the non-simultaneous exchange of equal quantities of Product A and Product B in each Contract Year, (c) the Annual Volume Reconciliation Payment and (d) the transmission charges payable.	The pricing for all components of this transaction shall be comprised of the Product A price for all product.
Transmission Terms	PG&E shall arrange for the transfer of rights to allow the FSP to utilize the existing transmission rights associated with the Vantage Agreement.	PG&E shall arrange for the transfer of rights to allow the FSP to utilize the existing transmission rights associated with the Vantage Agreement.	PG&E shall arrange for the transfer of rights to allow the FSP to utilize the existing transmission rights associated with the Vantage Agreement.

B. Communications with Potential Providers

As noted, PG&E sent an email to prospective bidders outlining the products requested as well as other details about the solicitation. In addition, PG&E provided the three Term Sheets and the Vantage Meter data to each of the prospective bidders. Three of the prospective bidders, [redacted], requested a call with PG&E to discuss the solicitation requirements. Several bidders also submitted questions, either general questions associated with the solicitation or specific questions pertinent to their offers. Merrimack Energy attended each of the calls with bidders. PG&E also provided responses to the bidder questions.

C. Submission of Offers

[redacted]

[redacted]

For Product A, Morgan Stanley submitted a 6x16 block delivery option with a firming and shaping price at two delivery points – NOB and Palo Verde.

For Product B, Morgan Stanley submitted four offers with two delivery point options; delivery at NOB and at Palo Verde for a total of eight options. For Product B, Morgan Stanley submitted four offers, each with delivery at NOB and Palo Verde. The difference in each of the Product B offers was attributed to different delivery profiles for the product provided by the counterparty. Each offer and option provided different profiles and associated prices.

Table 2 provides a summary of the eight offers submitted, with a total of thirteen offer alternatives based on delivery of the product at NOB or Palo Verde. Appendix A to this report contains a summary of all thirteen alternative offer submitted.

Table 2: Summary of Offer Alternatives Submitted

Bidder Name	Product	Shape	Delivery to PG&E
[redacted]	[redacted]	As Generated	N/A
[redacted]	[redacted]	As Generated	N/A
Morgan Stanley	[redacted]	As Generated	N/A
Morgan Stanley	Product A	Monthly Shape – HLH only – 6x16	NOB
Morgan Stanley	Product A	Monthly Shape – HLH only – 6x16	Palo Verde
Morgan Stanley	Product B	[redacted]	NOB
Morgan Stanley	Product B	[redacted]	NOB
Morgan Stanley	Product B	[redacted]	NOB

Morgan Stanley	Product B	[redacted]	NOB
Morgan Stanley	Product B	[redacted]	Palo Verde
Morgan Stanley	Product B	[redacted]	Palo Verde
Morgan Stanley	Product B	[redacted]	Palo Verde
Morgan Stanley	Product B	[redacted]	Palo Verde

D. Offer Evaluation Results

PG&E provided the initial evaluation results for the offers submitted on April 29, 2019. The IE reviewed the results and prepared a list of questions to discuss with the PG&E team. PG&E provided updated results on May 10, 2019.[8]

PG&E and the IE convened a conference call to discuss the results later the same day. During discussions, PG&E's project team lead noted that the results were still being reviewed and the team wished to review the forward curves used in the evaluation and the impacts on the evaluation results.

PG&E noted that the energy values calculated were based on May 2019 forward curves prepared by the Market Risk Group within PG&E. The COD or initial delivery date under the new agreement was assumed to be October 1, 2020 for all offers. PG&E also noted that RA value for any of the offers was not included because PG&E did not believe it was likely that it would be able to receive RA value for any of the products. PG&E mentioned to the IE that it could receive credit for importing RA but it has to be firm and has to have a certificate. PG&E's view was that it was uncertain whether a certificate would be available for the transaction.

The results of the initial analysis of each offer alternative are presented in Table 3.

