BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop Additional Methods to Implement the California Renewables Portfolio Standard Program.	R. 06-02-012 (Filed February 16, 2006)

COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) IN RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING PRE-WORKSHOP COMMENTS ON TRADABLE RENEWABLE ENERGY CREDITS

WILLIAM V. MANHEIM
MATTHEW A. FOGELSON
CHARLES R. MIDDLEKAUFF

Pacific Gas and Electric Company
P.O. Box 7442
San Francisco, CA 94120
Telephone: (415) 973-6971
Facsimile: (415) 973-5520
Email: crmd@pge.com

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

August 17, 2007

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page

CALIFORNIA PUBLIC UTILITIES COMMISSION DECISIONS

STATUTES

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop Additional Methods to Implement the California Renewables Portfolio Standard Program.	R. 06-02-012 (Filed February 16, 2006)

COMMENTS OF
PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
IN RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING
REQUESTING PRE-WORKSHOP COMMENTS ON
TRADABLE RENEWABLE ENERGY CREDITS

I. INTRODUCTION

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide these comments on unbundled, tradable Renewable Energy Credits (RECs)[1] in advance of the September 5-7, 2007 workshop at the California Public Utilities Commission (Commission), and looks forward to working with other stakeholders to ensure that the use of RECs for Renewable Portfolio Standard (RPS) compliance is ultimately adopted by the Commission. Before providing comments on the specific questions posed by Administrative Law Judge (ALJ) Simon in her July 19, 2007 Order, PG&E will provide a general overview of its position on the use of tradable RECs for RPS compliance.

A. The Commission Should Authorize the Use of Tradable RECs to Facilitate RPS Compliance

Tradable RECs are an important tool for facilitating compliance with California's RPS, and should be authorized by the Commission. As the Commission Staff noted in its White Paper on RECs[2], under an unbundled REC regime, claims to renewable attributes can be sold

[1] PG&E uses the acronym REC in these comments to mean unbundled, tradable RECs--unless expressly stated otherwise.

[2] California Public Utilities Commission, *Renewable Energy Certificates and the California Renewables Portfolio Standard Program*, Staff White Paper, April 20, 2006.

separately from the underlying renewable power. Under a tradable REC regime, the unbundled REC may be transferred or resold to another party. Tradable RECs are an important way for Load-Serving Entities (LSEs) to continue to pursue procurement of renewable power and ultimately meet the state's RPS goals. PG&E encourages the Commission to allow as much flexibility as possible for LSEs to meet their RPS targets through the use of tradable RECs or other mechanisms, such as conducting a solicitation for short-term contacts as requested by PG&E in its 2008 RPS Plan Amendment, filed on August 10, 2007. The use of tradable RECs, if properly conceived and implemented, has the potential to further facilitate LSEs' ability to meet future procurement requirements, and to do so at the least cost and best portfolio fit for their respective customers. While in the short-term, tradable RECs are likely to be associated with existing generation, over the long-term, a robust REC market, which includes long-term REC transactions, can help foster development of new renewable resources.

B. REC Trading Can Be Implemented Without Major Changes to the Existing RPS Program

PG&E believes that the Commission can authorize tradable RECs without significant changes to programs and policies that already exist. Pursuant to Senate Bill (SB) 107, the Western Renewable Energy Generation Information System (WREGIS) has been established to track renewable generation, and became operational on June 25, 2007. The purpose of WREGIS, as specified in Public Utilities Code section 399.13, is to "verify compliance with the renewable portfolio standard by retail sellers, to ensure that electricity generated by an eligible renewable energy resource is counted only once for the purpose of meeting the renewables portfolio standard of this state or any other state, to certify the renewable energy credits produced by eligible renewable energy resources, and to verify retail product claims in this state or any

other state." WREGIS will provide the foundation to certify both bundled power transactions and unbundled REC transactions for RPS compliance.

REC trading does not require the establishment of a centralized REC market, or a specific trading platform to be administered by the Commission. Instead, so long as the RECs are certified in the WREGIS, unbundled REC contracts can be negotiated bilaterally in the same manner as bundled power transactions, and the RECs retired for RPS compliance.

