

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

Application of Pacific Gas and Electric
Company for Approval of the Manzanita Wind
Project and Issuance of a Certificate of Public
Convenience and Necessity.

(U 39 E)

Application 09-12-002
(Filed December 3, 2009)

**REPLY BRIEF OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
(CONFIDENTIAL VERSION)**

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TABLE OF CONTENTS

	Page
I. INTRODUCTION.....	1
II. THE MANZANA WIND PROJECT IS A COST-COMPETITIVE SOURCE OF RENEWABLE POWER.....	3
A. The Favorable Net Market Value Of The Manzana Wind Project Reflects Its Highly Favorable Summer/Early Fall and Peak Afternoon Energy Delivery Pattern. This Is Far Preferable To Wind Projects With Off Peak Deliveries And No Capacity Value. It Would Be Unreasonable To Ignore These Important Attributes And Evaluate The Project On Price Alone.....	3
1. The High Net Market Value For The Manzana Wind Project Reflects Its Positive Summer Peak And Peak Day Delivery Pattern.....	4
2. The Net Market Valuation Approach Was Approved By The Commission, Has Been In Place For Years, And Has Been Endorsed By TURN And DRA As An Effective Method For Head To Head Evaluations Of UOG And PPA Proposals In An RFO.....	5
3. PG&E Has Properly Conducted Its Net Market Value Comparison By Using The Forward Curves That Were Current At The Time The Renewable Project Was Shortlisted Or Submitted To The Commission.....	6
4. DRA’s Recommendations Regarding Time-Of-Delivery Adjustments Illustrate The Benefits Of Net Market Value Comparisons.	10
B. The Project’s Forecast Levelized Cost Of Energy Is Competitive With Other Current And Recent Alternatives For Renewable Power.....	12
C. PG&E’s Forecast Levelized Cost Of Energy For The Manzana Wind Project Is Based On Reasonable Assumptions That Are Supported By The Evidentiary Record.....	19
1. The 31.1 Percent Net Capacity Factor Has Extensive Support In The Record And Is A Reasonable Estimate Of The Project’s Expected Annual Generation.....	19
2. A December 31, 2011 Commercial Operation Date For the Project Is Reasonable Based On Current Information Regarding The Project’s Interconnection.....	25
3. It Is Reasonable To Assume A Project Size Of 246 MW.....	28
4. PG&E Has Presented Substantial Evidence To Support A 30 Year Project Life.....	28

TABLE OF CONTENTS

(continued)

	Page
5. There Is A Low Risk Of Project Shutdown Or Curtailment Due To Purported Impacts To California Condor, And Adequate Ratemaking Mechanisms Exist To Address The Highly Unlikely Event Of A Future Shutdown.	31
a. There Is No Credible Evidence That The Project Will Be Shut Down Or Curtailed Due To Condor Impacts.....	31
(1) There is no evidence to suggest that increased population means condors will need to colonize new areas outside of their historic range, nor any evidence that the Manzana Project site will suddenly become attractive to condors notwithstanding the overwhelming evidence that the site lacks and will continue to lack key features necessary for condor use.....	34
(2) Notwithstanding DRA’s unsupported “concerns” about the effectiveness of PG&E’s proposed mitigation measures, DRA has presented no credible scientific evidence to refute PG&E’s conclusion that the Manzana project poses a remote risk of condor mortality in light of the Project’s location, design (including mitigation measures), and known condor behavior.....	36
(3) There is no significant likelihood that even a portion of the project would be shut down due to condor-related issues.....	42
b. Public Utilities Code Section 455.5 And The Commission’s Own Authority Provide Adequate Ratemaking Mechanisms To Address The Highly Unlikely Event Of A Future Shutdown.....	44
6. PG&E’s Levelized Cost Of Energy Estimate For The Project Is A Reasonable Expected Case Scenario. This Estimate, And Not A Worst-Case Cost Scenario, Should Be Used In The Cost-Competitiveness Assessment.....	45
D. The Commission Should Disregard The Portion of DRA’s Cost-Competitiveness Analysis That Is Based On Factual Inaccuracies.....	47
III. THERE ARE SUBSTANTIAL BENEFITS TO UTILITY OWNERSHIP OF THE MANZANA WIND PROJECT.....	48

TABLE OF CONTENTS

(continued)

	Page
A. Utility Ownership Of The Manzana Wind Project Makes This Project Happen With A High Likelihood Of Actual Deliveries Of Renewable Energy By December 31, 2011.....	49
B. The Manzana Wind Project Was Submitted, Evaluated And Selected Pursuant To A Competitive RPS RFO Process. There Is No Basis For Rejecting The Application For Failure To Show That A RFO Was “Infeasible.”.....	51
1. The Manzana Wind Project Was Submitted In The RPS RFO And Was Evaluated Consistent With RFO Protocols And Applicable Commission Decisions.....	51
2. The Manzana Wind Project Is A Third Party PSA Proposal For A Renewable Project That Is Not Subject To The Requirements For Conventional Generation “Utility Build” Proposals.....	53
3. Holding An Additional RFO For The Manzana Wind Project Was Infeasible Under The Criteria Adopted In The Fuel Cell Decision.....	56
C. It Is Not Relevant To Make Comparisons Of The Project To A Nonexistent Hypothetical PPA.....	57
D. The IE Report Is Adequate.	59
IV. THERE IS NO REASONABLE BASIS TO REQUIRE PG&E TO EXPENSE A CAPITAL COST ITEM OR REDUCE ITS PROJECT CONTINGENCY.....	61
A. PG&E’s [Redacted] Project Contingency Reasonably Accounts For Cost Uncertainty For Project Elements For Which PG&E May Face Supplemental Costs And Is Consistent With Recent Commission-Adopted Capital Contingencies For Other PG&E UOG Projects.....	62
B. The [Redacted] Payment Is Part Of The Acquisition Cost Of The Project And Is Properly Capitalized.....	63
V. PG&E’S THREE-YEAR FORECAST OF O&M EXPENSE FOR THE PROJECT IS REASONABLE AND SHOULD NOT BE ADJUSTED TO REDUCE STAFFING OR CONTINGENCY.....	65
VI. IT IS REASONABLE TO SEEK ADJUSTMENTS TO THE INITIAL REVENUE REQUIREMENT THROUGH AN EXPEDITED ADVICE LETTER PROCESS FOR OPERATIONAL ENHANCEMENTS, CHANGES IN LAW OR FACTORS BEYOND PG&E’S CONTROL, AND INCREASED PCA COSTS DUE TO A WHIRLWIND SUBSTATION DELAY.....	67
VII. IT IS REASONABLE TO RECOVER DECOMMISSIONING COSTS OVER THE PROJECT’S FULL USEFUL LIFE.....	69

TABLE OF CONTENTS

(continued)

	Page
VIII. THE PROJECT REMAINS COST-COMPETITIVE EVEN IF DELAYED. IT IS THEREFORE REASONABLE TO APPROVE RECOVERY OF DELAY COSTS.....	70
A. The Project Remains Cost-Competitive Even If Delayed.....	71
B. It Is Reasonable For PG&E To Recover Delay Costs For A Cost Of Service Project Since A Delay Of Whirlwind Substation Would Not Be Caused By PG&E’s Imprudent Actions.	74
IX. THE PROJECT IS COST-COMPETITIVE AT 189 MW AND 246 MW, AND PG&E HAS A [Redacted] [Redacted] DRA AND TURN’S PROPOSALS RELATING TO PROJECT SIZE ARE THEREFORE UNREASONABLE AND SHOULD BE REJECTED.....	75
A. Because PG&E Has A [Redacted] [Redacted] DRA’s Proposed Reductions To Capital Costs And Revenue Requirement Are Unreasonable.....	75
B. DRA’s Proposal To Reduce Pre-Commercial Operations Costs For A Smaller Project Creates Greater Operational Risk And The Potential For Commissioning Delays.....	76
C. TURN’s Recommendation To Condition Approval Of The Project On Renegotiation Of Contract Terms Is Unreasonable And Should Be Rejected.....	77
X. TURN’S LATE PROPOSAL FOR PERFORMANCE-BASED PPA APPROACH IS UNREASONABLE AND SHOULD BE REJECTED.....	80
XI. PG&E WILL MAKE RENEWABLE TAX CREDIT ELECTIONS TO MAXIMIZE CUSTOMER BENEFITS.....	81
A. The Commission Should Not Micromanage The Federal Tax Return Process By Requiring PG&E To File An Advice Letter For Preapproval Of Its Federal Tax Credit Election For The Project.....	82
B. The Manzana Wind Project Will Remain Cost-Competitive Compared To Alternative Renewable Sources Even In An Extremely Unlikely Post-2012 “No Federal Tax Credits” World.....	83
C. The Concept Of A Third Party Tax Equity Investor For The Manzana Wind Project Is Non-Viable.....	85
XII. PG&E DOES NOT OBJECT TO A CONSULTATION REQUIREMENT ON THE RESALE OPTION.....	86
XIII. CONCLUSION.....	87

TABLE OF AUTHORITIES

	Page
CALIFORNIA PUBLIC UTILITIES COMMISSION DECISIONS AND RESOLUTIONS	
<i>Interim Opinion In The Matter Of The Application Of Southern California Edison Company For Authority To Increase Rates Charged By It For Electric Service, 1987 Cal. PUC LEXIS 415, D.87-12-066</i>	75
<i>Opinion Adopting Criteria For The Selection Least-Cost And Best-Fit Renewable Resources (2004) D.04-07-029</i>	5
<i>Opinion Approving Procurement Plans And Requests For Offers For 2005 RPS Solicitations (2005) D.05-07-039</i>	52
<i>Opinion Conditionally Approving Procurement Plans For 2006 RPS Solicitations, Addressing TOD Benchmarking Methodology, And Closing Proceeding (2006) D.06-05-039</i>	6
<i>Opinion Adopting Joint Settlement Agreement, As Modified, For Contra Costa 8 (2006) D.06-06-035</i>	74
<i>Opinion Conditionally Accepting Procurement Plans For 2007 RPS Solicitations (2007) D.07-02-011</i>	6
<i>Opinion Adopting Pacific Gas And Electric Company's, Southern California Edison Company's, And San Diego Gas & Electric Company's Long-Term Procurement Plans (2007) D.07-12-052</i>	passim
<i>Opinion Conditionally Accepting Procurement Plans For 2008 RPS Solicitations (2008) D.08-02-008</i>	6, 54
<i>Decision Granting Motion To Dismiss Of Western Power Trading Forum/The Alliance For Retail Energy Markets And The Independent Energy Producers Association (2008) D.08-11-004</i>	55
<i>Decision On Petitions For Modification Of Decision 07-12-052 (2008) D.08-11-008</i>	59
<i>Decision Conditionally Accepting 2009 Renewables Portfolio Standard Procurement Plans And Integrated Resource Plan Supplements (2009) D.09-06-018</i>	6
<i>Decision Approving Power Purchase Agreement (2009) D.09-09-032</i>	13
<i>Decision Authorizing Fuel Cell Projects (2010) D.10-04-028</i>	56
<i>Decision Adopting A Solar Photovoltaic Program For Pacific Gas And Electric Company (2010) D.10-04-052</i>	passim
Resolution E-4199	18, 19, 68
Resolution E-4222	13
Resolution E-4240	13
Resolution E-4266	13, 18
Resolution E-4269	13
Resolution E-4275	13
Resolution E-4286	13

TABLE OF AUTHORITIES
(continued)

	Page
Resolution E-4302	13
Resolution E-4309	13
Resolution E-4310	13
Resolution E-4314	13
Resolution E-4321	passim
Resolution E-4326	13
Resolution E-4330	13

STATUTES

42 U.S.C. § 1538	38
Cal. Pub. Utils. Code § 455.5.....	44, 45

MISCELLANEOUS

Governor Schwarzenegger, Executive Order S-21-09 (Sept. 15, 2009).....	51
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I. INTRODUCTION.

Pacific Gas and Electric Company (“PG&E”) requests that the California Public Utilities Commission (“Commission” or “CPUC”) approve the Manzana Wind Project (“Project”) and associated ratemaking mechanisms and authorize PG&E to commence construction on the Project.

One unassailable conclusion of the hearing process is that the Manzana Wind Project, based upon the evaluation criteria used to review renewable projects, is cost-competitive, highly viable, has an excellent in-state delivery pattern during the peak hours in the summer months and early fall, and is capable of delivering substantial quantities of renewable energy in less than 18 months. This is a Project that belongs in PG&E’s resource portfolio.

The Division of Ratepayer Advocates (“DRA”) and The Utility Reform Network (“TURN”) attempt to discredit the Project by (1) alleging certain worst case scenarios could, in combination, increase Project costs; (2) limiting the evaluation method to energy price alone; and (3) limiting the comparison group of renewable projects only to wind projects. One must accept all three of TURN and DRA’s positions merely to raise doubt about approval of the Project. But, as PG&E has shown, all three are inappropriate.

First, DRA and TURN attempt to raise doubt about the cost of the Project by dwelling on a few factors that are largely beyond PG&E's control, such as when Southern California Edison Company ("SCE") will complete the Tehachapi area transmission upgrades, what impacts wind projects in the Tehachapi region will have on the California Condor, and whether the wind resource will be consistent with nearly eight years of recorded data at the site. Their worst-case scenarios must occur in combination to have any impact on the Project evaluation. PG&E has demonstrated why these "worst cases" have a very low probability of occurring individually or in combination.

Second, DRA and TURN encourage the Commission to ignore the Manzanita Wind Project's excellent, in-state delivery pattern, which results in high energy production during PG&E's peak summer and daily peak demand periods. The delivery pattern and location of the Project greatly enhances the Project's value to customers. Ignoring these attributes and considering energy price alone biases in favor of low-price projects that have little or no capacity value and/or projects that deliver primarily during off peak periods, which do not provide the same value to PG&E's customers.

Finally, while the Manzanita Wind Project is cost-competitive if compared only to wind projects, it makes no sense to arbitrarily exclude other technologies from the comparison group. That is not how it is done for power purchase agreement ("PPA") evaluation and it is not reasonable to apply a different standard to utility-owned generation ("UOG"). The non-wind projects in the comparison group are real world renewable energy project alternatives that PG&E recently executed and that have in most cases been approved by the Commission or that are in active consideration on the shortlist in PG&E's 2009 Renewables Portfolio Standard ("RPS") Request For Offers ("RFO").

PG&E simply asks that the Commission review the Manzanita Wind Project based upon

the same criteria and evaluation methods that it has approved for RPS RFOs and bilaterals.

Doing so makes it clear that the Manzana Wind Project is a highly valuable and cost-competitive project that should be expeditiously approved.

II. THE MANZANA WIND PROJECT IS A COST-COMPETITIVE SOURCE OF RENEWABLE POWER.

A. The Favorable Net Market Value Of The Manzana Wind Project Reflects Its Highly Favorable Summer/Early Fall and Peak Afternoon Energy Delivery Pattern. This Is Far Preferable To Wind Projects With Off Peak Deliveries And No Capacity Value. It Would Be Unreasonable To Ignore These Important Attributes And Evaluate The Project On Price Alone.

Comparing renewable energy projects based upon their relative net market values is the best measure of economic competitiveness and far superior to simple price comparisons alone. At its core, a net market value comparison evaluates the value to customers of the energy and capacity produced by a renewable project based on its location and pattern of delivery. The net market value methodology gives consideration to when energy is delivered during peak periods when power is scarce and market prices are at their highest, and to where energy is delivered. Comparisons based on energy price alone ignore these factors. Thus, securing new resources based on energy price alone could result in acquisition of low-price projects that have little or no capacity value and/or projects that deliver primarily during off peak periods, which do not provide the same value to PG&E's customers.

PG&E does not suggest that the net market valuation methodology should be relied upon exclusively with no consideration of energy price and the relative levelized cost of energy of the alternatives. Both data sets are relevant evidence and should be considered together to determine if the Manzana Wind Project is cost-competitive with the other projects in the comparison groups. But it would be a mistake and inconsistent with least-cost best-fit evaluation principles to disregard net market value altogether as DRA recommends. The least-cost best-fit directive is

for least-cost best-fit combined, rather than least-cost alone. The delivery of the energy is a central point of consideration in determining the best fit.

In this section of the Reply Brief, PG&E discusses the value of the Manzanita Wind Project as compared to other wind projects in the comparison group and addresses concerns raised by DRA and TURN about the net market valuation methodology.

1. The High Net Market Value For The Manzanita Wind Project Reflects Its Positive Summer Peak And Peak Day Delivery Pattern.

The fundamental question (that DRA and TURN prefer to ignore) is why does the Manzanita Wind Project have a higher net market value than [Redacted] of the projects in the comparison groups? The answer is that the Manzanita Wind Project has an excellent energy delivery pattern – it has relatively high energy production in the summer to early fall months and has significant daily energy output during the afternoon hours.^{1/} This coincides with PG&E’s peak season and daily peak demand periods. Obviously, the value of energy produced by the Manzanita Wind Project during these periods is higher than energy from wind projects produced in the winter months and/or off-peak periods.

In contrast are the wind projects that DRA and TURN urge the Commission to compare against the Project based purely on price alone.^{2/} A careful examination of the “wind-only” comparative group offered by DRA and TURN reveals that [Redacted] of these wind projects are out of state and all have a [Redacted] net market value on a per megawatt-hour basis. In the “recently executed PPAs” comparison group there are two approved PPAs (as opposed to bids for potential projects) and both have a [Redacted] net market value than the Manzanita Wind Project.

^{1/} Exs. 7-C and 8, at clean replacement p. 2-4, lines 3-14 (Figure 2-2).
^{2/} Of the [Redacted] wind projects in the comparison groups, there are [Redacted] wind projects bid to PG&E in the 2009 RPS RFO that have net market values [Redacted] the Manzanita Wind Project. Of course these are bids, not executed contracts, and it remains to be seen if the projects are viable and the prices will hold. [Redacted]
[Redacted]

The Vantage wind project, which was recently approved by the Commission and therefore must be considered a reasonable benchmark for a wind project,^{3/} is an out of state resource with a

Redacted expected levelized cost of energy than the Manzana Wind Project and a

Redacted net market value.^{4/} The Hatchett Ridge wind project in California has

Redacted

a

Redacted

Given these significant disparities in value among wind projects, it is not reasonable and does a substantial disservice to customers to simply ignore net market values and compare the projects based on energy price alone.

2. The Net Market Valuation Approach Was Approved By The Commission, Has Been In Place For Years, And Has Been Endorsed By TURN And DRA As An Effective Method For Head To Head Evaluations Of UOG And PPA Proposals In An RFO.

DRA attempts to portray PG&E's use of the net market value approach to evaluate the Manzana Wind Project as "precedent-setting."^{6/} However, the Commission explicitly approved PG&E's use of the net market valuation approach in 2004^{7/} and the method has been in continuous use for evaluation of renewable energy transactions and RFOs, energy market transactions and ancillary services, and for conventional generation RFOs. The net market valuation methodology was included in PG&E's RPS Procurement Plans for 2006, 2007, 2008,

^{3/} Resolution E-4321; Ex. 108-C.

^{4/} Exs. 1-C and 2, Table 4-1, line 19.

^{5/} Tr., at p. 256, lines 3-11 (Jeung, PG&E).

^{6/} DRA Opening Brief, at p. 44.

^{7/} D.04-07-029, at pp. 35 -37. In the decision, the Commission describes PG&E's Least Cost Best Fit ("LCBF") methodology which determines the "market value of the bid" by employing a time of delivery profile and using forward price curves, finds that no party expressed strong concern with the approach and several parties supported it, determines the methodology to be "sound," and approves the net market valuation methodology.

and 2009, which were approved by the Commission.^{8/} It has repeatedly been the subject of review and confirmation by multiple Independent Evaluators (“IE”) and the Procurement Review Group (“PRG”).