Table 3: Summary of Evaluation Results for Each Alternative Offer

[8] There were differences in the results provided to the IE on April 29, 2019 and May 10, 2019. The differences were associated with calculation of the debt equivalency costs. For example, for Product C offers, PG&E originally calculated debt equivalency as a cost for all offers but revised the debt equivalency impacts for Product C to be a benefit in the updated evaluation since PG&E was selling power from a PPA. Merrimack Energy questioned why there should be a benefit attached to the sale of power from a PPA. PG&E responded that the sale essentially reverses the exposure associated with utility debt obligations in cases where the utility enters into a long-term obligation to procure power from a third-party. The IE responded that it had never seen a case where a positive debt equivalency value was included in the evaluation, but understood PG&E's logic in looking at the transaction on a total portfolio basis.

Bidder Name	Product	Shape	Offer Value - $/MWh
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]
Morgan Stanley	[redacted]	[redacted]	[redacted]

As the results illustrate, Product C offers provided fairly significant positive benefits, with Morgan Stanley's Product C offer ranked as the highest valued offer overall. Product A offers had the overall lowest values while several Product B offers were fairly highly ranked as well.

E. Offer Selection

As a result of the evaluation results PG&E recommended that it contract with Morgan Stanley's Product B Shape 2 offer listed above for delivery into Palo Verde. This offer was the highest valued offer of the firming and shaping offers submitted for delivery directly into the CAISO and had the lowest pricing for the offers submitted. While the Morgan Stanley Product C option had a higher value, PG&E management preferred a firming and shaping arrangement rather than PG&E take the risk and cost exposure for managing the sale of the project output at Mid-C.

The selection of a firming and shaping option was based on several factors in addition to the product option selected being the lowest cost and one of the highest value options. The firming and shaping option selected would result in renewable energy being delivered into

California. PG&E would also retain the REC value from the transaction. Also, PG&E would be able to file a Tier 1 Advice Letter given the cost of the transaction approved in Resolution E-4321.

F. Update Evaluation Results

PG&E evaluated the original offers and updated pricing from Morgan Stanley based on its updated pricing curves for the first quarter of 2020. [redacted]. PG&E also evaluated the offers in this solicitation in comparison with the existing Powerex firming and shaping contract pricing. The results of the evaluation illustrated that the Morgan Stanley contract pricing has a significantly higher value than other Product A or B offers submitted.

G. Contract Negotiation Process

On June 5, 2019 PG&E contacted Morgan Stanley asking Morgan Stanley to refresh their offer to provide delivery to Palo Verde under the Shape 2 product with the objective of completing a Confirmation for the product. PG&E also indicated that it would provide an initial draft of a Confirmation later in the week based on the EEI Master Agreement. Morgan Stanley requested a meeting to also discuss the forecasting and scheduling timelines for Vantage Wind with PG&E schedulers and real-time traders. Morgan Stanley submitted a price refresh in late June, 2019 as well as proposed monthly reconciliation language for the Confirmation. [redacted]

The parties held further discussions about operational issues with Morgan Stanley initially, followed by discussions regarding bankruptcy and credit issues. The parties continued to negotiate through July, August, and September, 2019.

[redacted] PG&E also continued to negotiate with Morgan Stanley as the preferred option for contract execution for a firming and shaping service. PG&E and Morgan Stanley essentially reached agreement on a Confirmation Agreement on March 20, 2020 and executed the agreement on March 26, 2020.

V. RFO Bid Evaluation and Selection Methodology and Process

PG&E developed an evaluation methodology that allowed it to evaluate all options requested in a consistent manner. PG&E prepared an internal protocol that provided an overview of the methodology to be used for the evaluation of the offers submitted in response to the 2019 Vantage Wind solicitation. The evaluation methodology was designed to consistently evaluate the three product types solicited for this RFO:

Product A: Firmed and shaped; 6 by 16 summer month delivery only;
Product B: Firmed and shaped; yearly pre-determined generation profile;
Product C: Payment for energy delivered from Vantage Wind

PG&E's market valuation methodology considers how a particular offer's costs compare to its market value within and across each product.[9] Net market value is calculated for each offer based on several components as follows:

Net Market Value = Energy Value – Energy Cost – Debt Equivalent Cost + REC value

Where:

Energy Value reflects the market value of the energy deliveries based on the hourly generation profile of the offer, initial energy delivery date, delivery term of the transaction, and delivery location. The energy value for each hour of delivery is estimated by multiplying the quantity of energy delivery for an hour times the appropriate forward price curves for the corresponding Trading Hub. Quantity is adjusted for losses for that hour. With Buyer Curtailment, the energy value will include the expected option value of Buyer Curtailments for avoiding (presumably negative) wholesale market spot price for the generation from the project. Curtailment option value is calculated as the sum of N hourly curtailment option value over each year, where N is the maximum number of curtailment hours offered.