The net market value approach has been used previously to compare UOG and PPAs in conventional generation Long-Term RFOs. In D.07-12-052, the Commission found the use of PG&E’s evaluation method (in conjunction with IE and PRG oversight) to have resulted in a fair head to head comparison of PPA and UOG options.^{9/} In fact, the decision goes out of its way to recognize the convincing arguments of TURN and DRA that “robust mechanisms for comparing PSA and PPA bids were developed and implemented” as a critical basis for reversing a proposed ban in the proposed decision on utility ownership bids in future conventional generation RFOs.^{10/} There is nothing controversial, unprecedented or novel about use of the net market value methodology or its value in comparing transactions involving different renewable technologies, delivery profiles, locational impacts, and terms, whether they be 10, 20 or 30 years.

3. PG&E Has Properly Conducted Its Net Market Value Comparison By Using The Forward Curves That Were Current At The Time The Renewable Project Was Shortlisted Or Submitted To The Commission.

TURN, in stark contrast to DRA, does not question the legitimacy of the net market value methodology. Rather, TURN raises some issues regarding the application of the methodology to the Manzanita Wind Project and the use of different vintages of forward curves that PG&E addresses below.

TURN raises two concerns about PG&E’s application of the net market valuation methodology to the Manzanita Wind Project: (1) the use of different vintages of forward market

^{8/} D.06-05-039, D.07-02-011, D.08-02-008 and D.09-06-018.

^{9/} D.07-12-052, at p. 206. *See also*, D.06-11-048, at p. 7 (approving PG&E’s evaluation and selection of five PPAs and two UOG projects in the Long-Term RFO and finding that “PG&E conducted an open, competitive and fair solicitation and contract selection process.”)

^{10/} D.07-12-052, at p. 206.

curves for the alternatives being compared; and (2) how the net market value methodology accounts for projects of dissimilar duration.^{11/} DRA adds a third issue to this list: (3) the difficulty of forecasting future energy prices.^{12/}

First, as a matter of principle, PG&E believes that the reasonableness of a renewable energy transaction should be judged as of the time that PG&E decided to commit to the transaction and submit it to the Commission for approval.^{13/} A net market value calculation made at the time a final decision is made to proceed with the project measures the relative value to customers of that transaction as compared to then-current forecasts of the market price of energy. This snapshot of relative market value can then be used for comparison purposes to gauge the value of other renewable energy transactions. It is PG&E's practice to use the most recent forward curves available at the time the advice letter or application for a project is filed with the Commission to calculate the net market value used for comparison purposes. Thus, PG&E calculated the Manzana Wind Project net market value based on the most recent forward curves that were available in November 2009, when it decided to proceed with the transaction.^{14/} For the shortlisted long-term projects in the 2009 RPS RFO set forth in Table 4-2^{15/} of PG&E's prepared testimony, PG&E used the summer 2009 forward curves that were in place at the time the projects were placed on the shortlist.^{16/} For the long-term RPS contracts executed within 12 months of submission of the Application shown on Table 4-1 of PG&E's prepared testimony, PG&E used the forward price curves that were the most recent at the time of the advice letter filing, which is shown in the tenth column on the table and ranges from November 2008 to October 2009. Accordingly, PG&E used a consistent, rational principle in selecting the vintage

^{11/} TURN Opening Brief, at p. 14.

^{12/} DRA Opening Brief, at p. 45.

^{13/} Tr., at p. 262, lines 17-22; p. 264, lines 20-27 (Jeung, PG&E).

^{14/} Tr., at p. 263, lines 3-8; p. 264, lines 20-27 (Jeung, PG&E).

^{15/} Exs. 7-C and 8, at clean replacement p. 4-5.

^{16/} Tr., at p. 263, lines 9-15 (Jeung, PG&E).

of the forward price curves used to evaluate renewable projects.^{17/}

PG&E witness Jeung testified that the ideal situation is to compare the net market value of a project to other opportunities that were available around the same time. It would be less useful to use net market value benchmarks that were prepared using “vastly different” price forecasts.^{18/} However, in this case, the forward price curves used to determine the net market values for the 2009 RPS RFO shortlist were from the summer of 2009, very close to the November forward curves used for the Manzana Wind Project Application. The recently executed RPS contracts were selected because they were “recently executed” and were filed with the Commission from one month to 11 months prior to submission of the Manzana Application.

While some of the forward curves used to calculate the net market values of the benchmark data were different than the forward curves used for Manzana, it is most important that they are all relatively close in time. Regardless, the purpose of PG&E’s benchmarking evaluation is to compare net market values for projects relative to the market at the time PG&E made the decision to shortlist or submit the transaction to the CPUC for approval. What matters is the net market value at the time the decision to proceed with a transaction or shortlist is made. It is not relevant if the net market value for a project shifts in the future as forward curves vary. The value of the benchmarking exercise is to evaluate if the Manzana Wind Project is cost-competitive with other projects relative to the market conditions that existed at the time PG&E decided to proceed with those transactions.^{19/}

^{17/} The IE also determined it was reasonable to compare the Manzana Wind Project to recently executed long-term RPS transactions. The IE independently calculated the net market value of these 20 comparable RPS transactions and Redacted Ex. 1-C, Attachment 3.2-C, at p. A-2.

^{18/} Tr., at p. 265, lines 6-25 (Jeung, PG&E).

^{19/} DRA states that PG&E “has not demonstrated that the Project would have had the same relative ranking if PG&E had developed net market values for all of the comparison projects using the same forward curves that it used for Manzana.” DRA Opening Brief, at p. 45. PG&E did not do this because such an analysis would be inconsistent with its principle for application of the net market value approach – which is to review the net market value for a project at the time PG&E decided to proceed with it. Nevertheless, PG&E has calculated the net market values for the 2009 RPS RFO shortlist long-term projects using the

TURN expresses concern about how the net market value method compares projects with a 20 year term, for example, against projects with a 30 year term and asks whether the net market value method biases in favor of projects of a longer duration.^{20/} Mr. Jeung testified that the net market value method compares projects with different terms on an apples to apples basis by assessing value of the project as compared to the market over its duration and net present valuing back to current dollars. This allows one to compare projects on comparable terms without bias for longer duration projects. On the other hand, Mr. Jeung testified that if one were to examine a 20 year project over an arbitrarily shortened 15 year time line, that would skew the analysis and could negatively affect the project or vice-versa depending upon the forecast of future market prices. Mr. Jeung stated that as a general matter it is not clear whether a project with a longer term would result in a better or worse market value – it would depend on where the energy prices are and where the capacity values are relative to the price of the project.^{21/} Thus, the net market value approach fairly compares the 30 year Manzanita Wind Project with the other long-term RPS transactions with different durations and it would potentially skew the analysis to arbitrarily assume a shorter life for the Project. PG&E notes that RPS contracts come in different terms – PG&E has executed long-term RPS contracts with terms from 10 years to 25 years and no party has ever questioned the legitimacy of the net market value approach for comparing PPAs of various durations.

Finally, DRA points out in its brief that it is difficult to predict the future and there is much uncertainty in a forward curve,^{22/} implying that historical price comparisons are a better measure. DRA thus concludes that the net market value method is unreliable because it uses

November forward curves that were used for the Manzanita Project and the results do not change the conclusion that the Manzanita Wind Project is cost-competitive as compared to the comparison group. PG&E is prepared to provide this supplemental analysis if the Commission directs it to do so.

^{20/} TURN Opening Brief, at p. 14.

^{21/} Tr., at pp. 258-259 (Jeung, PG&E).

^{22/} DRA Opening Brief, at pp. 45-47.

forward market curves to assess the value of renewable projects. It strains credibility to suggest that the Commission should abandon consideration of energy market forecasts as part of integrated resource planning or resource procurement simply because the forecasts may not turn out to be 100 percent accurate. Perfect accuracy is not the objective. The point of using a forward curve is to compare renewable projects based upon the then current value of future energy and capacity prices and to evaluate transactions based upon their relative differences in value.

4. DRA's Recommendations Regarding Time-Of-Delivery Adjustments Illustrate The Benefits Of Net Market Value Comparisons.

DRA suggests that the Commission should consider whether using time-of-delivery adjustments will result in a fair comparison of utility ownership proposals to PPAs.^{23/} Net market value comparisons address the very concerns that DRA expresses regarding time-of-delivery adjustments. Further, non-time-of-delivery-adjusted levelized costs of PPAs should not be used for comparison against utility-owned projects, because they do not accurately reflect the actual costs of procuring power under those agreements.

DRA claims that comparing a proposal for a utility-owned project whose costs are not time-of-delivery adjusted to time-of-delivery-adjusted levelized costs for independent power producer renewable projects could systematically disadvantage independent power producer projects with generation profiles that correlate with peak demand.^{24/} DRA reasons that because time-of-delivery adjustments generally make projects whose generation correlates with peak demand more expensive (and thus less competitive), such projects could be at a disadvantage from a cost-competitiveness perspective as compared to a non-time-of-delivery adjusted utility-

^{23/} *Id.* at p. 60.

^{24/} *Id.* at p. 61.

owned project.^{25/} Instead of using time-of-delivery adjustments, DRA suggests that the Commission could compare the utility-owned project's costs to non-time-of-delivery adjusted levelized costs of PPAs, and require utility-ownership applicants to provide additional generation profile information to determine if the utility-owned generation offers the benefit of correlating with peak demand.^{26/}

The irony of DRA's suggested approach is that it underscores the fundamental benefits of net market value comparisons over levelized cost of energy comparisons. As PG&E explained in Section III.B. of its Opening Brief and above, net market value comparisons take into account not only potential costs associated with energy delivered in peak times (through a time-of-delivery adjustment if required under the contract), but also the value associated with receiving energy when it is most needed. Projects that are more expensive due to time-of-delivery adjustments are not at any disadvantage in a net market value comparison because this comparison reflects not only the increased cost associated with the time of generation but also the increased value. Net market value comparisons thus allow apples-to-apples comparisons across technologies and between utility-owned and PPA projects.

DRA appears to question the fact that the levelized costs of the Manzana Project are not time-of-delivery adjusted.^{27/} It would, however, be artificial to adjust the Project's costs by time-of-delivery factors, as the cost of energy from the Project does not vary based on when it is delivered. In contrast, where a renewable PPA calls for time-of-delivery-adjusted payments, it makes sense to evaluate the reasonableness of that contract using the time-of-delivery adjusted price, as it reflects the actual cost to acquire energy under that contract and paid by PG&E.^{28/}

^{25/} *Ibid.*

^{26/} *Ibid.*

^{27/} *Ibid.*

^{28/} DRA also suggests that because PG&E originally provided a time-of-delivery-adjusted cost for the Project that was lower than the non-time-of-delivery adjusted cost later provided in PG&E's errata, the Project's

This is precisely why DRA’s suggestion that the Commission compare a proposed utility-owned project’s costs to non-time-of-delivery adjusted levelized costs of renewable PPAs makes little sense. Non-time-of-delivery adjusted costs would not reflect the actual costs of purchasing power under such contracts, and thus would not provide accurate comparative data.

B. The Project’s Forecast Levelized Cost Of Energy Is Competitive With Other Current And Recent Alternatives For Renewable Power.

As explained in Section III.B. of PG&E’s Opening Brief and in Section II.A. of this Reply Brief, PG&E believes that net market value comparisons are a better measure of the Project’s cost-competitiveness than levelized cost of energy. DRA claims, however, that the Project must be compared on a levelized cost basis to other wind resources in order to determine reasonableness.^{29/} In this section of the Reply Brief, PG&E demonstrates that the Project’s levelized cost of energy is cost-competitive.

DRA asserts that levelized cost of energy comparisons, not net market value comparisons, should be used to assess the reasonableness of the Project’s costs, and claims that PG&E has “steadfastly refused” to conduct levelized cost of energy comparisons.^{30/} To the extent DRA suggests that PG&E is trying to hide such comparisons, it is mistaken. PG&E included in its testimony levelized cost of energy figures for *all* of the projects that it used for comparison against the Manzana Wind Project.^{31/} Although PG&E believes that net market value comparisons are the superior measure of cost-competitiveness, the Project is still clearly competitive on a levelized cost of energy basis. In fact, as shown in Table 1-R below, the

output is not necessarily correlated with periods of high demand. DRA Opening Brief, at p. 61. As Mr. Lewis explained during evidentiary hearing, however, this correction to provide a non-time-of-delivery adjusted cost does not reflect an understanding that the Project’s generation profile is not correlative with peak demand. Tr., at p. 147, lines 8-19 (Lewis, PG&E). Rather, the reference to a time-of-delivery adjustment in PG&E’s prepared testimony was simply a mistake that PG&E discovered and corrected in the errata.

^{29/} DRA Opening Brief, at p. 40.

^{30/} *Id.*

^{31/} See Exs. 1-C and 2, Table 4-1; Exs. 7-C and 8, Table 4-2; Exs. 5-C and 6, Tables 4-3 and 4-4.

Project's levelized cost of energy [Redacted] than its net market value when compared to PG&E's long-term RPS contracts filed for approval in the 12 months prior to submission of the Application. Specifically, its levelized cost of energy [Redacted] of 24 projects filed for approval, whereas its net market value [Redacted] of 24 projects filed for approval. It is important to note that 21 of these contracts have been approved as reasonably priced by the Commission, and only three are still pending approval.^{32/} Table 2-R below also demonstrates that the Project is highly competitive with long-term renewable projects included on PG&E's 2009 RPS RFO shortlist on a levelized cost basis – [Redacted] 30 projects shortlisted.

**TABLE 1-R
PACIFIC GAS AND ELECTRIC COMPANY
MANZANA WIND PROJECT
LEVELIZED COST COMPARISON OF THE MANZANA WIND PROJECT TO PG&E'S LONG-TERM
RPS CONTRACTS EXECUTED AND FILED WITHIN THE 12 MONTHS PRIOR TO SUBMITTAL OF
THE APPLICATION^{33/}**

	Project Name	Location	Technology	COD	GWh	Levelized, Post TOD Price
1	Redacted					
2	Redacted					
3	Redacted					
4	Redacted					
5	Redacted					
6	Redacted					
7	Redacted					
8	Redacted					

^{32/} See Resolutions E-4275, E-4310, E-4222, E-4326, E-4286, E-4309, E-4266, E-4321, E-4269, E-4315, E-4240, E-4314, E-4302, E-4330; D.09-09-032.

^{33/} This table shows all of the contracts listed in Table 4-1 on page 4-4 of Exhibits 1-C and 2, PG&E's Revised Prepared Testimony, but presents them in a different order and eliminates several columns of information provided in Table 4-1. It also adds the Manzana Wind Project, which was not shown in Table 4-1.

	Project Name	Location	Technology	COD	GWh	Levelized, Post TOD Price
9	Redacted					
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

**TABLE 2-R
PACIFIC GAS AND ELECTRIC COMPANY
MANZANA WIND PROJECT
LEVELIZED COST COMPARISON OF THE MANZANA WIND PROJECT TO LONG-TERM OFFERS
ON PG&E'S 2009 RPS RFO SHORTLIST^{34/}**

	Project Name	Location	Technology	COD	GWs	Levelized Cost (Post-TOD) \$/MWh
1	Redacted					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

^{34/} This table shows all of the offers listed in Table 4-2 on clean replacement page 4-5 of Exhibits 7-C and 8, PG&E's Errata to Revised Prepared Testimony, but presents them in a different order and eliminates several columns of information. It also adds the Manzana Wind Project, which was not shown in Table 4-2.

	Project Name	Location	Technology	COD	GWs	Levelized Cost (Post-TOD) \$/MWh
	Redacted					
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
	Redacted					

DRA states that the reasonableness of the Project’s costs should be measured against only other wind projects, not against other technologies, and limits its levelized cost of energy comparisons to only wind projects.^{35/} As PG&E explained in Section III.C. of its Opening Brief, however, comparing the Project to other renewable energy alternatives, regardless of technology, is consistent with the intent of this proceeding’s Scoping Memorandum, the RPS program and statute, and the IE’s evaluation of the Project.^{36/}

Although DRA claims that its focus on only wind contracts follows the Scoping Memorandum,^{37/} DRA ignores the *Assigned Commissioner’s Ruling Granting Motion to Quash Subpoena* (“Quash Ruling”) issued *after* the Scoping Memorandum. The Quash Ruling clarified the Scoping Memorandum’s intent to include all renewable resources, not just wind, in the cost reasonableness assessment. As PG&E noted in its Opening Brief, the Quash Ruling stated:

In the Renewable Portfolio Standards program we have substantial information in the form of the many contracts the utilities have

^{35/} DRA Opening Brief, at pp. vii, 61-65.

^{36/} PG&E Opening Brief, at pp. 22-24.

^{37/} DRA Opening Brief, at p. 65.

entered into with renewable project developers, to derive a benchmark against which to compare the Manzana project and make a reasonableness determination. This type of comparison is what was expressly envisioned in my Scoping Memo. The term “cost” as it is used in the Ruling and Scoping Memo refers to the costs born by ratepayers. Because, if approved, this project would displace other projects that might otherwise be selected to meet PG&E’s renewable energy goals, it is only reasonable to the extent the costs to ratepayers of this project are comparable to the costs they would bear were PG&E to pursue alternatives to this project to realize the same or similar benefits.^{38/}

The Quash Ruling also later emphasized that “the relevant point of comparison in order to make a reasonableness determination is to the costs ratepayers face, or are likely to face, for similar *renewable* projects.”^{39/}

DRA also claims that comparing the Project only to wind resources is justified because PG&E is proposing to buy a wind plant, not just power.^{40/} Yet DRA fails to explain how purchasing a plant, rather than power, warrants a technology-specific comparison. The distinction DRA makes between purchasing a plant and purchasing power is irrelevant in the face of a 20 percent RPS mandate whose compliance requirements do not distinguish between technology or the source of power (i.e., utility-owned or independent power PPA). If the Project was not approved, PG&E would have to consider the next best alternative renewable energy source, notwithstanding whether that alternative used wind, solar, or some other renewable technology. PG&E’s need is for RPS-eligible power – any and all competitive sources of RPS-eligible power belong in the comparison group.

DRA suggests that if “PG&E were proposing to purchase a turnkey plant with combined cycle gas turbine technology, it would not be appropriate to compare the proposed costs to the

^{38/} Quash Ruling, at p. 3.

^{39/} *Id.* at p. 4 (emphasis added).

^{40/} DRA Opening Brief, at p. 65.

cost to procure power from a new nuclear facility.”^{41/} DRA is wrong. If such a proposal were to fulfill a determined need (for example, a need for power established in the Commission’s long-term procurement plan proceeding), PG&E would compare the proposed costs to all other alternatives available to fill that need, including opportunities to purchase nuclear power (if such opportunities actually existed). DRA’s example does not, therefore, support a technology-specific comparison in the face of an established need that is not technology-specific.

Finally, DRA’s exclusive focus on wind is not supported by the very Resolutions it cites elsewhere in its brief for the use of levelized cost of energy to assess cost reasonableness. For example, DRA cites Resolution E-4199,^{42/} which states that prices of renewable contracts priced above the Market Price Referent should be evaluated “against existing review standards, including bid supply curves from the IOU’s recent solicitation and the project’s least-cost best-fit ranking relative to the other projects that bid into the solicitation.”^{43/} The Resolution does not state that the cost-reasonableness assessment should be based on technology-specific comparisons of bids. DRA also cites to Resolutions E-4266 and E-4321, neither of which base their cost-reasonableness determinations solely on technology-specific comparisons, the approach DRA proposes for this case.^{44/}

Even if DRA’s suggested approach to focus exclusively on wind was appropriate, which it is not, this would not warrant rejection of the Project. As PG&E demonstrated in its Opening Brief, on a net market value basis the Project is still [Redacted] of PG&E’s executed and filed wind contracts in the 12 months prior to submittal of the Application, and ranks [Redacted] of long-term wind offers on PG&E’s 2009 RPS RFO shortlist.^{45/} On a

^{41/} *Id.*

^{42/} *Id.* at 41.

^{43/} Resolution E-4199, at p. 25.

^{44/} Resolution E-4266, at pp. 12, 29-31; Resolution E-4321, at pp. 13, 29-31.

^{45/} PG&E Opening Brief, at pp. 17-19.

levelized cost of energy basis, the Project is Redacted

Redacted and is thus well within the range of levelized costs that the Commission has, just two months ago, deemed reasonable for a wind project.^{46/} DRA’s additional comparisons to other wind projects in PG&E’s portfolio, wind projects in the other California investor-owned utilities’ portfolios, and to third party summaries of generic wind industry cost projections^{47/} are flawed for the reasons set forth in PG&E’s Opening Brief and rebuttal testimony.^{48/}

C. PG&E’s Forecast Levelized Cost Of Energy For The Manzana Wind Project Is Based On Reasonable Assumptions That Are Supported By The Evidentiary Record.

1. The 31.1 Percent Net Capacity Factor Has Extensive Support In The Record And Is A Reasonable Estimate Of The Project’s Expected Annual Generation.

Both DRA and TURN challenge PG&E’s use of a 31.1 percent net capacity factor in its levelized cost of energy calculation. As explained in Section III.E.1. of PG&E’s Opening Brief and below, the evidentiary record provides ample support for the 31.1 percent value as a very reasonable estimate of the Project’s expected annual generation.

DRA and TURN mischaracterize the calculation of the 31.1 percent net capacity factor for the Project. DRA suggests that this figure resulted from negotiations between PG&E and Iberdrola Renewables where the parties Redacted between their estimates to arrive at a “self-interested assumption” to make the Project’s economics appear more favorable, and TURN cautions the Commission to be wary of the 31.1 percent figure because both PG&E and Iberdrola Renewables had an incentive to make the Project look economically attractive.^{49/} In fact, the 31.1 percent figure was derived from highly detailed analysis of extensive site-specific wind data and input from wind power experts from Iberdrola Renewables, DNV Global Energy

^{46/} Resolution E-4321, at pp. 13, 29-31.

^{47/} DRA Opening Brief, at pp. 64-65.

^{48/} See PG&E Opening Brief, at pp. 25, 26; Exs. 9-C and 10, at pp. 7-13.

^{49/} DRA Opening Brief, at p. 54; TURN Opening Brief, at p. 18.

Concepts (PG&E’s independent external consultant), and PG&E’s internal meteorological expert.^{50/} The 31.1 percent figure is supported by nearly eight years of site-specific wind data accumulated across 25 separate wind collection devices, a report prepared by Iberdrola Renewables, a company with unmatched real-world experience in owning, controlling, and operating wind resources in the United States and worldwide, and PG&E’s internal meteorological expert.

The Project’s net capacity factor was calculated by adjusting its gross energy output for various loss factors to arrive at a net energy output.^{51/} The Project’s gross energy output was calculated by matching the Project’s wind data set to the specific power curve for the General Electric 1.5 SLE wind turbines.^{52/} The power curve indicates the amount of energy produced at each unique speed in the turbine’s operating range.^{53/} It is worth emphasizing that the wind experts – DNV Global Energy Concepts, Iberdrola Renewables, and PG&E’s meteorological expert – were all in general agreement regarding the Project’s expected gross energy output based on the extensive wind data collected.^{54/}

The loss adjustment factors considered in the conversion of the Project’s gross energy output to its net energy output included: (1) wind turbine availability; (2) wakes/array effects; (3) turbine performance; (4) electrical system; (5) environmental; (6) curtailment; and (7) a catchall category referred to as “other.”^{55/} Although the wind experts were in near uniform agreement regarding factors (3) through (7), they had slightly different assumptions for factors (1) and (2) that resulted in differences in opinions regarding the Project’s net capacity factor.^{56/}

^{50/} Exs. 5-C and 6, at p. 8-1, lines 26-30.

^{51/} *Id.* at pp. 8-2 to 8-3.

^{52/} *Id.* at p. 8-2, lines 11-13.

^{53/} *Id.* at p. 8-2, fn. 4.

^{54/} *Id.* at p. 8-2, lines 13-15.

^{55/} *Id.* at p. 8-3, lines 8-11.

^{56/} *Id.* at p. 8-3, lines 11-16.

PG&E ultimately endorsed a net capacity factor of 31.1 percent, the value endorsed by Iberdrola Renewables, based on Iberdrola Renewables’ unmatched real-world expertise with an operating fleet of more than 9,000 megawatts (“MW”) of wind turbines around the world, including 3,684 MW in the United States.^{57/}

DRA conveniently ignores Iberdrola Renewables’ wind report, which forecasts a 31.1 percent net capacity factor for a 246 MW Project at a P 70 value.^{58/} This means that the Project’s net capacity factor is expected to be 31.1 percent *or better* for every 7 of 10 years of the Project’s life.^{59/} In fact, Iberdrola’s report estimates an [Redacted] percent net capacity factor at the P 50 level,^{60/} which is the typical probability threshold used for wind project evaluations, and would result in a levelized cost of energy for the Project of \$ [Redacted] megawatt-hour (“MWh”).^{61/} DRA gives no weight to this document, despite Iberdrola Renewables’ extensive experience owning, controlling and operating wind resources and its strong reputation for its performance in the industry.^{62/}

DRA is also incorrect in its assertion that 31.1 percent is not supported by PG&E’s internal meteorological expert.^{63/} DRA claims that the record reflects “only one consistent opinion” from PG&E’s meteorological expert [Redacted]

[Redacted] ^{64/} However, what the record in fact reflects is that PG&E’s internal expert endorsed a 31.1 percent net capacity factor and reviewed and concurred with the findings in Iberdrola Renewables’ wind report, which

^{57/} *Id.* at p. 8-3, lines 3-5; Exs. 9-C and 10, at p. 15, lines 13-17.

^{58/} Ex. 9-C, Appendix C, Table 10; Exs. 9-C and 10, at p. 15, lines 3-5.

^{59/} Exs. 9-C and 10, at p. 15, lines 5-7.

^{60/} Ex. 9-C, Appendix C, Table 10; Exs. 9-C and 10, at p. 15, lines 7-8.

^{61/} Exs. 9-C and 10, at p. 15, lines 8-10.

^{62/} Tr., at p. 11, lines 19-21 (Malnight, PG&E).

^{63/} DRA Opening Brief, at pp. 53-56.

^{64/} *Id.* at p. 55.

included its assumption for turbine availability.^{65/} As Mr. Lewis testified, Redacted

Redacted

Redacted

Redacted

Further, as DRA's Table 6-1 shows, Redacted

Redacted^{67/} not to the actual expected Project size of 246 MW with 164 turbines, which is reflected in Iberdrola Renewables' wind report.^{68/}

DRA and TURN's other challenges to the 31.1 percent net capacity factor are equally unavailing. DRA asserts that there is no evidentiary basis to support a 31.1 net capacity factor over the Project's expected 30-year life.^{69/} PG&E's operations and maintenance ("O&M") expert Mr. Jones testified, however, that with proper care and maintenance the Project can be

^{65/} Tr., at p. 163, lines 22-28 to p. 164, lines 1-10 (Lewis, PG&E); Exs. 9-C and 10, at p. 15, lines 17-18.

^{66/} Tr., at p. 163, lines 22-28 to p. 164, lines 1-10 (Lewis, PG&E).

^{67/} Exhibit 101-C, Exhibit QQ, Attachment 4.

^{68/} Ex. 9-C, Appendix C, Executive Summary.

^{69/} DRA Opening Brief, at p. 53.

expected to operate for 30 years.^{70/} As PG&E explained in Section VI.B. of its Opening Brief and further in Section II.C.4. of this Reply Brief, it has presented evidence of a robust 30-year forecast of O&M costs that relies on multiple wind industry sources and that includes parts replacements over the Project’s 30-year life. DRA has not presented any evidence showing that the Project’s wind turbines cannot, with the appropriate level of care and maintenance as is contemplated by PG&E’s 30-year forecast, operate consistent with the estimated 31.1 percent net capacity factor for the entirety of the Project’s expected 30-year life. And, in fact, the DNV Global Energy Concepts draft report from which DRA selectively quotes also states that “Redacted

Redacted

DRA and TURN suggest that PG&E’s net capacity factor analysis is deficient because it does not account for the potential need for curtailment.^{72/} Both DRA and TURN discuss the possibility of curtailment due to “negative prices” imposed by the California Independent System Operator (“CAISO”).^{73/} Yet as explained in Section III.E.6. of PG&E’s Opening Brief, PG&E believes that the risk of negative prices is extremely small based upon recent CAISO data, and in the event that negative prices did occur, curtailment of the Project may in fact result in the lowest overall costs to customers because it would reduce CAISO-imposed negative charges. Neither TURN nor DRA present any data supporting their claims of curtailment risk due to negative prices. DRA also faults PG&E’s net capacity factor analysis for not considering the potential need for curtailment due to condor issues.^{74/} As PG&E explained in Section III.E.5. of its Opening Brief and in Section II.C.5.a. of this Reply Brief, however, PG&E has offered extensive

^{70/} Tr., at p. 244, lines 4-7 (Jones, PG&E).

^{71/} Ex. 204-C, at p. 18.

^{72/} DRA Opening Brief, at p. 56; TURN Opening Brief, at p. 18.

^{73/} *Ibid.*

^{74/} DRA Opening Brief, at p. 56.

competent evidence that the risk of curtailment due to condor issues is very low. DRA's speculation to the contrary is not supported by the evidence and provides no basis for addressing curtailment relating to condor issues in the net capacity factor analysis.

Also with respect to curtailment, DRA cites to the possibility that [Redacted] [Redacted] could result in curtailment of the Project, citing to the DNV Global Energy

Concepts draft report.^{75/} This draft report states that [Redacted] [Redacted]

[Redacted] ^{76/} As a result, the draft report [Redacted] [Redacted] ^{77/}

Subsequent to the date of DNV Global Energy Concepts' draft report, General Electric conducted a Mechanical Loads Analysis for the Project that concludes that the General Electric 1.5 SLE turbines with a 64.7 meter tower are suitable for the Project,^{78/} and specifically states

[Redacted]

[Redacted] ^{80/} DRA, therefore, distorts the evidence by selectively referencing aspects of the DNV Global Energy Concepts draft report prepared prior to the Mechanical Loads Analysis.

Finally, DRA claims that the 31.1 percent net capacity factor figure is uncertain because

^{75/} *Id.* at pp. 56-57.
^{76/} Ex. 101-C, Exhibit RR, at p. 13.
^{77/} *Ibid.*
^{78/} Ex. 105-C, at p. 13.
^{79/} *Ibid.*
^{80/} *Ibid.*

it assumes that there would not be any [Redacted]

[Redacted] ^{81/} Iberdrola Renewables’ wind report [Redacted]

[Redacted]

DRA cites to the DNV Global Energy Concepts draft report as stating that its analysis [Redacted]

[Redacted] but

provides no evidence that Iberdrola Renewables’ analysis did not consider such potential impacts.

The evidentiary record supports a 31.1 percent net capacity factor as a reasonable estimate of the Project’s annual generation. DRA’s recommendation that PG&E produce levelized costs of energy and net market values based on a different capacity factor, or alternatively, that the Commission use a [Redacted] percent net capacity factor,^{84/} is unreasonable and should be rejected. Even if the Commission chose to use a [Redacted] percent net capacity factor, the Project’s levelized cost of energy of \$ [Redacted]^{85/} would still be competitive – it would rank [Redacted]

[Redacted] 24 projects filed for approval in the 12 months prior to submission of the Application and [Redacted] 30 projects shortlisted in PG&E’s 2009 RPS RFO.

2. A December 31, 2011 Commercial Operation Date For the Project Is Reasonable Based On Current Information Regarding The Project’s Interconnection.

Both DRA and TURN express concern about delays in the December 31, 2011 commercial operation date assumed for the Project’s cost estimates, initial revenue requirement

^{81/} DRA Opening Brief, at p. 56.
^{82/} Ex. 9-C, Appendix C, at Table 7.
^{83/} Tr., at p. 168, lines 20-23 and p. 169, lines 22-25 (Lewis, PG&E).
^{84/} DRA Opening Brief, at p. 57.
^{85/} Exs. 5-C and 6, at p. 8-3, lines 26-28.

and levelized cost of energy due to transmission delays.^{86/} DRA's arguments are either based on outdated information or attribute a greater degree of uncertainty to the Project's [Redacted]

[Redacted] than is warranted by the record. While TURN recognizes that the [Redacted]

[Redacted] for the Project is "encouraging," it nevertheless still recommends that the Commission assume a "real risk of delay" associated with the Project's interconnection.^{87/}

However, in light of the record reflecting the most current information available regarding the Project's transmission, December 31, 2011 is a reasonable estimate of the Project's commercial operation date on which to base cost, revenue requirement, and levelized cost of energy estimates.

First, DRA's assessment of the risk of transmission delays is based in part on outdated information. DRA relies on information provided by SCE in February of this year regarding the schedule for completion of Segment 4 of the Tehachapi Renewable Transmission Project ("TRTP").^{88/} However, as PG&E's Opening Brief explains in detail and as the record of evidence supports, since that time [Redacted]

[Redacted]

[Redacted]

^{89/} It is unreasonable to

assess the risk of delay based on information that is no longer current.

Second, although DRA acknowledges the [Redacted] it still

claims that there is a substantial risk of delay beyond December 31, 2011. DRA asserts that the

[Redacted]

^{86/} DRA Opening Brief, at pp. 28-31; TURN Opening Brief, at pp. 5-6.

^{87/} TURN Opening Brief, at p. 6.

^{88/} DRA Opening Brief, at p. 30. DRA cites to a February 22, 2010 SCE response to a data request and to a February 26, 2010 SCE letter to the United States Fish and Wildlife Service.

^{89/} See PG&E Opening Brief, at pp. 31-33.

Redacted

Redacted^{91/} It is curious that DRA would equate this to Redacted

Redacted

Redacted While DRA claims there is additional uncertainty surrounding the Redacted

Redacted

Redacted^{93/} It is therefore inappropriate to attribute a high degree of risk to this element of the Project's interconnection.

Finally, DRA claims that the completion date for Whirlwind Substation Redacted

Redacted

PG&E has presented substantial evidence to support its use of a December 31, 2011 commercial operation date to develop its cost, revenue requirement, and levelized cost of energy

^{90/} DRA Opening Brief, at p. 30.

^{91/} See PG&E Opening Brief, at p. 33.

^{92/} DRA Opening Brief, at p. 31.

^{93/} Tr., at p. 113, lines 8-11, 15-25 (Lewis, PG&E).

^{94/} DRA Opening Brief, at pp. 30, 31.

^{95/} Ex. 103-C, PG&E's response to Question 1 of TURN's seventh data request; Exs. 9-C and 10, at p. 18, lines 3-6.

estimates. In addition, the evidence presented by PG&E demonstrates PG&E's understanding of and willingness to mitigate the risk of potential delay to the Project [Redacted]

[Redacted]. Finally, as is discussed in detail in Section VIII.A. of this Reply Brief, the Project remains cost-competitive even if it is delayed.

3. It Is Reasonable To Assume A Project Size Of 246 MW.

DRA asserts that the Commission should assume that the Project will be 189 MW when it assesses the competitiveness of the Project's costs, and argues that this approach is justified because PG&E will not guarantee that the Project will be built out to 246 MW within the proposed costs.^{96/} For the reasons set forth in Sections III.E.3., IX.C. and IX.E. of PG&E's Opening Brief, PG&E believes it is highly likely that the Project will be built out to the full 246 MW, and that 246 MW is a reasonable and prudent estimate of the final project size. Further, as explained in Sections III.E.3. and IX.B. of PG&E's Opening Brief, the Project is cost-competitive even at a size of 189 MW. Its net market value of [Redacted] MWh would [Redacted]

[Redacted] 30 projects shortlisted in PG&E's 2009 RPS RFO, and [Redacted] 24 long-term projects PG&E filed for approval in the 12 months prior to submission of the Application. Its levelized cost of energy of [Redacted] MWh would [Redacted] 30 shortlisted projects, and [Redacted] 24 projects filed for approval.^{97/}

4. PG&E Has Presented Substantial Evidence To Support A 30 Year Project Life.

DRA argues that the Commission should assume a 20 year life for the Manzanita Wind Project, not the 30 year life PG&E proposed.^{98/} The consequence of DRA's recommendation would be to increase costs to customers because Project costs would be amortized over 20 years under DRA's proposal rather than 30 years as proposed by PG&E.

^{96/} DRA Opening Brief, at p. 58.

^{97/} Exs. 1-C and 2, Table 4-1; Exs. 7-C and 8, Table 4-2.

^{98/} DRA Opening Brief, at p. 52.

PG&E has proposed a 30 year life for the Manzana Wind Project because with proper operation, maintenance, replacements and repairs the Project is expected to have a 30 year life.^{99/} PG&E's forecast of a 30 year life is based upon its own operating experience with other generating assets^{100/} and consultation with multiple wind industry sources. PG&E conducted discussions with the major wind turbine manufacturers – General Electric, Siemens, and Vestas – and with wind farm operators, such as Iberdrola Renewables and others.^{101/}

A wind turbine, like any other piece of machinery, is capable of operating as long as you prudently operate and maintain it and replace parts that have worn out.^{102/} PG&E's 30 year O&M forecast includes funding for [Redacted] replacements of gearbox assemblies and other parts such as yaw systems, pitch systems, generators and rotor blades for the 164 turbines over the 30 year life of the Project. Thus, PG&E has assumed that [Redacted] of the turbines will be refurbished and have their gearbox assemblies and other parts replaced at least once and [Redacted] of the 164 turbines would require [Redacted] sets of replacements over their 30 year life.^{103/} PG&E's benchmarking efforts with industry manufacturers and operators, independent research of publically available information, operating history and robust assumptions regarding project replacements and repairs, in combination with PG&E's professional engineering judgment, are sufficient to support the reasonableness of its 30 year life forecast.

DRA and TURN refer to some documents that include 20 year analysis windows as “proof” that the Manzana Wind Project will only last 20 years.^{104/} These documents include a draft consultant report that PG&E's witness expressly said he did not rely on for purposes of

^{99/} Tr., at p. 243, lines 5-21 (Jones, PG&E).

^{100/} Tr., at p. 243, line 5 to p. 244, line 7 (Jones, PG&E).

^{101/} Tr., at p. 219, lines 1-9 (Jones, PG&E).

^{102/} Tr., at p. 243, lines 5-21 (Jones, PG&E).

^{103/} PG&E Opening Brief, at pp. 85-86.

^{104/} DRA also refers to [Redacted] PG&E responds to this argument in its Opening Brief at pages 38-39.

establishing a 30 year life.^{105/} None of these documents directly express a conclusion on the duration of the useful life of the General Electric wind turbines. In every case, the DRA and TURN documents contain a 20 year analysis window. Mr. Lewis testified that use of a 20 year analysis window in a study is absolutely not indicative of the General Electric turbines for the Project having only a 20 year life.^{106/} Mr. Lewis and Mr. Jones testified that a 20 year analysis window is commonly used in the industry because wind turbines are typically financed on a 20 year basis and the documentation has to verify that the turbines will at least have a 20 year revenue stream to pay off the financing. Any revenue obtained during the period in excess of the 20 year analysis window is not relevant for the financing institutions since the loans will have been paid off by that time.^{107/}

DRA and TURN fault PG&E for not providing enough proof that there are other wind projects with expected lives over 20 years. However, Confidential Attachment 4 to TURN's testimony contains multiple examples of wind projects with contract terms of Re years or greater. This includes the (1) Redacted year wind project PPA;^{108/} (2) Redacted Redacted year wind project Redacted;^{109/} (3) Redacted Redacted year wind project PPA;^{110/} and (4) Redacted year wind project PPA.^{111/} These other wind projects are clear evidence that refutes DRA's assertion that wind projects are not capable of having a useful life in excess of 20 years.