Energy Cost reflects the Post-TOD Adjusted PPA Price, based on the hourly generation profile of the Offer, initial energy delivery date, delivery term of the Transaction, and the Offers contract price. The PPA price for an Offer is calculated as the present value of hourly PPA payments divided by the total MWh of energy. The hourly PPA payment is calculated as the expected hourly generation delivered by the generation profile, the contract price, and the time-of-delivery (TOD) factor for the corresponding TOD period.

REC value reflects the market value of RECs for the energy deliveries based on the hourly generation profile of the Offer, initial energy delivery date, delivery term of the transaction, and delivery location. The REC value for each hour of delivery is estimated by multiplying the quantity of energy delivery for an hour times the appropriate forward REC price curve.

[9] Certain components which are common and consistently applied to all three product types, such as RA value, were not calculated and are not included in the valuation. Furthermore, PG&E does not expect that RA value will be generated based on the products solicitated since the product will have to be delivered firm and have a certificate attached, which is uncertain. In addition, since PG&E pays the transmission fee associated with the transaction, no transmission costs are included.

Each component is quantified and expressed in terms of levelized dollars per MWh. The levelized dollars per MWh will be derived by taking the present value of each component expressed in nominal dollars and dividing it by the present value of MWhs. The present values will be calculated by discounting the amount to January 1, 2019 using PG&E's approved after-tax weighted cost of capital of 7.0%.

In addition, the risks and uncertainties associated with an Offer's costs and benefits will be considered as part of Net Market Valuation (NMV). The NMV mainly reflects the costs and benefits based on the current market conditions, as opposed to its specific impact on PG&E's aggregate portfolio positions.

PG&E identified the cost and value components included in the evaluation of each product type. Table 4 provides a summary of the evaluation components for each Product.

Table 4: Evaluation Components for Each Product

Product	Energy Value	Contract Cost	Debt Equivalence Cost	Net Value
A	Yes; energy value of the firmed and Shaped gen profile	Yes; firmed and shaped cost	Yes	
B	Yes; energy value of the firmed and shaped gen profile	Yes; firmed and shaped cost	Yes	
C	Zero	Benefit to PG&E (counter party pays PG&E at index – fee)	Applicable if fixed price; N/A if index	

VI. Contract Negotiations Process

During the contract negotiation process, while the IE did not participate in any formal negotiation sessions since communications between the parties was generally relegated to exchange of documents, Merrimack Energy did have the opportunity to monitor email exchanges between PG&E and Morgan Stanley, to review term sheets and proposals exchanged and to review mark-ups of the RA Confirmation Agreement between the parties. The Confirmation went through several iterations during the contract negotiation process. The key provisions of the Agreement were agreed to around March 20, 2020.

The Confirmation summary below reviews the principal terms and conditions of the executed Confirmation Agreement to the EEI Master Power Purchase and Sale Agreement Between Morgan Stanley Capital Group, Inc. and Pacific Gas & Electric Company ("Confirm"), dated March 26, 2020.

Table 5 provides a summary of the key contract provisions for the Confirmation Agreement negotiated by PG&E with Morgan Stanley.