Finally, DRA implies that the risk the Manzana Wind Project will operate less than 30 years is a ratepayer risk. This is incorrect. PG&E's revenue requirement is based upon a 30 year

^{105/} Tr., at p. 230, lines 8-14 (Jones, PG&E).

^{106/} Tr., at p. 151, lines 19-22 (Lewis, PG&E).

^{107/} Tr., at p. 243, lines 5-16 (Jones, PG&E); p. 151, line 23 to p. 152, line 3 and lines 25-27 (Lewis, PG&E).

^{108/} Ex. 214-C and 215-C, at Confidential Attachment 4, p. 15.

^{109/} *Id.* at Confidential Attachment 4, p. 16.

^{110/} *Ibid.*

^{111/} *Ibid.*

useful life for the Project. Any change to this 30 year life assumption creates a risk of non-recovery because PG&E would be required to propose a modification for the Manzanita Wind Project in a future General Rate Case and such request would be subject to Commission review of the reasonableness of the request.^{112/}

5. There Is A Low Risk Of Project Shutdown Or Curtailment Due To Purported Impacts To California Condor, And Adequate Ratemaking Mechanisms Exist To Address The Highly Unlikely Event Of A Future Shutdown.

a. There Is No Credible Evidence That The Project Will Be Shut Down Or Curtailed Due To Condor Impacts.

As demonstrated in PG&E's Opening Brief, the record in this proceeding lacks any competent evidence to suggest that the Manzanita Project will be shut down or curtailed due to purported impacts to the California condor. To the contrary, the *only* qualified expert testimony presented in this case establishes that: (1) the Manzanita Project site lacks key features necessary to attract condors to the site; (2) the Project has been designed and sited in such a way as to make the likelihood of collision extremely remote, even assuming a condor were to enter the airspace above the site; and (3) there is no significant likelihood that even a portion of the Project would be shut down due to condor-related issues.^{113/} PG&E's findings are supported by the condor habitat assessments set forth in the final certified Environmental Impact Reports prepared by Kern County and the Commission, as well as the expert opinion of leading condor biologist Peter H. Bloom. As the record also makes clear, these conclusions are rooted in a firm understanding of condor ecology, biology, and behavior, and reflect the relevant experts' detailed scientific analysis of the likely effect of this particular Project in light of its specific design, location, and associated mitigation measures.^{114/}

^{112/} Tr., at p. 333, lines 17-21 and p. 345, line 9 (O'Flanagan, PG&E).

^{113/} PG&E Opening Brief, at pp. 41-44, 44-47, 49-52; *see also id.*, at pp. 47-49.

^{114/} *See, e.g.*, PG&E Opening Brief, at pp. 48-49.

DRA, by contrast, offered no comparable expert testimony, nor any independent environmental analysis, in support of its contention that ratepayers bear a “substantial” risk that the Project will be shut down due to future condor collisions. Rather, in response to the overwhelming weight of the qualified expert testimony and other competent evidence in the record, DRA offered mere speculation.^{115/}

This pattern continues with DRA’s Opening Brief. In response to the expert opinion of PG&E witness Diane Ross-Leech that the Project will result in only minimal risk of condor mortality based on its design, location, and known condor behavior patterns, DRA offers only speculation and ill-founded “concerns,” as follows.

- * First, DRA asserts that a potentially increased future condor population “will *likely* have to utilize additional foraging grounds,” and leaps from there to the assumption that these new foraging grounds “*may* [include] . . . sites within the Project’s boundaries.”^{116/} In doing so, however, DRA ignores PG&E’s expert’s uncontroverted testimony that an expanded condor population would not necessarily require entry into new foraging habitat areas beyond the condor’s historic range, and fails utterly to explain how an expansion of the condor’s range would somehow render the Manzana site suitable for condor use despite its well-documented lack of key attractants.^{117/}
- * Undaunted by the facts, DRA next speculates that the Project “*may* pose a risk to condors” even after mitigation because the buffer between the Project boundaries and condor habitat “*may not be sufficient* over the life of the Project” and because, “[*if*] carcasses are not cleared immediately, condors *may* be attracted to the site to

^{115/} See PG&E Opening Brief, at pp. 47-52.

^{116/} DRA Opening Brief, at p. 5 (emphasis added).

^{117/} Tr., at p. 359, line 24 (Ross-Leech, PG&E); see PG&E Opening Brief, at pp. 41-44; *infra* at p. 34-35.

feed.”^{118/} Here DRA ignores the fact that proximity alone does not create risk, that the Project site lacks and will continue to lack preferred food items, and that PG&E’s proposed mitigation measures will in fact timely clear any carcasses that are present on site.^{119/}

- * Finally, DRA argues that, assuming (despite the evidence) that all of its posited hypothetical events come to pass, and further assuming that a condor will collide with a turbine, there will then be a risk that ratepayers *could* be impacted: “If . . . the Project causes a death of a condor, the Department of Fish and Game *may* require PG&E to partially or completely shutter the Project.”^{120/} Of course, this ignores the uncontroverted evidence that the proposed turbine layout will render highly unlikely the risk of condor collisions, as any condors that do wander into the airspace above the Project site *en route* to feeding grounds offsite will do so at elevations significantly higher than the turbines. It also conveniently overlooks the fact that injunctive relief shutting down all or a substantial portion of a wind project in response to unauthorized take of a fully protected avian species is virtually unprecedented.^{121/}

On each of these issues, DRA has presented no facts to establish that any of its hypothetical outcomes is plausible, no assessment of the likelihood that they will actually occur, and no competent expert testimony to call into question PG&E’s expert’s well-supported conclusions to the contrary.

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^{118/} DRA Opening Brief, at pp. 6, 8 (emphasis added).

^{119/} See PG&E Opening Brief, at pp. 47-48, 41-44, 45-46; see also *infra* at pp. 36-42.

^{120/} DRA Opening Brief, at p. 8 (emphasis added).

^{121/} See PG&E Opening Brief, at pp. 49-52, *infra* at pp. 42-44.

Despite its failure to make its case, “DRA remains concerned that the proposed mitigation measures do not sufficiently reduce the risk.”^{122/} “Concern,” however, does not equal evidence – particularly where the party expressing the concern has no apparent experience or training in condor biology, the Endangered Species Act, or environmental regulation generally. There is simply no credible evidence in the record to support the conclusion that ratepayers bear a “substantial risk” as a result of condor-related issues. As such, there is no basis for modifying PG&E’s proposed ratemaking as DRA recommends.

- (1) **There is no evidence to suggest that increased population means condors will need to colonize new areas outside of their historic range, nor any evidence that the Manzana Project site will suddenly become attractive to condors notwithstanding the overwhelming evidence that the site lacks and will continue to lack key features necessary for condor use.**

While PG&E hopes and expects that the California condor population will continue to expand, there is no support in the record, or anywhere else, for DRA’s theory that continued expansion of the condor population will lead condors someday to become attracted to the Project site.^{123/} In fact, there isn’t even any record evidence in support of the basic factual predicate of DRA’s argument, i.e., that continued expansion of the condor population will necessitate their entry into new areas due to “increased competition” for food.^{124/} DRA presented no evidence to support that contention, and failed in its attempts to elicit such an opinion from PG&E’s expert witness Diane Ross-Leech on cross-examination:

Q If you have a higher population of birds, will they need to have more land to forage on in the future?

A *That’s not necessarily true.* They are -- condors are attracted to certain features of a site and the landscape. They are attracted to areas where they historically nest and

^{122/} DRA Opening Brief, at p. 4.

^{123/} *See Id.*, at p. 5.

^{124/} *See Id.*

they historically roost and areas where there's food available. *So they will go into those areas where they are attracted to, and this project is not one of them.*^{125/}

Undeterred by the lack of any evidence to support its theory, DRA continues to speculate in its Opening Brief that, “as the population increases, condors will *likely* have to utilize additional foraging grounds as increased competition for food *may* render their current foraging areas insufficient.”^{126/} Even if that were true, DRA has presented no evidence (because none exists) to contradict PG&E’s conclusion that the Manzana Project site lacks critical features needed to attract condors. Thus, if and when the condor population expands its range, there will *still* be no reason for condors to attempt to utilize this particular site. Condors can fly “long distances” in search of suitable foraging habitat, which exists throughout their historic range stretching from the Coast Ranges south to the Tehachapi Mountains and then northward to the Sierra Nevada.^{127/} It makes no sense to assume that an expanding condor population would favor the low-elevation valley floor Project site – with its marked lack of suitable habitat and preferred food sources – over nearby critical habitat at Tejon Ranch, the associated feeding stations, and also the rich, well-stocked habitat areas that comprise its historic range.

In short, DRA’s speculation on this issue is not only unsupported by any evidence, it is also contrary to basic principles of condor ecology, biology, and behavior. The Commission should give it no weight.

^{125/} Tr., at p. 359, line 21 - p. 360, line 2 (Ross-Leech, PG&E) (emphasis added); *see also* PG&E Opening Brief, at pp. 41-44 (the Manzana site lacks critical features needed to attract condors, including nesting, roosting, and foraging habitat; preferred food items; and suitable flying conditions associated with higher-elevation habitat).

^{126/} DRA Opening Brief, at p. 5 (emphasis added). DRA attempts to support this statement with a reference to PG&E’s Rebuttal Testimony, Exhibits 9-C and 10 at pp. 25-26, lines 29-30. However, the referenced testimony addresses the lack of condor habitat at the Manzana site and has nothing to do with the effect of condor population increases.

^{127/} Tr., at p. 365, line 8, p. 359, lines 26-28, p. 379, lines 17-21 (Ross-Leech, PG&E); Kern County, *PdV Wind Energy Project, Final Environmental Impact Report* (February 2008) (“Kern County FEIR”), at pp. 7-80 (Responses to Comments).

(2) Notwithstanding DRA’s unsupported “concerns” about the effectiveness of PG&E’s proposed mitigation measures, DRA has presented no credible scientific evidence to refute PG&E’s conclusion that the Manzana project poses a remote risk of condor mortality in light of the Project’s location, design (including mitigation measures), and known condor behavior.

In its Opening Brief, PG&E demonstrated that the Manzana Project poses only a remote risk of condor mortality, for several reasons. First, the Project site lacks key features necessary to attract condors to the site. There is little to no nesting, roosting, or foraging habitat. There is a general absence of the condor’s preferred food items. While limited grazing currently takes place on portions of the site, it is required to be phased out under applicable mitigation measures; in the meantime, PG&E-proposed mitigation measures will ensure that any such grazing does not serve to increase the attractiveness of the site to condors. As such, there is no reason for these birds to be at this site. This conclusion is supported by the expert testimony of PG&E witness Diane Ross-Leech, evidence included in the Environmental Impact Reports prepared by both Kern County and the Commission, and the expert opinions of Peter H. Bloom included in the County’s Final EIR, among other authorities.^{128/} They are further supported by the fact that condors rarely move out into valley floor habitats such as this one, and have never been observed at the Manzana site despite extensive research, field observations, and GPS data.^{129/} Finally, no party presented any competing expert testimony on environmental issues to call into question any of these conclusions.^{130/}

Second, even if a condor were to wander onto the Manzana site, the Project has been designed and sited in such a way as to make the likelihood of collision extremely remote. PG&E has elected not to develop the northernmost section of the original project area that has been re-

^{128/} PG&E Opening Brief, at pp. 41-42.

^{129/} Kern County FEIR at pp. 7-80 and 7-81 (Responses to Comments); Tr., at p. 378, lines 5-14 (Ross-Leech, PG&E).

^{130/} PG&E Opening Brief, at pp. 47-49.

zoned for wind energy. As a result, the Project no longer features turbines on a ridgeline at an elevation of approximately 5,400 feet, where the potential risk of collision would generally be higher than at lower elevations. This means there is now a substantial “vertical buffer” between the revised Project’s highest-elevation turbines and any condors that might fly into the Project area after coming over the significantly higher adjacent ridgeline that PG&E has excluded from the proposed Project area.^{131/} In addition, PG&E has included as part of its proposed Project a number of mitigation measures to further ensure that the Project site remains unattractive to condors.^{132/} Again, no party presented competent expert testimony to refute any of these conclusions.

Lacking any qualified condor expert to challenge PG&E’s conclusion that the risk to condors is highly remote, DRA latches onto the idea that, because no one can guarantee that there is *no* risk of “take” of a California condor, the Commission should assume that a take *will* occur – and, in yet another astonishing leap, that the result of any such take will be a complete or substantial shut down of the plant.^{133/} It is instructive to read what the only qualified expert to testify on this subject, Ms. Ross-Leech, actually said when challenged to admit that PG&E could not “guarantee” that no condor will ever be killed: “I think it is difficult to guarantee what you have described. These are wild animals, and I can’t predict what they will do. Just my testimony says that we think *the risk is very low. It is remote, in fact, based on the site characteristics and the design of our project.*”^{134/} Unlike DRA, Ms. Ross-Leech understands that, while, in theory, “anything is possible,” the more relevant analysis concerns what is *most likely* to happen given the specific site characteristics, project design, and condor behaviors.

Like Ms. Ross-Leech, noted condor expert Peter Bloom also admitted that “California condors

^{131/} *Id.* at pp. 44-45.

^{132/} *Id.* at pp. 45-46.

^{133/} DRA Opening Brief, at pp. 5, 8.

^{134/} Tr., at p. 249, line 27 - p. 250, line 4 (emphasis added) (Ross-Leech, PG&E).

may use the orographic relief of the area surrounding the project site to gain elevation and pass through the area at high elevations. Yet, *because of my experience with California condor ecology, biology and behavior*, I view potential collisions between California condor and wind turbines . . . as *extremely remote*, even as the species continues to recover in the wild.”^{135/} There is no contrary expert opinion in evidence.

DRA’s observation that the numerous condor-related mitigation measures incorporated into the proposed Project have not been “vetted or approved by the Fish and Wildlife Service” reveals a fundamental lack of understanding about the applicable regulatory regime.^{136/} The United States Fish and Wildlife Service (“USFWS”) does not “vet or approve” mitigation measures set forth in CEQA documents. Rather, it considers requests for incidental take authority under Sections 7 or 10 of the Endangered Species Act, and can impose conditions and mitigation requirements in resultant Biological Opinions or Habitat Conservation Plans (“HCP”), respectively, where proposed federal permit actions or private development proposals would result in “take” of endangered species.^{137/} In this case, no take of condor or any other endangered species is anticipated, no incidental take authority is being sought, and no Biological Opinion or HCP is required. It is therefore hardly surprising that USFWS has not “vetted or approved” PG&E’s proposed measures. What is significant, however, is that the USFWS has not made any request of this Commission (or Kern County) to decline to approve the Project, or to impose additional mitigation measures following the adoption by the County of additional measures through the Addendum process and PG&E’s redesign of its version of the Project by eliminating the highest-elevation turbines. The USFWS knows full well how to influence CPUC siting proceedings, as evidenced by its participation in PG&E’s Northeast San Jose and

^{135/} Kern County FEIR at p. 7-82 (Responses to Comments) (emphasis added).

^{136/} See DRA Opening Brief, at p. 5.

^{137/} See 42 U.S.C. §1538.

Jefferson-Martin CPCN processes. Yet it has not attempted to do so here, even though it *has* affirmatively requested that the County refrain from approving several other wind projects in the Tehachapi area due to condor-related concerns.^{138/}

As in its testimony, DRA in its Opening Brief places much weight on the fact that the (lineal) “buffer” or distance between the Project’s northernmost boundary and the closest identified condor occurrence (at unknown elevation) is only one mile, and finds significance in the rather obvious fact that condors can easily fly more than one mile.^{139/} DRA misleadingly suggests that PG&E relies heavily on what it calls the “touted” buffer, though it knows full well that in fact PG&E has emphasized repeatedly that proximity is far less important than “[f]actors such as topography, condor behavior, the presence or absence of features to attract the condor, and, of course, project design and location.”^{140/} Ms. Ross-Leech’s testimony makes clear that each of these factors supports the conclusion that the Manzana Project will result in only a remote risk of condor mortality.^{141/} DRA failed to present, and its Opening Brief does not cite, any evidence to refute PG&E’s analysis of the relevant risk factors or its conclusion that condors are highly unlikely to be attracted to the Manzana site and even less likely to be harmed should they eventually enter it.^{142/} Instead, we get still more speculation: “Even if proximity may not be the most important factor in evaluating risk to condors . . . , *if* food sources are present within the Project footprint” – never mind that they are not – “condors *might* flock to the Project area

^{138/} Exs. 101-C and 102, at Ex. G.

^{139/} DRA Opening Brief, at pp. 6-7.

^{140/} *Id.* at p. 6; *see, e.g.*, PG&E Opening Brief, at p. 47.

^{141/} *See, e.g.*, Tr., at p. 362, line 17 - p. 263, line 1 (Ross-Leech, PG&E).

^{142/} Indeed, DRA entirely ignores PG&E’s conclusions concerning the “vertical buffer” formed by the higher-elevation ridgeline that now surrounds the northernmost turbines proposed as part of PG&E’s revised Project. That buffer is extremely significant because it ensures that any condors that may enter the site on their way to foraging grounds will do so at elevations safely above the reach of Project turbines. *See* PG&E Opening Brief, at pp. 44-45.

and *may* be killed or injured.”^{143/} As Ms. Ross-Leech, a qualified expert with years of experience working with USFWS on condor and other endangered species-related issues, explained, “there’s no reason for [condors] to expend all that energy to come down to this site when there’s no food; there’s not roosting [habitat], there’s no nesting [habitat].”^{144/} There is nothing in the record to contradict these findings.

DRA next speculates that, because not *all* condors are tagged with GPS devices, some condors *might* have already entered the site.^{145/} While, once again, “anything is possible,” what we *know* to be true is that, despite the fact that a significant percentage of the wild condor population is in fact tagged with GPS devices, not one of those tagged condors has entered the Project site.^{146/} We also know that, based on the considerable amount of available GPS data, the significant percentage of condors that *are* tagged are consistently observed utilizing the high-elevation areas of the Tehachapi Mountain range, moving over the high-quality habitat it provides and in transit to historic foraging grounds in the Coast Ranges and the Sierra Nevada – but without entering the Manzana site.^{147/} Thus, regardless of what DRA might wish to make of the fact that the available data are incomplete, the fact remains that the data that we do have are entirely, and without exception, consistent with PG&E’s conclusion that the Manzana site’s relative proximity to high-elevation suitable habitat does not mean that the Manzana project will result in impacts to condor.

Equally unavailing is DRA’s argument that PG&E’s carcass removal program might allow some animal carcasses to fester long enough for condors to be attracted to the site. To

^{143/} DRA Opening Brief, at p. 7 (emphasis added); Kern County FEIR, at pp. 7-81 (Responses to Comments); Exs. 9-C and 10, at p. 28, lines 4-13.

^{144/} Tr., at p. 362, line 19 - p. 263, line 1 (Ross-Leech, PG&E).

^{145/} DRA Opening Brief, at p. 7.

^{146/} Kern County FEIR, at p. 7-81 (Responses to Comments).

^{147/} See, e.g., Motion of the Center for Biological Diversity for Inclusion of Environmental Considerations Within Scope of Proceedings (February 3, 2010), at Attachment (Condor GPS Positions Over Tejon by Year: 2009); Kern County FEIR, at pp. 7-80 – 7-81 (Responses to Comments).

begin with, DRA incorrectly assumes that there is a significant amount of grazing or that the Project site is otherwise home to appropriate condor food sources.^{148/} In fact, “[c]attle, deer, and sheep are important food sources in the condor’s diet. The [Manzana] site has little in the way of potential food sources for California condor except perhaps for the seasonal presence of sheep in the south and an occasional hunter-killed deer in the upper elevations [which PG&E has since excluded from the proposed Project area].”^{149/} PG&E witness Diane Ross-Leech similarly noted that on her recent visit to the site, she saw “very few cattle.”^{150/} Moreover, under County-required mitigation measures, any remaining grazing is to be phased out.^{151/} Thus, the site is home to a very small pool of animals that could potentially become carrion for condors.

In all events, PG&E’s carcass removal program will effectively identify and remove any carcasses that do appear on site, thereby minimizing the risk that condors will enter the site and descend to lower elevations where turbines could be operating. The applicable mitigation measure requires “[o]n-site management to survey and remove large animal carcasses during other routine management tasks, including [but not limited to] weekly searches for large animal carcasses within the project boundary. In addition, daily scans (using binoculars and/or telescopes) lasting 15 minutes from a location that offers the best overall view of the entire project will be conducted to locate animal activity suggesting the presence of a carcass.”^{152/} Thus, as Ms. Ross-Leech testified, “if carcasses were discovered more routinely than weekly, they would be removed as well based on the daily scan.”^{153/} Moreover, “Kern County has another measure where they are requiring a full-time monitor during period of grazing during the

^{148/} See, e.g., DRA Opening Brief, at p. 8.

^{149/} Kern County FEIR, at p. 7-81 (Responses to Comments).

^{150/} Tr., at p. 379, lines 1-2 (Ross-Leech, PG&E).

^{151/} Tr., at p. 354, lines 18-19 (Ross-Leech, PG&E).

^{152/} PG&E Opening Brief, at p. 45.

^{153/} Tr., at p. 369, lines 11-13 (Ross-Leech, PG&E).

construction of the project.”^{154/} Finally, as it implements these measures, PG&E will employ a strategy of adaptive management – for example, adding survey locations or increasing the number of scans as needed to ensure that PG&E “can identify if there are *any* carcasses and remove those *immediately*.”^{155/}

DRA, for its part, finds it “difficult to assess whether this measure can sufficiently mitigate risk to condors,” and concludes that the County’s and PG&E’s measures “*may* not adequately diminish food sources.”^{156/} In questioning the adequacy of these measures, however, DRA offers no actual evidence that they are in fact inadequate, nor does it recommend any suggested improvements. Once again, DRA’s uncertainty, speculation, and questions are not evidence. Moreover, DRA, unlike the County and PG&E, has no experience developing, evaluating the effectiveness of, or implementing endangered species mitigation measures and avian protection programs. PG&E’s measures were developed and thoroughly vetted by qualified experts, including wildlife biologists.^{157/} Thus, the only competent opinion in the record as to the efficacy of the proposed carcass removal program is Ms. Ross-Leech’s: “Based on our carcass removal program, I don’t believe there will be any dead animals on the ground. We will remove them promptly if they are found.”^{158/}

(3) There is no significant likelihood that even a portion of the project would be shut down due to condor-related issues.

DRA rests its entire argument that “[a] condor death or ‘take’ *could* significantly affect Project operation” on (a) unsupported speculation that a condor could be killed by Project

^{154/} Tr., at p. 369, line 27 - p. 370, line 2 (Ross-Leech, PG&E).

^{155/} Tr., at p. 371, lines 18-19 (Ross-Leech, PG&E) (emphasis added).

^{156/} DRA Opening Brief, at p. 8 (emphasis added). In this regard, DRA again notes that the proposal to conduct daily scans has not “been vetted with experts from the Fish and Wildlife Service.” DRA Opening Brief, at 7. As noted above, however, there is no reason to expect that mitigation measures for a project that is not expected to result in take of endangered species and for which no incidental take authority is sought would be “vetted” with USFWS. *Supra* at pp. 38-39.

^{157/} Tr., at p. 370, lines 15-18 (Ross-Leech, PG&E).

^{158/} Tr., at p. 380, lines 4-7 (Ross-Leech, PG&E).

facilities and (b) a misreading of a single 2008 comment letter from the California Department of Fish and Game (“CDFG”) that predates by nearly two years PG&E’s substantial redesign of the Project.^{159/}

As set forth above, there is no competent evidence in the record to suggest, much less establish, that the likelihood of a condor fatality as a result of operation of the Manzanita Project is anything other than extremely remote.^{160/}

There is likewise no evidence to suggest that, even in the highly unlikely event of a condor fatality, the result would be a judicial order shutting down all or a significant portion of the Manzanita Project. CDFG’s 2008 letter, which is DRA’s sole basis for asserting that take of a condor could result in plant shutdown, accurately characterizes the legal remedies potentially available to plaintiffs in actions to enforce the federal or state Endangered Species Acts. However, it sheds little if any light as to whether such remedies will someday be applied to the Manzanita Project. The letter does not provide any evidence that condors are actually present on the Project site, or that they will eventually utilize the site. Significantly, it predates by nearly two years PG&E’s modification of the Project to eliminate the four highest-elevation turbines, as well as the adoption by the County of numerous additional mitigation measures in response to this and other comment letters. Like the USFWS, CDFG did not comment further following adoption of these recent measures, nor has it appeared in this proceeding to express any concerns. Finally, as extensively addressed in PG&E’s Opening Brief, injunctive relief resulting in complete or even partial shutdown of wind facilities due to unauthorized take of fully protected avian species is virtually unprecedented. As Ms. Ross-Leech explained based on her years of experience dealing with USFWS and CDFG, the resource agencies’ response is typically

^{159/} See DRA Opening Brief, at pp. 8-9 (“If it is determined that . . . the Project causes death of a condor, the Department of Fish and Game *may* require PG&E to partially or completely shutter the Project” (emphasis added)).

^{160/} *Supra* at pp. 31-42; PG&E Opening Brief, at p. 49.

much more measured, and PG&E is fully committed to working cooperatively with those agencies to address any issues that might arise, however unlikely.^{161/}

In sum, DRA has failed to provide any credible factual basis for its argument that ratepayers bear a “substantial risk” that the Project could be shut down. For this reason alone, DRA’s recommended revisions to PG&E’s requested ratemaking proposal to address its purely speculative concerns regarding purported impacts to California condor should be rejected.

b. Public Utilities Code Section 455.5 And The Commission’s Own Authority Provide Adequate Ratemaking Mechanisms To Address The Highly Unlikely Event Of A Future Shutdown.

DRA asserts that PG&E has not proposed adequate ratemaking mechanisms to address the potential shutdown of wind turbines or imposition of fines and penalties under the Endangered Species Act.^{162/} PG&E has demonstrated above that such adverse impacts are extremely unlikely and speculative. However, if they were to occur, there are adequate ratemaking mechanisms in place to address the situation.

First, on the issue of fines and penalties, PG&E has stated that it did not and will not forecast the imposition of any fines and penalties in its revenue requirement for the Manzanita Wind Project.^{163/} Consequently, if any such fines or penalties were to occur, they would not be funded in rates by customers.

Second, in the extremely unlikely event that one or more wind turbines in the Manzanita Wind Project are permanently shut down, the Commission can effectively address the situation in the future based on the circumstances presented at that time. It is not necessary to attempt to speculate about highly unlikely future events and proscribe today how they should be resolved. If a wind turbine is permanently shut down, the Commission has full discretion under its own

^{161/} PG&E Opening Brief, at pp. 50-52.

^{162/} DRA Opening Brief, at pp. 9-10.

^{163/} Ex 9-C and 10, at p. 30, lines 28-29.

authority or pursuant to Public Utilities Code Section 455.5 to order PG&E to take the turbine out of rate base. The Commission would at that time decide the appropriate rate treatment for the non-functional turbine. It is therefore incorrect for DRA to assert that under the PG&E Application ratepayers are saddled with 100 percent of this risk.

DRA questions the applicability of Section 455.5 but its arguments do not make much sense. There is nothing in Section 455.5 that limits its applicability to nuclear or hydroelectric projects – it applies to generation facilities, including wind generation facilities. Second, DRA says it thinks the nine month outage timeline before Section 455.5 requires Commission action is “too long.”^{164/} No matter what DRA feels, the law makes no distinction for wind turbines. Moreover, under the statute, the Commission has clear authority on its own motion to take earlier action to address generation plant outages.

It is clear that under existing law the Commission has authority to address going forward cost recovery if a wind turbine is ever shut down. It is far better to deal with the issue, if it ever arises, in the future based on the actual facts of the case rather than to arbitrarily conclude at the outset that, in all circumstances, a shutdown of a wind turbine must have been due to unreasonable and imprudent acts of the utility and the costs of the turbine should be disallowed.

6. PG&E’s Levelized Cost Of Energy Estimate For The Project Is A Reasonable Expected Case Scenario. This Estimate, And Not A Worst-Case Cost Scenario, Should Be Used In The Cost-Competitiveness Assessment.

As PG&E has explained in Section III.E. of its Opening Brief and further in Section II.C. of this Reply brief, the assumptions underlying its forecast levelized cost of energy for the Manzana Wind Project are reasonable. DRA nevertheless claims that PG&E’s forecast represents a best-case scenario and argues that the Commission should evaluate the Project based

^{164/} DRA Opening Brief, at p. 10.

on a worst-case scenario of Project costs.

PG&E disagrees with DRA's assessment that PG&E's forecast levelized cost of energy for the Project is a "best-case" scenario that relies on "optimistic" assumptions.^{165/} In fact, a best-case scenario in PG&E's view would contemplate the full 246 MW Project being built without expending any contingency, coming online early, and operating at a higher net capacity factor – all of which are possible based on the evidentiary record. Instead, PG&E's forecast represents a reasonable middle-ground position and is the appropriate estimate to use for assessing cost-competitiveness.

DRA argues that the Commission should evaluate the Project under a collection of worst-case scenarios of Project costs, wherein several of the assumptions underlying the levelized cost of energy forecast change, on the grounds that the Commission evaluates the maximum potential project costs when reviewing the reasonableness of renewable PPAs.^{166/} PG&E opposes this recommendation for two reasons.

First, PG&E is not seeking maximum-case cost recovery. PG&E will be bound by the Commission-adopted target capital cost, and will be subject to reasonableness review for any costs incurred above that target. Second, the advice letters seeking approval of renewable PPAs do not, as DRA claims, identify the maximum or worst-case scenario of potential project costs. Rather, such advice letters, which the Commission reviews for its reasonableness determinations, identify potential ranges of costs under a PPA if the contract contemplates such variability. These costs do not represent a worst-case scenario of *actual* project costs – if a developer is not able to perform at the PPA price, it may choose to default under the contract or seek a price

^{165/} DRA Opening Brief, at p. 48.

^{166/} *Id.* at pp. 59-60.

amendment from PG&E.^{167/} All three investor-owned utilities have returned to the Commission on a number of occasions to seek price amendments to RPS PPAs because the developer informed the utility that it could not build and complete the project for the original price.^{168/} The costs reflected in renewable PPA advice letters are therefore more akin to expected project costs, like those PG&E has forecasted in its Application, not worst-case costs. The Commission should therefore reject DRA's proposal to compare the Project's costs to a collection of worst-case scenarios.

D. The Commission Should Disregard The Portion of DRA's Cost-Competitiveness Analysis That Is Based On Factual Inaccuracies.

DRA claims, incorrectly, that PG&E omitted a number of long-term wind offers that were on its 2009 RPS RFO shortlist from Table 4-4 of its Supplemental Testimony, and that data on these additional shortlisted offers shows that the Project is not cost-competitive.^{169/} To

support this section of its Opening Brief, DRA relies on a subset of a document entitled "Redacted"

Redacted

Redacted

»^{170/} As PG&E witness Mr. Jeung explained to DRA's counsel, however, this document

does not reflect PG&E's *final* 2009 RPS RFO shortlist.^{171/} Redacted

Redacted

Redacted

The final shortlist of long-term offers, which is the list

PG&E provided in Table 4-2 of PG&E's revised prepared testimony, reflects these

developments. DRA also claims, again incorrectly, that Redacted

^{167/} Exs. 9-C and 10, at p. 5, lines 4-9 and p. 10, lines 20-23.

^{168/} *Id.* at p. 10, lines 20-23.

^{169/} DRA Opening Brief, at pp. 63-64.

^{170/} DRA Opening Brief, at p. 63; Ex. 106-C.

^{171/} Tr., at p. 288, lines 5-8 (Jeung, PG&E).

Redacted

Redacted

The cost-competitiveness analysis DRA offers on pages 63

to 64 of its Opening Brief, including Figure 6-2, is thus laced with factual inaccuracies and should be disregarded.

III. THERE ARE SUBSTANTIAL BENEFITS TO UTILITY OWNERSHIP OF THE MANZANA WIND PROJECT.

In this section of the Reply Brief, PG&E responds to arguments by TURN and DRA on the following topics:

- 1) Are there benefits of utility-ownership of the Manzana Wind Project?

PG&E Response: By virtue of its financial strength, ability to fully utilize federal tax credits and expertise in electric transmission upgrades and interconnections, PG&E ownership makes the Project capable of being operational by the end of 2011. This is a direct and tangible benefit of utility ownership.

- 2) Should the Application be rejected for failure to demonstrate that a competitive solicitation was infeasible?

PG&E Response: The Project was proposed by a third party in an RPS RFO and it has been evaluated, monitored, and benchmarked in a manner consistent with RFO protocols and Commission requirements.

- 3) Should the Project, including the associated ownership risks, be evaluated against a hypothetical PPA?

PG&E Response: There is no PPA option for the Manzana Wind Project. The Project should be compared to real world renewable energy projects that are available to PG&E's customers as alternatives.

- 4) Should the Application be rejected on the basis that the IE report was inadequate?

172/ DRA Opening Brief, at p. 64, Figure 6-2.

PG&E Response: The IE report was thorough, complete and independent. There is no basis for rejecting the Application based on the minor deviations from practice that the IE thought appropriate to suit the circumstances.

A. Utility Ownership Of The Manzana Wind Project Makes This Project Happen With A High Likelihood Of Actual Deliveries Of Renewable Energy By December 31, 2011.

DRA and TURN acknowledge that the Commission has encouraged utilities to more aggressively pursue ownership of renewable generation but they question if utility ownership of the Manzana Wind Project yields sufficient benefits for customers given the potential ownership risks associated with the Project. They state that a renewable PPA typically allocates some of these risks to the developer and that this presents a basis for rejection of the Project.^{173/} PG&E believes that it makes little sense to compare the Manzana Wind Project to a hypothetical PPA for the Project that does not exist. PG&E simply does not have the choice between the Manzana Wind Project owned by PG&E on a cost of service basis and a Manzana Wind Project sold to PG&E under a PPA. Iberdrola Renewables made its decision to sell the Project and that is the only transaction available for consideration.

So the question this Application presents is more straightforward: What are the benefits of PG&E ownership of this particular project? PG&E submits that the benefits are tangible and substantial.

First, PG&E ownership makes the Project happen by the end of 2011. Iberdrola Renewables decided that it did not want to proceed with the Project under a PPA and offered to sell it to PG&E. While its motives are not public knowledge, PG&E knows the reasons Iberdrola Renewables gave PG&E for selling the Project: Redacted

Redacted

^{173/} TURN Opening Brief, at pp. 20-21; DRA Opening Brief, at p. 71.

Redacted

^{174/}

PG&E has the financial strength to access the capital markets to finance the Project as well as the tax appetite to take full advantage of the substantial federal tax incentives.^{175/} The Commission has recognized that one clear benefit of utility ownership of renewables is that “utilities, like PG&E, can bring additional financial resources to bear on a market that has faced an increasingly challenging financial climate.”^{176/}

PG&E brings more to the table than its financial strength. For example, PG&E has been able to leverage its expertise in developing transmission facilities by arranging for PG&E, rather than the developer, to develop and construct the generation-tie interconnection facilities for the Project on a cost of service basis. PG&E has also

Redacted

Redacted

Redacted

^{177/}

PG&E ownership of the Manzana Wind Project enables the Project to come on-line by December 2011 when it will account for 0.8 percent of PG&E’s 2010 RPS goal and will contribute significantly toward meeting California’s 20 percent RPS mandate under flexible compliance. The Project would not be part of PG&E’s RPS portfolio under this timeframe without PG&E ownership of the Project. One can speculate about what Iberdrola Renewables might do if the Application is rejected, but the truth is no one knows when the Project would be developed, if at all, who the output would be sold to and what the prevailing market price would be at that time. Utility ownership of the Manzana Wind Project makes it possible for a highly

^{174/} Tr., at pp. 179-189 (Lewis, PG&E); Ex. 202-C.

^{175/} There is no evidence that any other buyer could have stepped forward to purchase the Project in this timeframe.

^{176/} D.10-04-052, at p. 18.

^{177/} Exs. 9-C and 10, at p. 17, lines 13-31; Tr., at p. 113, lines 8-11, 15-25 (Lewis, PG&E).

viable, cost-competitive wind project to be on-line as soon as possible and faster than any other speculative and uncertain non-utility alternative. It is state policy that the highest priority be given to those renewable resources that can be developed most quickly.^{178/}

Finally, the Commission has recognized that utility ownership “can put downward pressure on what are otherwise increasing renewable energy prices.”^{179/} The Manzana Wind Project is cost-competitive as compared to other renewable energy alternatives on PG&E’s 2009 RPS RFO shortlist and has a net market value that is better than Redacted 30 shortlisted long-term projects.^{180/} Approval of the Manzana Wind Project allows PG&E to avoid other more expensive, lower value renewable projects and will further the objective of putting downward pressure on renewable energy prices.

B. The Manzana Wind Project Was Submitted, Evaluated And Selected Pursuant To A Competitive RPS RFO Process. There Is No Basis For Rejecting The Application For Failure To Show That A RFO Was “Infeasible.”

DRA takes the position that that Commission should reject the Manzana Wind Project Application “on legal grounds” because it asserts that PG&E has not complied with the Commission’s requirement to hold a competitive RFO or make a showing that holding a competitive RFO is infeasible.^{181/} DRA’s argument misconstrues the facts and misapplies Commission precedent on this issue.

1. The Manzana Wind Project Was Submitted In The RPS RFO And Was Evaluated Consistent With RFO Protocols And Applicable Commission Decisions.

DRA misrepresents PG&E’s position in its brief when it states “PG&E does not dispute

^{178/} D.10-04-052, at p. 14, citing Executive Order S-21-09.

^{179/} *Id.* at p. 18.

^{180/} Exs. 9-C and 10, at p. 8, lines 18-19.

^{181/} DRA Opening Brief, at p. 66.

that it failed to hold a competitive solicitation” for the project.^{182/} PG&E’s position is that the Manzana Wind Project was in fact selected in a competitive solicitation and was evaluated and selected fully in accordance with RFO protocols and applicable Commission decisions.

The Manzana Wind Project was bid to PG&E in the 2005 RPS competitive solicitation and it was negotiated, evaluated, and benchmarked to other contemporaneous renewable project agreements and offers, vetted with and monitored by the IE and PRG, and ultimately selected and submitted to the Commission for its review in a manner consistent with any other renewable project submitted in an RPS RFO. This fully satisfies Commission requirements applicable to renewable UOG.