Table 5: Summary of Confirmation Agreement

Transaction Terms	Description
Delivery Period	Delivery Period means that period commencing on and including the Start Date and concluding on and including the End Date; provided that commencement of the Delivery Period shall be subject to and conditioned upon the satisfaction or waiver in writing by both parties, of the Condition Precedent no later than the CP Deadline, where Start Date means October 4, 2020 and End Date means October 3, 2025.
General Terms	Morgan Stanley Capital Group shall act as the Scheduling Coordinator and firming and shaping agent for the Vantage Project at the Vantage Project Interconnection Point (Puget Sound Energy transmission system identified as PSE Poison Substation) and shall deliver fixed volumes of energy to PG&E at Delivery Point B (Palo Verde 500; or alternative delivery point as mutually agreed by the parties).
Products	Product A – Unit Contingent Service/WSPP Service Schedule B Electricity as defined in the WSPP Agreement. For Product A, Morgan Stanley is designated as the Buyer and PG&E as the Seller. The product quantity is equal to 100% of the energy output of the Vantage project. Product B – Firm Energy Service/WSPP Service Schedule C electricity as defined in the WSPP Agreement. For Product B PG&E is designated as the Buyer and Morgan Stanley as the Seller. Morgan Stanley shall deliver to PG&E at Delivery Point B the Palo Verde Energy for each month in accordance with Appendix C.
Energy Payment	For each month, the Energy Payment shall be calculated as follows: Energy Payment = Delivery Fee * Product A Contract Quantity; [redacted] Where the CP Price Adjustment reflects the transaction exposure amount based on a formula contained in the agreement between the Trade Date and Conditions Precedent Satisfaction Date. The Transaction Exposure Amount shall be calculated by Morgan Stanley using Morgan Stanley's valuation methodology for the transaction exposure amount used to calculate Performance Assurance.

	For purposes of calculating the CP Price Adjustment if the absolute value of the CP Price Adjustment is less than or equal to [redacted]
Conditions Precedent	Commencement of the Delivery Period and each of Morgan Stanley's and PG&E's respective obligations during the Delivery Period shall be subject to the satisfaction, or waiver in writing by both parties of the following condition ("Condition Precedent") no later than June 30, 2020 - Receipt of CPUC Approval. The Condition Precedent means Buyer's receipt of CPUC Approval, meaning a final and non-appealable order of the CPUC.
Monthly Reconciliation Payment	[redacted]
Product B Deliveries to Palo Verde – Shape 2	[redacted]

	[redacted]
Events of Default	For purposes of this transaction, each of the following shall constitute an Event of Default under this Confirmation in addition to the Events of Default set forth in the EEI Master Agreement: (a) It shall be an Event of Default by Morgan Stanley under the Confirmation if Morgan Stanley: (i) Fails to schedule, receive, or accept delivery of more than [redacted] MWh of Energy Output in any calendar year during the Delivery Period; or (ii) Fails to deliver more than [redacted] MWh of Product B in any calendar year during the Delivery Period; (iii) The Parties agree that if the actual generation from the Vantage Project exceeds the forecasted generation for any hour ("Excess Energy"), a failure by Morgan Stanley to schedule or receive the amount of such Excess Energy shall not constitute an Event of Default by Morgan Stanley. (b) It shall be an Event of Default by PG&E under this Confirmation if PG&E fails to receive more than [redacted] MWh of Product B that Morgan Stanley has delivered in any calendar year during the Delivery Period in accordance with this agreement.
Performance Assurance	[redacted]

	[redacted]
Cap and Trade Obligations	With respect to Product B, PG&E shall be the electricity importer to California for purposes of California's Cap and Trade Regulation. With respect to Product A, Morgan Stanley shall be responsible for marketing the energy output at its sole discretion. To the extent Morgan Stanley imports any Energy Output into California, the parties acknowledge that Morgan Stanley shall report any such Morgan Stanley California imports as a specified source import and as consistent with the Cap and Trade Regulations, including Mandatory Reporting Regulation.

Table 6: Product A Forecast Energy Output

Month	MWH/Month
January	10,500
February	17,000
March	22,600
April	26,900
May	23,700
June	29,850
July	27,025
August	25,050
September	19,775
October	17,150
November	17,500
December	13,650

Given PG&E's current credit position in bankruptcy, PG&E is required to provide Performance Assurance to Morgan Stanley as long as it is in Chapter 11. [redacted]

[redacted], not an insignificant amount given the cost of the product. However, the level of Performance Assurance declines over time and shall be governed by the Master Agreement should PG&E exit Chapter 11.

VII Safeguards to Compare Affiliate Bids or Utility Owned Generation Options

This section is not applicable since this is a third-party non-affiliate transaction.