The evidentiary record is clear that the Manzana Wind Project was bid in the 2005 RPS RFO. In its decision authorizing the 2005 RPS RFO, the Commission specifically authorized PG&E to accept bids for utility ownership of renewable projects in the 2005 LTRFO.^{183/} The Manzana Wind Project was bid into the 2005 RPS RFO, initially as a PPA. After periods of negotiation, after Redacted
Redacted, Iberdrola Renewables proposed to sell the Manzana Wind Project to PG&E in early 2009.^{184/} There is nothing in the bid protocol for the 2005 RPS RFO that precluded PG&E from evaluating bid offer variations or alternatives for short-listed projects, including an ownership bid variation. PG&E agreed to negotiate with Iberdrola Renewables on the utility ownership proposal and it re-engaged Sedway Consulting, who was the IE for the 2005 RPS RFO, to review the Manzana Project. Sedway Consulting monitored the negotiation process, attended the majority of the negotiation sessions, participated in conference calls, and reviewed contract

^{182/} *Id.* at p. 68.

^{183/} D.05-07-039, at p. 2; Ordering Paragraph 2, at p. 41. The Commission also required PG&E to use an independent evaluator to evaluate utility ownership bids in the 2005 RPS solicitation.

^{184/} Exs. 1-C and 2, at p. 2-5, lines 16-17.

redlines and other e-mail communications.^{185/} PG&E began discussions with the PRG regarding the Project as an ownership opportunity on May 15, 2009 and conferred with the PRG again on June 12, August 14 and September 11, 2009.^{186/} PG&E evaluated the Project using the “least cost, best fit” evaluation criteria that it uses to evaluate offers in its RPS RFOs.^{187/} PG&E compared the Manzana Wind Project offer to all of the long-term renewable power PPAs it had executed and submitted to the Commission in the past 12 months and the shortlisted bids for long term contracts it had received in its 2009 RPS RFO. This benchmarking process provides a robust sampling of the costs and net market values of renewable energy projects available for PG&E to purchase from.^{188/} PG&E used the same process to evaluate the Manzana Wind Project ownership offer as it uses to evaluate other RPS RFO bids pending from prior year solicitations.

The Manzana Wind Project was thus submitted in a competitive RPS solicitation and was reviewed consistent with solicitation protocols and Commission requirements. The Project was not, as alleged by DRA, submitted to the Commission outside a competitive solicitation process.

2. The Manzana Wind Project Is A Third Party PSA Proposal For A Renewable Project That Is Not Subject To The Requirements For Conventional Generation “Utility Build” Proposals.

In D.07-12-052 the Commission articulated rules for consideration of UOG that is “outside the RFO process.” The Commission ruled that if a utility pursues UOG outside a competitive RFO, it must make a showing that a competitive RFO is infeasible. The Commission ruled that “preferred resources,” including renewables, may be pursued by a utility outside of a competitive solicitation.^{189/}

It is important to clarify the applicability of this decision in a number of respects. First,

^{185/} *Id.* at p. 3-9, lines 22-33.

^{186/} *Id.* at p. 3-10, lines 17-20.

^{187/} *Id.* at p. 3-1, lines 12-33.

^{188/} Exs. 9-C and 10, at p. 2, line 24 to p. 3, line 6.

^{189/} D.07-12-052, at pp. 211-12.

as shown above, the Manzana Wind Project was not pursued outside the RPS RFO process. Therefore, the requirements in the decision applicable to evaluation of UOG proposals outside of a competitive solicitation are not applicable.

Second, if the Commission were to determine that the Manzana Wind Project was submitted outside a competitive solicitation, the Commission has ruled that the requirements in D.07-12-052 are “focused on utility ownership of conventional generation resources” (emphasis added) and is non-precedential for renewable resources:

The Commission recognizes that there are additional factors associated with utility ownership of renewable and other loading order or non-conventional resources that have not been fully vetted in this proceeding. The appropriate treatment of UOG for accomplishing resource-specific policy goals will be identified within the appropriate proceedings, and the treatment of utility ownership of conventional generation in this LTPP decision does not prejudice those proceedings in any manner.^{190/}

In the renewable area, there have been two applications filed for utility-owned generation of solar photovoltaic (“PV”) facilities by PG&E and SCE. In those proceedings, the Commission did not require the utilities to demonstrate as a threshold matter that a competitive solicitation was infeasible for the UOG projects or otherwise apply the UOG requirements in D.07-12-052.^{191/} The resource-specific Commission precedent for utility-owned renewables generation has thus followed a different policy path.

Third, in D.07-12-052, the Commission specifically approved submittal of third party PSA and Engineering, Procurement and Construction (“EPC”) bids for UOG in conventional generation solicitations. The policy concern in the decision was with “utility-built” UOG

^{190/} *Id.* at p. 197, fn. 233.

^{191/} *See* D.10-04-052 (PG&E PV Program) and D.08-02-008 (SCE PV Program). Under these programs the utilities will hold a competitive procurement solicitation for the PV panels and construction and installation services.

proposals where the project and associated bid originate from the utility.^{192/} For this reason, the Commission temporarily prohibited submission of utility-built UOG bids in the Long-Term RFO until fairness of the RFO process could be reviewed in a future Long-Term RFO proceeding but it expressly allowed head to head competition between PPAs and third party submitted PSA and EPC bids.^{193/} This is further reason to find the requirements in D.07-12-052 inapplicable to the Manzana Wind Project given that it is a third party PSA proposal that was submitted in the RPS solicitation and was subject to the same robust bid evaluation mechanisms and PRG and IE oversight as were mentioned in D.07-12-052.

Finally, there is a fundamental flaw with DRA's position that a competitive solicitation was required or that PG&E was required to show that such a process was infeasible. What exactly would DRA have PG&E do with respect to the Manzana Wind Project to implement DRA's vision of the competitive bid requirement that has not already been done? Does DRA mean that PG&E should put out a renewables RFO that asks for PPA and PSA bids for a utility owned project that could be compared to the Manzana Wind Project? If so, PG&E held an RPS RFO in 2005 and again in 2006, 2007, 2008 and 2009 and the relevant results are compared to the Manzana Wind Project in PG&E's comparator group analysis.^{194/} Does DRA suggest that PG&E should have required Iberdrola Renewables to resubmit its bid in the 2009 RPS RFO? Such a requirement would merely have been a formality since PG&E had already shortlisted the

^{192/} DRA refers to the CPUC Tesla Decision (D.08-11-004) in support of its position that PG&E must prove that holding a competitive RFO is infeasible. DRA Opening Brief, p. 69. The Tesla Project was a "utility build" proposal for conventional generation to be developed by PG&E, which was submitted outside a competitive solicitation process. The Tesla Decision reaffirms that the Commission's primary policy concern was with utility-build proposals, not third party PSA bids.

^{193/} D.07-12-052, at p. 206; D.08-11-008, at pp. 18-19.

^{194/} DRA states in its Opening Brief that PG&E "has not articulated any facts that suggest it was infeasible for PG&E to hold a competitive solicitation for turnkey development of a wind facility." DRA Opening Brief, at p. 68. PG&E in fact did invite turnkey bids for utility ownership renewable projects in its 2005, 2006, 2007, 2008 and 2009 RPS RFOs and, as DRA concedes, [Redacted]

[Redacted]. This demonstrates that PG&E has indeed conducted a competitive solicitation for projects and that alternatives to the Manzana Wind Project have been solicited and evaluated.

Project and resubmission in the 2009 RPS RFO would not have changed how PG&E has negotiated or analyzed the transaction or modified how it would have coordinated with an IE or the PRG. DRA's "competitive bid" position is simply not capable of further implementation as applied to Iberdrola Renewables' third party PSA proposal for the Manzana Wind Project.

3. Holding An Additional RFO For The Manzana Wind Project Was Infeasible Under The Criteria Adopted In The Fuel Cell Decision.

To the extent that the Commission concludes that the requirements of D.07-12-052 apply to the Manzana Wind Project (as a "preferred resource") and that PG&E is required to demonstrate that a competitive solicitation was infeasible, PG&E believes that there is ample evidence in the record to support such a finding. In the Fuel Cell decision, the Commission found that a competitive solicitation was infeasible for a preferred UOG resource due to the unique partnership between the utilities and site owner (the state universities and the California Department of General Services) and to "require third-party ownership by an unknown third-party would essentially kill the projects."^{195/} The Commission thus adopted a pragmatic view of the "infeasibility" requirement for preferred resources in the Fuel Cell decision and decided that it was "infeasible" to hold a competitive solicitation if no policy purpose would be furthered in merely going through the exercise.

In this case, holding an additional competitive solicitation: (1) would not have worked for the Manzana Wind Project due to the 12 to 18 month delay associated with such additional process and the need to have the Project on line prior to December 31, 2012 to qualify for federal tax incentives; and (2) would have resulted in no new additional information or effective competitive data to test the Project since PG&E already had its 2009 RPS RFO in process (which had already requested turnkey proposals for renewable projects).

^{195/} D.10-04-028, at pp. 27-28.

C. It Is Not Relevant To Make Comparisons Of The Project To A Nonexistent Hypothetical PPA.

DRA and TURN assert that the Manzana Wind Project Application exposes customers to risks under cost of service ratemaking that customers would not be exposed to under a PPA.

These are empty arguments.

TURN presented an analysis that attempted to estimate the cost of the Manzana Wind Project under a hypothetical PPA structure. In the analysis, TURN's witness assumed that the hypothetical developer under the PPA would flow through 100 percent of the investment tax credit savings to customers.^{196/} PG&E did not rebut this analysis or conduct cross examination on it because the entire exercise was speculative and without probative value. The reality is that a developer will sell under a PPA at a market rate – the highest rate it can negotiate – and it will not pass through 100 percent of its tax benefits. TURN's simulated PPA calculation is fiction and it does not provide any insight as to whether the price PG&E negotiated with Iberdrola Renewables is cost-competitive as compared to other real world alternatives. In contrast, PG&E has provided ample evidence of the competitiveness of the Manzana Project against actual bids received from actual market participants in the renewable energy industry.

DRA and TURN want very much to create a hypothetical PPA stalking horse to which the Manzana Wind Project can be compared. However, there is no PPA for the Manzana Wind Project. This is not an option that is available for the Commission to approve in lieu of a cost of service based utility owned project. It makes no sense to compare risk allocation for cost increases under the Application to risk allocation for cost increases under a nonexistent, hypothetical PPA. General statements about risk allocation under PPAs are of dubious value because this issue is highly dependent on the terms and conditions of a PPA. For example,

^{196/} See TURN Opening Brief, at pp. 12-13.

contrary to the representations of DRA and TURN, the risk of project delay may be allocated to customers, not the developer, in a PPA depending upon how the force majeure clause defines events beyond the developer's control. Both DRA and TURN are quick to assert that PPAs offer greater risk protection to customers, yet they completely ignore that this is only dependent upon the terms and conditions a counterparty is able to extract under a PPA. Neither DRA nor TURN offers any evidence to suggest that a counterparty would willingly absorb risk without compensation.

Moreover, all three investor owned utilities have had to return to the Commission on a number of occasions to seek price amendments to RPS PPAs because the developer informed the utility that it could not complete the Project for the original PPA price.^{197/} It is naïve and completely unsupported by actual experience to suggest that renewable developers under a PPA will simply absorb all increased costs associated with extended permitting or transmission delays or if they are required to comply with new environmental or regulatory requirements. In such instances, the developer will likely seek price increases or simply fail to perform under the PPA.^{198/} TURN points out that utilities can always refuse to negotiate price increases and any such amendments are subject to CPUC review and approval.^{199/} This is essentially no different than what PG&E has asked for under its Application, because in almost all contexts, PG&E would also be required to return to the Commission for subsequent approvals or reasonableness reviews if it wishes to increase its cost estimate.

In conclusion, it is simply not useful or helpful to attempt to compare the Manzanita Wind Project to what might have occurred under a non-existent, hypothetical PPA that has not been offered let alone negotiated to conclusion. The Manzanita Wind Project, and all its associated

^{197/} Exs. 9-C and 10, at p. 10, lines 20-23.

^{198/} *Id.* at p. 5, lines 3-9.

^{199/} TURN Opening Brief, at p. 21.

risks and benefits, must be compared to other real world renewable energy alternatives that are available to PG&E to pursue.

D. The IE Report Is Adequate.

DRA asserts that the Manzana Wind Project Application should be rejected because the IE report is inadequate. DRA states that the IE: (1) should have included an assessment of whether PG&E fairly conducted the solicitation involving the Manzana Wind Project; and (2) improperly included [Redacted] in its comparison of PPAs and UOG options.^{200/}

On the first issue, the IE included in its report an assessment of the Manzana Wind Project transaction and summary of negotiation details and found that the transaction was cost-effective and should be approved. The report clearly states that Sedway Consulting “monitored much of the Manzana negotiation process – attending negotiation sessions, participating in conference calls, and reviewing redlined contracts and other email communications.”^{201/} Sedway also performed an independent, parallel quantitative evaluation of the Manzana transaction.^{202/} Although some discussions had already occurred prior to the IE’s engagement, the report states that PG&E provided sufficient background materials for Sedway Consulting to come up to speed quickly and it was able to participate in the subsequent negotiations that represented the “overwhelming majority of the discussions that culminated in the executed transaction.”^{203/}

Based upon its extensive review and oversight of the negotiations and its independent financial assessment, the IE concluded in the confidential report that [Redacted]

[Redacted]

^{200/} DRA Opening Brief, at pp. 72-73.
^{201/} Exs. 1-C and 2, Appendix 3.1, at p. 2.
^{202/} *Ibid.*
^{203/} Exs. 1-C and 2, Appendix 3.1, at p. 1.

Redacted

^{204/} While the IE report does not expressly state that the IE found the negotiations to be fairly conducted, such a finding is inherent in Sedway Consulting’s recommendation for approval of the transaction. One can hardly assume, as DRA would apparently like the Commission to do, that the IE would recommend approval of a project from an unfair process. Given its active involvement in the negotiations and independent assessment of PG&E’s evaluation, the IE would have mentioned if he had any reservations about the fairness of the negotiations or evaluation process.

DRA criticizes the IE report for failing to assess the overall fairness of the 2005 RPS RFO or the 2009 RPS RFO but, as the report points out, the IE did not believe that many of the transactions that resulted from the 2005 RFO were relevant since they had been executed several years ago.^{205/} Instead the IE chose to compare the Project to contemporaneous renewable energy transactions that had been recently executed and submitted to the Commission for approval. It was also neither possible nor relevant for the IE to review the 2009 RPS RFO process since a different IE has been hired to review the 2009 RPS RFO and that process is still on-going.^{206/} The fairness of the process that culminated in the 20 benchmark transactions used by the IE has already been addressed in the advice letters submitted to the Commission for those projects.

On DRA’s second issue, it is correct that the IE included Redacted in his economic analysis.^{207/} The IE states that Redacted

Redacted^{208/} While the Commission has directed utilities not to consider Redacted in their head to head evaluations and comparisons of UOG and PPA projects, the Commission has not similarly

^{204/} Ex. 1-C, Appendix 3.2-C, at p. A-9.

^{205/} Exs. 1-C and 2, Appendix 3.1, at p. 2.

^{206/} There have been advice letter filings for renewable projects selected in the 2009 RPS RFO which include an IE report that makes the requisite finding on the fairness of the RFO.

^{207/} PG&E did not use a Redacted in its economic analysis.

^{208/} Ex. 1-C, Appendix 3.2-C, at p. A-1.

constrained the IE.^{209/} The purpose of the IE review is to ensure that there is an independent, non-biased evaluation of a proposed transaction and appropriate monitoring and oversight of negotiations. The IE has provided his assessment in its best professional judgment and the Commission is free to disregard or place less emphasis on portions of the analysis if it chooses to do so. PG&E points out that the Commission may easily disregard the adjustment for [Redacted] [Redacted] in the IE report as it is clearly called out in a separate column on Table A-2 of the Confidential IE Report.

In sum, the IE report assesses the adequacy of the Manzana transaction negotiations and conducts an independent financial analysis of the Project's net market value as compared to a robust sample of recent long-term RPS transactions. The two inadequacies in the report alleged by DRA are insignificant at best and do not warrant rejection of the entire Manzana Wind Project Application.

IV. THERE IS NO REASONABLE BASIS TO REQUIRE PG&E TO EXPENSE A CAPITAL COST ITEM OR REDUCE ITS PROJECT CONTINGENCY.

DRA recommends that if the Commission approves PG&E's Application, it should reduce PG&E's proposed capital costs as follows: (1) reduce the Project contingency by approximately [Redacted] or to [Redacted] of total Project costs; and (2) treat the [Redacted] [Redacted] payment for [Redacted] [Redacted] as an expense amortized over three years rather than as an item included in the Project's initial capital cost.^{210/} In this section of the Reply Brief, PG&E demonstrates that there is no reasonable basis to adopt DRA's proposals to reduce the Project's capital costs.

^{209/} PG&E points out that DRA never expressed concern about the adequacy of the IE report until its Opening Brief or suggested that the Application should be rejected on these grounds.

^{210/} DRA Opening Brief, at pp. 11, 15.

A. PG&E's [Redacted] Project Contingency Reasonably Accounts For Cost Uncertainty For Project Elements For Which PG&E May Face Supplemental Costs And Is Consistent With Recent Commission-Adopted Capital Contingencies For Other PG&E UOG Projects.

PG&E has included in its initial capital cost estimate a Project contingency of [Redacted] [Redacted] equal to approximately [Redacted] of the total Project costs, which was developed by applying a [Redacted] contingency factor to three categories where PG&E faces supplemental cost responsibility: (1) PSA/Project Completion Agreement (“PCA”) supplemental costs; (2) transmission interconnection costs; and (3) PG&E costs.^{211/} DRA argues that PG&E’s Project contingency should be reduced by approximately [Redacted] to approximately [Redacted] or [Redacted] of total Project costs.^{212/} DRA asserts the following in support of this proposed reduction: (1) PG&E’s proposed contingency may be duplicative of costs included in the PSA/PCA costs by Iberdrola Renewables (i.e., Iberdrola Renewables’ contingency); (2) it is questionable whether contingency should be based on the total PSA/PCA costs, or just a subset of those costs for which PG&E may face supplemental cost responsibility; and (3) the contingency should not be based on an amount that includes profit for Iberdrola Renewables.^{213/} DRA approach reflects, and DRA specifically advocates, a function by function refinement of the Project contingency.^{214/}

PG&E addressed DRA’s arguments on pages 69 to 74 of its Opening Brief, and has demonstrated the reasonableness of its proposed capital cost contingency. Specifically, PG&E explained that:

- PG&E’s proposed contingency is consistent with, and is in fact lower than, capital contingencies recently adopted by the Commission for other PG&E UOG projects. These include the contingency factor adopted for the Humboldt Bay Generating Station (5 percent), which is most analogous to the Manzana Wind

^{211/} Exs. 1-C and 2, at pp. 5-6 to 5-8.

^{212/} DRA Opening Brief, at p. 15.

^{213/} *Id.* at p. 12.

^{214/} *Id.* at pp. 14-15.

Project, and the contingency factor adopted for PG&E's renewable solar PV program (10 percent).^{215/}

- It is industry practice to adopt a single contingency applicable to all capital costs, rather than perform a function by function, contract term by contract term evaluation of potential risks that could result in increased costs, as DRA proposes. A function by function approach is unreasonable given the broad scope of this large-scale capital project, and the many high-risk, low-risk and medium-risk activities and contract terms under the PSA/PCA, Gen-tie and PG&E cost categories where the need for contingency could arise.^{216/}
- Any contingency that Iberdrola Renewables may have included in the PSA/PCA costs is irrelevant. PG&E's contingency is based on potential additional costs for which PG&E is responsible; any contingency Iberdrola Renewables included for costs for which it, and not PG&E, is responsible are irrelevant. The Commission has also determined that the issue of Iberdrola Renewables' costs and returns are outside the scope of this proceeding.^{217/}

For these reasons, the Commission should not adopt DRA's proposal to reduce PG&E's proposed Project contingency.

B. The [Redacted] Payment Is Part Of The Acquisition Cost Of The Project And Is Properly Capitalized.

PG&E opposes DRA's recommendation to expense the [Redacted] payment. For the reasons set forth in Section V.B.1. of PG&E's Opening Brief, this payment is part of the acquisition cost of the Project and is properly capitalized under the accounting rules. DRA fails to provide any credible evidence to contradict the testimony of PG&E's ratemaking and capital accounting expert that the payment should be treated no differently than any other Project acquisition cost. In fact, DRA's argument is premised almost entirely on a mischaracterization of the [Redacted] payment.

DRA asserts that PG&E has the [Redacted]

[Redacted]

^{215/} PG&E Opening Brief, at pp. 70-72.

^{216/} *Id.* at pp. 72-73.

^{217/} *Id.* at pp. 73-74.

Redacted ^{218/} Based on this Redacted

Redacted

Redacted ^{219/} DRA misstates PG&E's Redacted

Redacted

Redacted PG&E does not have the Redacted

Redacted The Redacted payment is part of the Redacted

Redacted ^{220/} One of the Redacted

Redacted

Redacted ^{221/} The

lump-sum payment is a fixed component of the transaction. DRA's proposal to expense this payment due to Redacted has no factual basis and should be rejected.

DRA also claims that PG&E has not presented any evidence to support the reasonableness of making a Redacted payment Redacted

Redacted ^{222/} In fact, PG&E has presented substantial evidence demonstrating the reasonableness of this payment. Under the original form of the Redacted

Redacted ^{223/} Thus, there

was a Redacted

Redacted The lump-sum

^{218/} DRA Opening Brief, at pp. 16, 17.

^{219/} *Id.* at pp. 17-18.

^{220/} Ex. 1-C, Confidential Appendix 2.1-C, PSA Section 2.4(d).

^{221/} *Id.* at PSA Section 11.1(o).

^{222/} DRA Opening Brief, at p. 16.

^{223/} Exs. 9-C and 10, at p. 40.

payment provides the very tangible benefit to customers of [Redacted]

[Redacted] It also provides the additional benefit of making an uncertain payment stream certain and discounting it to the present.

Finally, DRA assumes that if PG&E had not monetized the [Redacted] obligation as a lump-sum payment and had instead [Redacted], the payments over time would have been expensed rather than capitalized.^{224/} DRA further claims that PG&E does not

dispute [Redacted] ^{225/} To the

contrary, PG&E's view is that payments to [Redacted]

[Redacted] whether paid in a lump-sum or over time, are properly reflected in the

Project's capital cost.^{226/}

V. PG&E'S THREE-YEAR FORECAST OF O&M EXPENSE FOR THE PROJECT IS REASONABLE AND SHOULD NOT BE ADJUSTED TO REDUCE STAFFING OR CONTINGENCY.

PG&E's Application seeks approval of its reasonable O&M forecast for the first three years of the Project following commercial operations.^{227/} DRA recommends the following

changes related to PG&E's O&M forecast: (1) a reduction of one wind technician; (2) a

reduction in the contingency factor for Balance of Plant from [Redacted] to [Redacted] and a

reduction in the contingency factor for Service Agreement from [Redacted] to [Redacted]; and

(3) placing any O&M contingency in a one-way balancing account.^{228/}

PG&E addressed DRA's O&M recommendations in its Opening Brief. In summary,

DRA's proposals are unreasonable and should not be adopted because:

^{224/} DRA Opening Brief, at pp. 16-17.

^{225/} *Ibid.*

^{226/} PG&E Opening Brief at pp. 68-69. DRA's claim that PG&E [Redacted] provides no basis for treating this item as an expense. DRA Opening Brief, at p. 17. The spreadsheet to which DRA cites clearly reflects PG&E's [Redacted] as a cost to acquire the Project, like all other payments to Iberdrola Renewables, and not as an expense. See Ex. 101-C, Ex. NN, at pp. 2-3.

^{227/} Exs. 1-C and 2, at p. 6-1, lines 29-30.

^{228/} DRA Opening Brief, at pp. 22-24.

- PG&E concluded, based on its review of benchmark data and an assessment of actual work activities, that ^{Re} wind technicians are needed on-site. DRA's proposal to reduce wind technicians to ^{Re} simply chooses the lowest benchmarked number without consideration of the plant design and work scope required at the Project site. DRA has not presented any evidence that contradicts PG&E's expert testimony that reducing staffing, particularly in the first year of operations, increases the risk that the Project will not perform as well as it could have, and that it would be imprudent to try to operate the Project with inadequate staffing.^{229/}
- PG&E's proposed ^{Redacted} overall O&M contingency is significantly lower than contingency factors recently adopted by the Commission for other UOG projects, including 15 percent for the Gateway, Colusa, and Humboldt Bay projects and 10 percent for PG&E's PV program.^{230/}
- The exceptional treatment of a one-way balancing account is not warranted given that the proposed O&M contingency for the Manzanita Wind Project is substantially lower than recently-adopted O&M contingencies, and given the relatively small amount of proposed O&M contingency relative to the Project's total capital costs and annual revenue requirement.^{231/}
- PG&E has provided substantial evidence to support the reasonableness of its O&M contingency proposals for Balance of Plant (based on the site-specific circumstances that may drive higher balance of plant maintenance costs) and Service Agreement (based on cost uncertainty associated with not yet having an executed service agreement with General Electric that is tailored to specific Project needs). The proposed contingency factors for these elements are reasonable given PG&E's conservative mid-range forecast of O&M costs.^{232/}

Although DRA continues to claim that PG&E has not provided sufficient evidence to support its Balance of Plant and Service Agreement contingency factors,^{233/} DRA has not offered any specific evidence to contradict PG&E's professional judgment that these factors are reasonable, or to demonstrate that the ^{Redacted} contingency factor that it proposes would be sufficient. The Commission should not adopt DRA's proposals to reduce staffing and O&M contingency, and to place O&M contingency in a one-way balancing account.

^{229/} PG&E Opening Brief, at p. 77.

^{230/} *Id.* at pp. 81-82.

^{231/} *Id.* at pp. 82, 83-84.

^{232/} *Id.* at pp. 82-83.

^{233/} DRA Opening Brief, at p. 25.

VI. IT IS REASONABLE TO SEEK ADJUSTMENTS TO THE INITIAL REVENUE REQUIREMENT THROUGH AN EXPEDITED ADVICE LETTER PROCESS FOR OPERATIONAL ENHANCEMENTS, CHANGES IN LAW OR FACTORS BEYOND PG&E’S CONTROL, AND INCREASED PCA COSTS DUE TO A WHIRLWIND SUBSTATION DELAY.

DRA opposes PG&E’s proposal to seek adjustments to the initial revenue requirement through an expedited advice letter process for: (1) operational enhancements to the Project; (2) changes in law or factors beyond PG&E’s control; and (3) increased PCA costs due to a Whirlwind Substation delay.^{234/} Instead, DRA recommends that the Commission review such requests through the application process.^{235/}

PG&E addressed DRA’s arguments regarding the use an expedited advice letter process for operational enhancements and changes in law or factors beyond PG&E’s control on pages 94 to 97 of its Opening Brief. Under both circumstances, PG&E demonstrated the reasonableness of this approach. For operational enhancements during construction that have a short fuse, quick decisions regarding whether to proceed will be necessary, and there will not be sufficient time to seek approval through an application.^{236/} DRA’s concern that the costs of certain operational enhancements could be significant and merit further review^{237/} does not preclude use of the expedited advice letter process. If a party opposes the advice letter request on the grounds that the particular enhancement should be subject to additional scrutiny, the Commission may deny the request and require that an application be filed.^{238/} However, the advice letter process will also provide an expeditious means for noncontroversial enhancements to be implemented.^{239/} DRA expresses a similar concern with advice letter requests for cost increase revisions due to change in law or factors beyond PG&E’s control, arguing that there is no record to determine the

^{234/} *Id.* at pp. 19-21.

^{235/} *Ibid.*

^{236/} PG&E Opening Brief, at p. 95.

^{237/} DRA Opening Brief, at p. 19.

^{238/} PG&E Opening Brief, at p. 95.

^{239/} *Id.* at pp. 95-96.

reasonableness of such additional costs and the magnitude of such costs is uncertain at this time.^{240/} As with operational enhancements, however, PG&E is merely requesting a procedural mechanism for expedited review, not automatic adjustments to the revenue requirement.^{241/} The advice letter process will allow noncontroversial adjustments to be made, while preserving the potential for additional scrutiny through an application.^{242/}

With respect to requests for adjustments due to increased PCA costs resulting from a Whirlwind Substation delay, DRA fails to offer any evidence that supports the use of an application over an expedited advice letter. Although DRA states that use of an application is consistent with Commission decisions, it cites only to Resolution E-4199, and asserts that use of an application would require PG&E to take on similar risks as an independent power producer seeking a price amendment who must satisfy the requirements set forth in Resolution E-4199.^{243/} Resolution E-4199 does not, however, require use of an application to request price amendments to Commission-approved PPAs, and explicitly recognizes the use of an advice letter for that purpose.^{244/} And, in fact, the utilities have used the advice letter process to seek price amendments.^{245/} As with operational enhancements and changes in law or factors beyond PG&E's control, it makes sense to use an expedited advice letter process rather than an application for review of revisions to the revenue requirement for increased PCA costs. This process will allow noncontroversial revisions to be made expeditiously, but does not foreclose review of more controversial requests through an application.

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^{240/} DRA Opening Brief, at p. 20.

^{241/} PG&E Opening Brief, at p. 96.

^{242/} *Ibid.*

^{243/} DRA Opening Brief, at p. 19.

^{244/} Resolution E-4199, at p. 27, Ordering Paragraphs 2, 4-6, 8.

^{245/} *See e.g.*, San Diego Gas and Electric Company Advice Letter 2089-E; PG&E Advice Letter 3514-E.

VII. IT IS REASONABLE TO RECOVER DECOMMISSIONING COSTS OVER THE PROJECT'S FULL USEFUL LIFE

PG&E proposes to include an annual decommissioning accrual of approximately Redacted in the Project's initial revenue requirement.^{246/} In Confidential Appendix D of PG&E's rebuttal testimony, PG&E provided a schedule of decommissioning costs that establishes the basis for and reasonableness of the decommissioning cost estimates used in the initial revenue requirement. Nevertheless, DRA recommends that PG&E's recovery of decommissioning costs be delayed until PG&E provides additional information to support the reasonableness of the estimated decommissioning costs and to indicate the likelihood that the Project will actually need to be decommissioned and the site restored.^{247/} PG&E addressed DRA's arguments on pages 97 to 98 of its Opening Brief and demonstrated the reasonableness of recovering decommissioning costs over the Project's full useful life.

First, PG&E explained that it has provided a detailed schedule of decommissioning costs that demonstrates the reasonableness of the estimate.^{248/} Mr. O'Flanagan testified that this schedule was provided by PG&E's engineers, and also explained how PG&E calculated the labor rates that were used in the estimate.^{249/} Thus, DRA's claim that PG&E has not offered any information to support the labor or equipment figures in the decommissioning costs^{250/} forecast is not well-founded. PG&E has provided sufficient information to demonstrate the reasonableness of PG&E's decommissioning cost estimate for the Project.

^{246/} Exs. 7-C and 8, at clean replacement p. 7-9, Table 7-1, line 15.

^{247/} DRA Opening Brief, at p. 26.

^{248/} PG&E Opening Brief, at p. 97.

^{249/} Tr., at p. 301, line 11 to p. 302, line 16 (O'Flanagan, PG&E).

^{250/} DRA Opening Brief, at p. 26. DRA also claims that PG&E failed to meaningfully respond to DRA and TURN's data requests on decommissioning. DRA Opening Brief, at p. 27. As explained above, PG&E provided a detailed schedule of decommissioning costs in response to these data requests. Moreover, DRA received this schedule on March 3, 2010, and thus had ample time to request additional information to the extent it felt that PG&E's response was inadequate – it did not. *See* Ex. 9-C, Confidential Appendix D (indicating that the decommissioning schedule was sent to TURN on March 3, 2010; DRA received a copy on the same day) and p. 49, lines 1-3.

Second, in response to DRA’s claim that PG&E has not indicated the likelihood of the need for decommissioning and site restoration, PG&E explained that: (1) despite uncertainty about the timing of decommissioning, the Commission has included decommissioning accruals in generation revenues for other plants; (2) it has been the historical practice to use the expected end of the plant service life as the expected decommissioning date for non-nuclear units; and (3) as non-nuclear decommissioning estimates are updated in every General Rate Case, the Project’s decommissioning accrual can be adjusted if and when it becomes known that its life will be extended.^{251/} Thus, it is unreasonable to exclude decommissioning accruals from the Project’s revenue requirement based on the mere possibility that the plant’s life will be extended.

Finally, PG&E explained that under the concept of intergeneration equity, decommissioning costs should begin accruing from year one of Project operations so that customers who benefit from the Project’s generation in early years bear their fair share of decommissioning costs.^{252/} DRA argues that recovery of decommissioning costs should be delayed because the Project’s levelized cost of energy is Redacted, and does not include decommissioning costs.^{253/} In fact, the Project’s forecast levelized cost of energy does include decommissioning costs,^{254/} and, as explained in Section II.B. of this Reply Brief, is highly competitive with recent and current alternatives to PG&E for renewable power.

VIII. THE PROJECT REMAINS COST-COMPETITIVE EVEN IF DELAYED. IT IS THEREFORE REASONABLE TO APPROVE RECOVERY OF DELAY COSTS.

DRA and TURN object to PG&E’s proposed rate recovery mechanism for delay costs.^{255/}

^{251/} PG&E Opening Brief, at pp. 97-98.

^{252/} *Id.* at p. 98.

^{253/} DRA Opening Brief, at p. 27.

^{254/} Ex. 4-C, at pp. WP 7-17 to WP 7-19, line 15.

^{255/} As discussed in PG&E’s Opening Brief (pages 98-103), the primary risk addressed by this ratemaking mechanism is the potential delay of completion of the Whirlwind Substation by SCE, which is necessary to interconnect the Project to the electric grid. Delay costs are primarily driven by the monthly carrying costs, referred to as Allowance For Funds Used During Construction (“AFUDC”), applicable to the progress payments that PG&E will make to Iberdrola Renewables under the PSA/PCA. PG&E requests that it be

Both parties assert that delays are inevitable (an assertion that PG&E strongly disagrees with)^{256/} and that PG&E's request for recovery of delay costs is unreasonable.^{257/} DRA would authorize recovery of delay costs at the commercial paper rate rather than PG&E's authorized cost of capital.^{258/} TURN supports DRA's proposal if the Commission rejects its performance proposal.^{259/}

The DRA and TURN arguments essentially boil down to two fundamental issues: (1) Does recovery of delay costs make the Project non-cost competitive; and (2) Is recovery of delay costs for the Manzana Wind Project imprudent and unreasonable and should therefore be disallowed?

A. The Project Remains Cost-Competitive Even If Delayed.

TURN and DRA assert that recovery of delay costs could at some point make the Project non-cost competitive and, for this reason, PG&E's request for recovery of delay costs unreasonable.^{260/} DRA presents a number of delay scenarios in its Opening Brief. But, significantly, none of these scenarios suggest a delay greater than one year is possible. Most of DRA's analysis speculates about a [Redacted] month delay under what it calls a "conservative" delay estimate. Its more pessimistic cases speculate about the potential for a [Redacted] month delay.^{261/} PG&E believes it is appropriate to approve recovery of delay damages since substantial record evidence demonstrates that the delay costs for up to a one year period do not undermine the cost-competitiveness of the Project and because the record shows it is highly unlikely that Project delays will exceed one year.

allowed to increase its initial capital cost estimate by [Redacted] million for each month of delay in commercial operation. This results in a maximum revenue requirement increase of [Redacted] million per month, although this amount would be lower if actual delay costs are less than forecast.

^{256/} See PG&E Opening Brief, at pp. 29-35 and PG&E Reply Brief, at Section II.C.2.

^{257/} DRA Opening Brief, at pp. 35-36; TURN Opening Brief, at p. 6.

^{258/} DRA Opening Brief, at p. 35.

^{259/} TURN Opening Brief, at p. 7.

^{260/} DRA Opening Brief, at pp. 35-36; TURN Opening Brief, at p. 6.

^{261/} DRA Opening Brief, at pp. 32-33.

The problem with DRA's proposal to apply the commercial paper rate to the costs of all delays, even short term delays, is that it potentially causes a substantial disallowance of costs^{262/} when the Project is cost-competitive even with a delay. For example, if there is a one month delay from December 2011 to January 2012, this would increase the estimated initial capital cost of the Project from \$911 to approximately [Redacted] million which would have virtually no impact on the levelized cost of energy and net market value for the Project. Does a one month delay make the project unreasonable/non-cost competitive and warrant a disallowance of delay costs? The answer is clearly no. The best way to evaluate the reasonableness of PG&E's proposal is to evaluate the potential for plausible delays and the associated impacts on cost recovery.

Here is what is in the evidentiary record about cost impacts of potential plausible periods of delay:^{263/}

- * If the Project comes on line as expected on December 31, 2011, the levelized cost of energy is [Redacted] /MWh and the net market value is [Redacted] /MWh.
- * For a four month delay to April 15, 2012, the levelized cost of energy is [Redacted] /MWh and the net market value is [Redacted] /MWh.
- * For an eight month delay to August 15, 2012, the levelized cost of energy is [Redacted] /MWh and the net market value is [Redacted] /MWh.
- * For a twelve month delay to December 31, 2012, the levelized cost of energy is [Redacted] /MWh and the Net Market Value is [Redacted] /MWh.

All of these potential periods of delay clearly do not impact the cost competitiveness of

^{262/} Approximately 84 percent of delay costs would be disallowed under DRA's commercial paper rate proposal. Exs. 9-C and 10, at p. 20, lines 6-11.

^{263/} Exs. 214-C and 215-C, at Confidential Attachment 6.

the Project:^{264/}

- * If the Project comes on line as expected on December 31, 2011, the Project's net market value ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2, and the Project's levelized cost of energy ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2.
- * For a four month delay to April 15, 2012, the Project's net market value ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2, and the Project's levelized cost of energy ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2.
- * For an eight month delay to August 15, 2012, the Project's net market value ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2, and the Project's levelized cost of energy ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2.
- * For a twelve month delay to December 31, 2012, the Project's net market value ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2, and the Project's levelized cost of energy ranks [Redacted] for comparator group 1 and [Redacted] for comparator group 2.

The data in the evidentiary record clearly shows that a Project delay of up to one year – the longest plausible delay period – does not undermine the cost-competitiveness of the Project. In fact, even with a one year delay, the levelized cost of energy for the Manzana Wind Project is [Redacted] to the potential levelized cost of energy of the Vantage wind project, which is the

^{264/} The rankings are from Table 4-1 of Exhibits 1-C and 2 and Table 4-2 of Exhibits 7-C and 8. Comparator group 1 refers to the recently executed RPS PPAs shown on Table 4-1. Comparator group 2 refers to the 2009 RPS RFO shortlist projects shown on Table 4-2.

most recently approved RPS wind PPA for PG&E.^{265/}

Based on the record evidence of the plausible delay scenarios and the associated impacts on cost-competitiveness of the Project, PG&E's proposed rate recovery mechanism is reasonable and should be approved.

B. It Is Reasonable For PG&E To Recover Delay Costs For A Cost Of Service Project Since A Delay Of Whirlwind Substation Would Not Be Caused By PG&E's Imprudent Actions.