VIII. Recommendation For Contract Approval

PG&E is seeking approval of a Confirmation Agreement to the EEI Master Power Purchase and Sale Agreement with Morgan Stanley Capital Group, Inc. for a 5 year term for a firming and shaping service beginning on October 4, 2020 associated with the output from the Vantage Wind project under a 15-year PPA agreement between Invenergy and PG&E. The firming and shaping agreement will replace the expiring firming and shaping agreement between PG&E and Powerex. Under the new agreement Morgan Stanley will act as the Scheduling Coordinator and firming and shaping agent for the Vantage Wind project. Morgan Stanley shall receive the output from the Vantage Project at the Vantage Project Interconnection Point and shall deliver fixed volumes of energy to PG&E at Palo Verde (Delivery Point B). The offer alternative selected by PG&E through its solicitation process is for delivery at Palo Verde for non-Q3 months, with the largest blocks of power delivered in Q2.

For PG&E, the Agreement provides customer benefits for PG&E's customers while also providing protection against operational risks. The following benefits result from this Agreement:

- The firming and shaping option selected by PG&E was the highest valued firming and shaping offer proposed as well as the lowest cost firming and shaping option submitted;
- By contracting for a firming and shaping product, PG&E avoided the risk and cost exposure associated with the sale of the output from the Vantage Wind project at Mid-C;
- The firming and shaping option selected would result in renewable energy being delivered into California. PG&E would also retain the REC value from the transaction;
- Morgan Stanley submitted offers for all products solicited, the only counterparty to do so, and offered the most competitive pricing;
- PG&E's own analysis comparing the pricing in the expiring Powerex contract with the proposed Morgan Stanley Conformation illustrate that the pricing proposal of Morgan Stanley had a significantly higher offer value and lower cost.

Based on the value associated with the new firming and shaping service agreement with Morgan Stanley and the pricing provisions included in the Confirmation, the IE therefore recommends approval of this contract.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX D

CONFIRMATION AGREEMENT TO EEI

MASTER POWER PURCHASE AND SALE AGREEMENT

BETWEEN MORGAN STANLEY CAPITAL GROUP, INC. AND

PACIFIC GAS AND ELECTRIC COMPANY

(CONFIDENTIAL IN ITS ENTIRETY)

PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV

AT&T
Albion Power Company
Alcantar & Kahl LLP

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
California Cotton Ginners & Growers Assn
California Energy Commission
California Public Utilities Commission
California State Association of Counties
Calpine

Cameron-Daniel, P.C.
Casner, Steve
Cenergy Power
Center for Biological Diversity

Chevron Pipeline and Power
City of Palo Alto

City of San Jose
Clean Power Research
Coast Economic Consulting
Commercial Energy
Crossborder Energy
Crown Road Energy, LLC
Davis Wright Tremaine LLP
Day Carter Murphy

Dept of General Services
Don Pickett & Associates, Inc.
Douglass & Liddell

Downey & Brand
East Bay Community Energy
Ellison Schneider & Harris LLP
Energy Management Service
Engineers and Scientists of California

GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
Green Power Institute
Hanna & Morton
ICF
IGS Energy
International Power Technology
Intestate Gas Services, Inc.
Kelly Group
Ken Bohn Consulting
Keyes & Fox LLP
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated Waste Management Task Force
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McKenzie & Associates

Modesto Irrigation District
NLine Energy, Inc.
NRG Solar

Office of Ratepayer Advocates
OnGrid Solar
Pacific Gas and Electric Company
Peninsula Clean Energy

Pioneer Community Energy

Redwood Coast Energy Authority
Regulatory & Cogeneration Service, Inc.
SCD Energy Solutions

SCE
SDG&E and SoCalGas

SPURR
San Francisco Water Power and Sewer
Seattle City Light
Sempra Utilities
Southern California Edison Company
Southern California Gas Company
Spark Energy
Sun Light & Power
Sunshine Design
Tecogen, Inc.
TerraVerde Renewable Partners
Tiger Natural Gas, Inc.

TransCanada
Troutman Sanders LLP
Utility Cost Management
Utility Power Solutions
Water and Energy Consulting Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
Yep Energy