As a cost of service project subject to traditional ratemaking, PG&E has proposed to recover the forecast costs of the Manzana Wind Project. While PG&E expects the Project to be operational by December 2011, in developing its forecast of initial capital costs, PG&E has considered and accounted for the potential delay of Whirlwind Substation which will result in increased AFUDC costs. Is it certainly not unreasonable or unprecedented to recover delay costs in rates for a cost of service project – the Commission has authorized pre-approved recovery of delay damages for the Gateway Generating Station^{266/} and DRA admits that SCE will be entitled to recover in FERC rates any AFUDC costs it may incur associated with delay of Whirlwind Substation and the TRTP project in general.^{267/} PG&E cannot be accused of imprudently or unreasonably causing a potential delay in Whirlwind Substation since SCE is responsible for managing and constructing that transmission project.

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^{265/} Resolution E-4321.

^{266/} D.06-06-035, Appendix A, at p. 5.

^{267/} DRA Opening Brief, at p. 36.

IX. THE PROJECT IS COST-COMPETITIVE AT 189 MW AND 246 MW, AND PG&E HAS A [Redacted] [Redacted]. DRA AND TURN'S PROPOSALS RELATING TO PROJECT SIZE ARE THEREFORE UNREASONABLE AND SHOULD BE REJECTED.

A. Because PG&E Has A [Redacted] [Redacted] [Redacted] DRA's Proposed Reductions To Capital Costs And Revenue Requirement Are Unreasonable.

DRA opposes approval of the Project if it is not built out to the full 246 MW, and asserts that the Project is not cost-effective at 189 MW.^{268/} As PG&E has demonstrated in Sections III.E.3. and IX.B. of its Opening Brief and Section II.C.3. of this Reply Brief, however, the Project is cost-competitive even at 189 MW. DRA thus has no basis for opposing a smaller-sized project.

Alternatively, DRA recommends that the Commission should, unless PG&E definitely commits to [Redacted] require PG&E to further reduce its capital costs (beyond the [Redacted] per MW reduction that PG&E proposes in its Application) by [Redacted] ([Redacted] [Redacted] [Redacted] [Redacted] and remove from its revenue requirement lease payments for the land associated with undeveloped capacity above 189 MW.^{269/} DRA claims that PG&E's [Redacted] does not comply with Commission guidelines for Plant Held for Future Use ("PHFU"), which require that "[a]ll items in PHFU must have a specific plan for use."^{270/} These guidelines also state that "[a] specific plan implies that the utility knows exactly what the item is going to be used for."^{271/}

^{268/} *Id.* at p. 37.

^{269/} *Id.* at pp. 37, 38.

^{270/} DRA Opening Brief, at p. 38.

^{271/} D.87-12-066, 1987 Cal. PUC LEXIS 415, at Appendix B.

As PG&E explained in its Opening Brief, however, it does have a [Redacted]

[Redacted]

- [Redacted]

- [Redacted]

This is a specific plan for use that details exactly what the items will be used for, consistent with the PHFU guidelines cited by DRA. Moreover, in the event that [Redacted]

[Redacted]

[Redacted]

For these reasons, DRA's

recommendations to reduce the Project's capital cost and revenue requirement for a smaller project are unreasonable and should be rejected.

B. DRA's Proposal To Reduce Pre-Commercial Operations Costs For A Smaller Project Creates Greater Operational Risk And The Potential For Commissioning Delays.

DRA also recommends that if the final Project capacity is less than 246 MW, then the Project's pre-commercial operations costs should be reduced on a pro-rata basis in the manner in which the post-commercial operations costs are reduced for a smaller project.^{272/} In Section IX.D. of PG&E's Opening Brief, PG&E explained that it expects the final Project capacity to be 246 MW, that it is prudent to hire personnel sufficient to operate the expected 246 MW Project,

^{272/} PG&E Opening Brief, at p. 105.

^{273/} *Id.* at p. 39.

and that DRA's recommendation creates a greater operational risk that insufficient resources are available for commissioning the Project (which could lead to commissioning delays). For these reasons, the Commission should not adopt DRA's recommendation.

C. TURN's Recommendation To Condition Approval Of The Project On Renegotiation Of Contract Terms Is Unreasonable And Should Be Rejected.

TURN recommends that the Commission condition approval of the Manzanita Wind Project on renegotiation of contract terms relating to the 57 MW that will bring the Project to its full 246 MW size. Specifically, TURN proposes that the Commission [Redacted]

[Redacted]

[Redacted]^{274/} The Commission should not adopt TURN's recommendation because (1) the Project is cost-competitive inclusive of the contract terms to which TURN refers; (2) the Commission's role is to review renewable opportunities as they are presented for approval, not to negotiate renewable contracts; (3) it is unreasonable to expect Iberdrola Renewables to agree to TURN's proposal and conditioning approval on such an agreement could lead to termination of the Project; and (4) TURN's analysis regarding [Redacted] [Redacted] is faulty and unsupported.

First, PG&E has demonstrated that the Manzanita Wind Project, with the contractual provisions to which TURN objects, is cost-competitive with other recent and current alternatives for renewable power.^{275/} At a fundamental level, then, there is no reasonable basis for TURN's proposal or its claim that the provisions at issue are a [Redacted]^{276/}

^{274/} TURN Opening Brief, at p. 10.

^{275/} See PG&E Opening Brief, at Section III.A. and PG&E Reply Brief, at Section II.B.

^{276/} TURN Opening Brief, at p. 9. PG&E also notes that TURN's argument that the provisions addressing the 57 MW [Redacted]

[Redacted]

Second, it is not the Commission’s role to negotiate renewable contracts. The Commission must review the transaction as presented, and determine whether it is reasonable and cost-competitive as compared to other similar alternatives. While TURN cites to one example of PG&E renegotiating a non-renewable contract as support for its proposal (which is hardly, as TURN claims, “ample precedent” for renegotiation of existing contracts to promote ratepayer benefits),^{277/} it offers no precedent that supports the Commission directing PG&E or another utility to obtain a new, non-negotiated contractual term from a counterparty as a condition of approval.

Third, it is unreasonable and naïve to expect Iberdrola Renewables to agree to a fundamental change in the negotiated transaction without receiving anything in return. TURN asserts that there is “ample reason” to believe that Redacted

Redacted

Redacted ^{279/} It is far from clear that Iberdrola Renewables would be open to renegotiation Redacted and, even if it were, it is unreasonable to expect that PG&E would be able to Redacted as TURN proposes without giving up some other benefit. Adoption of TURN’s proposal could, therefore, lead to termination of the Project by Iberdrola Renewables.^{280/}

Finally, TURN’s claim that the Redacted

Redacted is not supported by the information on which TURN relies.

TURN cites to information on wind turbine pricing that PG&E provided in response to a data

^{277/} *Id.* at p. 11.

^{278/} *Id.* at p. 10.

^{279/} PG&E Opening Brief, at p. 107; Exs. 9-C and 10, at p. 24, lines 16-19.

^{280/} PG&E Opening Brief, at p. 107; Exs. 9-C and 10, at p. 24, lines 21-22.

request.^{281/} This information does not, however, provide any insight into the [Redacted]

[Redacted], for the

following reasons:

- [Redacted]
- [Redacted]
- Turbines can be ordered as many as 12 to 18 months in advance of delivery. Carrying costs of the typical installment payments for purchasing costs and associated carrying costs for when a wind turbine is delivered against when it is installed represent a significant cost to a project. [Redacted]
[Redacted]
- [Redacted]
[Redacted] Turbines are not interchangeable at a particular project; items like performance, operations and maintenance, and the cost of spare parts can all be affected if different technologies are used for the same project. [Redacted]
[Redacted]
- [Redacted]
- [Redacted]

^{281/} TURN Opening Brief, at p. 10.

^{282/} Ex. 206-C.

^{283/} *Id.*

^{284/} *Id.*

^{285/} TURN Opening Brief, at p. 10.

^{286/} Ex. 206-C.

^{287/} *Id.*

Redacted^{288/}

TURN also fails to provide any support for its claim that turbines typically represent 60 to 80 percent of total project costs.^{289/} As PG&E's expert witness Mr. Lewis testified, turbine pricing is only one component of a project's cost and many factors must be considered in assessing total project cost.^{290/} TURN's analysis regarding the Redacted

Redacted is flawed and provides no basis for its recommendation that certain contract terms be renegotiated.

X. TURN'S LATE PROPOSAL FOR PERFORMANCE-BASED PPA APPROACH IS UNREASONABLE AND SHOULD BE REJECTED.

TURN, for the very first time in this lengthy proceeding, identifies two variations of a PPA-based cost recovery proposal in its opening brief. TURN offers scant detail – only two short paragraphs – on the proposals, leaving PG&E to guess and speculate about what TURN is proposing and how it would be implemented. For this reason alone, the Commission should reject TURN's proposals.

As best PG&E can tell, TURN is attempting to transform PG&E's projected levelized cost of energy for the Project into the equivalent of a PPA rate and then use a PPA model for cost recovery without rate-base treatment of the assets. This proposal appears to be the same unworkable model that was recently rejected in the Commission decision adopting PG&E's PV Program, D.10-04-052.

PG&E supports the hybrid market structure endorsed by the Commission under which utility cost of service projects (that are subject to Commission oversight and regulation) and merchant generator projects compete against each other and provide price discipline as part of a

^{288/} Ex. 206-C; TURN Opening Brief, at Confidential Appendix A.

^{289/} TURN Opening Brief, at p. 10.

^{290/} Tr., at p. 196, line 23 to p. 197, line 7 (Lewis, PG&E).

diversified resource portfolio. TURN's proposals would appear to mix and match elements of regulation and merchant generation resulting in an unreasonable "Frankenstein's monster" that would undermine the hybrid market by discouraging utility participation in UOG.

TURN states that its performance proposal is necessary to align customer and utility interests and to provide strong incentives to contain costs and maximize production.^{291/} The Commission recently considered this very same issue in its decision adopting PG&E's PV Program.^{292/} In the PV decision, in rejecting TURN's proposal for a performance mechanism, the Commission stated:

With regard to a performance guarantee mechanism, we believe the utility is already well-motivated to maximize system performance because of the contribution these facilities are expected to make to PG&E's RPS goals. Under the RPS, compliance is assessed on the basis of energy deliveries. Thus, the value of these facilities in helping PG&E meet its RPS [] goals is directly related to these facilities' output. We will, however, consider performance in review of the O&M costs. As described above, should the output from PG&E's UOG facilities on average fall below 80% of expected generation, it will weigh heavily on our determination of the reasonableness of the O&M costs and whether some of these costs should be disallowed or refunded to ratepayers.^{293/}

The rationale in the PV decision applies equally to the Manzanita Wind Project under traditional cost of service regulation. The Manzanita Wind Project is a renewable energy project that will significantly contribute to meeting RPS goals and PG&E will be similarly motivated to maximize its output. Finally, as in the PV decision, the operation of the Manzanita Wind Project and associated O&M costs will be subject to Commission review in future rate cases.

XI. PG&E WILL MAKE RENEWABLE TAX CREDIT ELECTIONS TO MAXIMIZE CUSTOMER BENEFITS.

TURN and DRA raised a number of concerns about the process PG&E has proposed to

^{291/} TURN Opening Brief, at p. 22.

^{292/} D.10-04-052.

^{293/} *Id.* at p. 57.

ensure that PG&E takes full advantage the federal tax credits available for the Manzana Wind Project. PG&E presented its affirmative showing on this issue in its Opening Brief, pages 108 to 115 and in reply addresses the new concerns or arguments raised by DRA and TURN in their briefs.

A. The Commission Should Not Micromanage The Federal Tax Return Process By Requiring PG&E To File An Advice Letter For Preapproval Of Its Federal Tax Credit Election For The Project.

TURN recommends that there should be a formal advance Commission process for reviewing and pre-approving PG&E's federal tax credit election for the Manzana Wind Project because, TURN alleges, PG&E has a financial incentive to elect the Investment Tax Credit ("ITC") to benefit shareholders.^{294/} TURN's proposed process should be rejected for a number of reasons.

First, PG&E has pledged that it will make the election on the ITC and the Production Tax Credit ("PTC") based upon one principle: PG&E will make the federal tax credit election that results in the greatest benefits to customers. PG&E's compliance with this principle will be subject to review in future General Rate Cases. In the PV decision, the Commission dealt with the issue of maximizing federal tax credits in a simple and straightforward manner. The Commission directed PG&E to:

maximize the use of tax benefits available to support solar development, including the Investment Tax Credit and the Modified Accelerated Cost Recovery System. These benefits should accrue to ratepayers to the extent practicable.^{295/}

The Commission should take the same approach here rather than engaging in the unnecessary and cumbersome process of pre-approving PG&E's federal tax return.

Second, there is not sufficient time to submit an advice letter and wait for the outcome

^{294/} TURN Opening Brief, at p. 4.

^{295/} D.10-04-052, at p. 80, Ordering Paragraph 6.

since PG&E has to make the federal tax election in its first federal tax return following Project operations. PG&E will be able to make the best election for customers based on the most recent data on actual Project costs. Given the lead time associated with a CPUC advice letter process, this would likely require PG&E to make a recommendation prior to knowing the final Project costs and having to guess could result in a less than optimal result for customers.

Third, PG&E believes that it is unreasonable and unnecessary for the Commission to micromanage PG&E's tax elections for the Project. PG&E is unaware of any other Commission order that requires PG&E to obtain pre-approval from the Commission prior to filing its federal income tax return. This is particularly unwarranted where, as here, PG&E has already explicitly agreed to select the tax election in the best interest of customers and the difference to customers in rates associated with the election of ITC or PTC is very small (and does not alter any consideration of the Project's cost-competitiveness).^{296/}

B. The Manzana Wind Project Will Remain Cost-Competitive Compared To Alternative Renewable Sources Even In An Extremely Unlikely Post-2012 “No Federal Tax Credits” World.

DRA and TURN express concern with PG&E's proposal that it be authorized to proceed with the Project even if federal tax credits expire prior to the commercial operations date.^{297/}

First, to clarify, PG&E asked in the Application that it be authorized to revise its initial revenue requirement to reflect the latest tax information available after commercial operation, which could include “changes in the renewable tax credits, changes in the amounts that qualify for tax credits or expiration of the tax credits.”^{298/} While expiration of the credits was included as an example of a change that would be in the scope of the tax true-up mechanism, it is highly unlikely that the Manzana Wind Project will fail to qualify for federal tax credits. There is little

^{296/} See PG&E Opening Brief, at pp. 111-12.

^{297/} DRA Opening Brief, at p. 40; TURN Opening Brief, at p. 7.

^{298/} Exs. 1-C and 2, at p. 7-5, line 5-11.

risk the Manzana Wind Project will not be on-line prior to December 31, 2012.^{299/} There also is strong support by President Obama and in Congress for federal tax credits for renewable energy development, making another extension of the federal tax credits very probable. If expiration of the federal tax credits is handled like it was the last time, the extension may not be acted on by Congress until late 2012.

Second, in the unlikely event that the tax credits expire at the end of 2012, they will expire for all renewable projects. That means that the cost of replacement renewable power will rise significantly for any fall-back renewable energy options. DRA's assertion that, without the ITC and PTC, the costs of the Project "dramatically exceed comparable wind or even solar photovoltaic projects"^{300/} is incorrect because the prices for these projects in the comparison group is also premised upon availability of the federal tax credits for those projects. It does not follow that the Manzana Wind Project would not be cost-competitive in a "no federal tax credits" world; in fact, all of the high value attributes for the Project, including its location, peak period delivery pattern, and high viability would continue to make the Project highly desirable.

Third, neither TURN nor DRA asks the Commission to adopt an outright prohibition on development of the Manzana Wind Project in this unlikely event and the Commission should not do so. DRA says that the Commission should "ensure that ratepayers do not bear the full burden of Project cost increases if the Project is not completed in time to receive the ITC or PTC."^{301/} TURN recommends that PG&E should be required to return to the Commission for additional authorization to proceed with the Project if delays extend beyond the expiration of the federal ITC/PTC or if the tax credits are modified to result in different benefits to ratepayers. The problem with TURN's proposal is that once the Commission approves the Manzana Wind

^{299/} See PG&E Opening Brief, at pp. 29-34; PG&E Reply Brief, at Section II.C.2.

^{300/} DRA Opening Brief, at p. 40.

^{301/} *Ibid.*

Project, PG&E will make substantial payments to acquire the Project, Iberdrola Renewables will immediately start construction and PG&E will be obligated to make progress payments as certain construction milestones are achieved. There will not be a practical opportunity to “return to the Commission for additional authorization to proceed” because, at that point, the Project will already be well down the road to completion and operation.

Thus, the issue is what should the Commission require in its current decision approving the Manzana Wind Project to address the unlikely event that the Project is delayed beyond December 31, 2012 and the federal tax credits are not extended. As recommended above, the Commission should address this low probability issue by directing PG&E in such an event to maximize the use of tax benefits available to support the Project. These benefits should accrue to ratepayers to the extent practicable.

C. The Concept Of A Third Party Tax Equity Investor For The Manzana Wind Project Is Non-Viable.

TURN proposes that in any future UOG renewable project, PG&E should be directed to “involve an outside tax equity investor.”^{302/} PG&E has stated that the idea of a third party tax equity investor could potentially have future benefits but there are a lot of questions that have to be answered before it should become an absolute requirement for all future UOG projects.

First, it is unclear if there are any investors interested making investments in utility renewable projects or what types of returns such investors might require. It is possible, given the tight market for tax equity, that there simply is not enough tax appetite in the current market to invest in large projects like Manzana,^{303/} and even if there was tax appetite it is not clear whether the returns would be in the best interests of customers.

^{302/} TURN Opening Brief, at p. 24.

^{303/} Exs. 9-C and 10, at p. 52, line 16 to p. 53, line 20.

Second, there are huge complexities associated with this concept for a utility asset.^{304/} The Project would have to be owned by the third party and leased back by PG&E in order give the investor “tax equity ownership” for Internal Revenue Service purposes. The terms of the sale and lease back would have to be negotiated and the extent of CPUC regulation and oversight over third party ownership of the Project is a significant issue that would have to be resolved before any potential investor would sign on. Additionally, how the Project costs would be reflected in rates (since PG&E could not own the Project assets) is a novel concept that would have to be worked out in a future Commission proceeding. No investor would sign on without a clear understanding of how cost recovery in rates would be assured.^{305/} PG&E is not aware of any such structure being utilized in the current tax equity market.

There is simply no time to evaluate these issues, engage the market, negotiate terms and conditions, and submit a CPUC application to resolve the numerous structuring and ratemaking issues for the Manzana Wind Project. Nor is there sufficient evidence at this time for the Commission to conclude all these challenges can be successfully worked out for all future projects.

XII. PG&E DOES NOT OBJECT TO A CONSULTATION REQUIREMENT ON THE RESALE OPTION.

PG&E has asked for the authority to resell the Project to Iberdrola Renewables under certain conditions outlined in the PCA without having to return to the Commission for Section 851 approval.^{306/} TURN states that it “understands that an exercise of such rights may require a quick decision” but recommends that PG&E be required to consult with DRA, TURN and the Energy Division prior to any such decision and that the decision would be subject to

^{304/} *Id.* at p. 52, line 16 to p. 53, line 8.

^{305/} *Id.* at p. 52, line 16 to p. 53, line 20.

^{306/} PG&E Opening Brief, at pp. 116-17.

reasonableness review in PG&E's next General Rate Case.^{307/} PG&E does not object to the proposed consultation requirement.

XIII. CONCLUSION.

For the foregoing reasons and for the reasons set forth in PG&E's Opening Brief, PG&E requests that the Commission approve its Application and issue a Certificate of Public Convenience and Necessity authorizing PG&E to construct the Manzana Wind Project.

Respectfully submitted,

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^{307/} TURN Opening Brief, at p. 8.