C. The Commission Should Adopt Consistent Review and Approval Process for REC Transactions and Bundled Transactions

PG&E expects a market to develop for REC trading, as it has developed for bundled RPS transactions. The Commission should focus its efforts on developing rules for LSE use of RECs for RPS compliance, and establishing processes for review and approval of REC transactions for rate recovery. The Commission and all stakeholders have invested a great deal of time and effort in establishing RPS program policies and protocols for bundled RPS transactions. PG&E believes the same policies and protocols should apply for REC transactions. PG&E presented a comprehensive proposal for review of both short-term and long-term bundled RPS transactions, including benchmarks for assessing the reasonableness of prices, in its Comments on Administrative Law Judge Simon's Ruling.[3] PG&E suggests the Commission take an identical approach to REC transactions. Specifically, in this filing, PG&E proposed that no advance Commission approval be required for full rate recovery of payments under a 1 month to 3 year contract that fall within the utility's approved RPS Plan, with a reasonable *per se* price, if the contract was executed after consultation with the Procurement Review Group (PRG) and is reported in the Utility's Quarterly Report. The reasonable price proposed by PG&E for contracts from 1 month to 3 years duration was the applicable market price, plus a "Green Premium" of up

[3] *Comments of Pacific Gas and Electric Company (U39-E) on the May 10, 2007 Administrative Law Judge's Ruling Providing Opportunity for Comments and Reply Comments,* issued in R.06-02-12 on June 14, 2007.

to the greater of $20/MWh or 10% of the applicable market index price. PG&E suggests the proposed "green premium" be used as a *per se* reasonable price for unbundled RECs. Similarly, PG&E's comments suggested that bundled transactions greater than 3 years be filed with the Commission by Advice Letter. For contracts of 3 to 10 years, PG&E recommended that a "green premium" of 10% of the applicable MPR should be used. Prices above the benchmark should be considered on a case-by-case basis, since projects above the reasonable price may present non-monetary benefits.

D. REC Trading Can be Implemented Now, Despite Uncertainty Associated with State and Federal Greenhouse Gas Standards

The Commission is actively engaged in setting rules for Assembly Bill (AB) 32 compliance. There are certainly unresolved questions associated with how renewables goals and greenhouse gas (GHG) goals can be integrated going forward. However, parties should be careful not to confuse general questions about the interaction between RPS compliance and GHG compliance, with the use of tradable RECs. RPS compliance rules are well defined. GHG compliance rules are not. Almost all the questions raised by the Commission in its scoping memo are questions about the role of RPS in the GHG compliance regime, and apply whether or not the product is bundled RPS power or a tradable REC. The Commission does not need to resolve the overall GHG policy questions before adopting tradable RECs. In fact, implementation of tradable RECs now may provide useful experience that can be applied to future GHG emission reduction trading.

E. Distributed Generation Should Participate In REC Trading

PG&E expects RECs to be traded on a bilateral basis and certified in WREGIS, and PG&E supports the participation of all eligible generators, including renewable Distributed Generation (DG) in WREGIS. The ability of DG owners to sell RECs will increase incentives

for DG to come on-line while also increasing the number of RECs available in the marketplace. That said, RECs created by DG, like all RECs, must be capable of precise quantification and verification, including certification by the California Energy Commission (CEC) that they are RPS-eligible. Cost effective solutions to the issue of quantifying both actual DG production must also be achieved to maintain the integrity of the RPS. PG&E believes that minor changes to the current WREGIS Operating Rules for meter accuracy are required to allow small DG system owners to participate in REC trading for RPS compliance. Such changes would be consistent with the Commission's California Solar Initiative (CSI) Decisions (D.06-08-028 and D.07-07-028) regarding performance metering for solar. Rules for aggregating small DG for REC trading also need to be developed and incorporated in the WREGIS Operating Rules.

F. RECs Should Not Have An Expiration Date Nor Should There Be Any Limit On The Number Of RECs That May Be Used For Compliance

To provide maximum compliance flexibility and reduce compliance costs, RECs should not automatically expire after an arbitrary amount of time. Rather, LSEs should be able to procure RECs when they are available at reasonable costs and apply them to future compliance goals when needed. Moreover, allowing LSEs to bank RECs is consistent with current Commission policy which allows the investor-owned utilities (IOUs) to bank indefinitely RPS purchases in excess of their annual procurement targets. PG&E believes the customer benefits provided by a policy of an indefinite REC life outweighs any costs in terms of potentially reduced market liquidity for RECs and demand for renewable generation.

Similarly, PG&E does not believe the Commission should limit the number of short-term RECs that may be used for compliance with the RPS. RECs are necessarily less valuable if there is an artificial limit on the number of RECs LSEs can use to meet their RPS requirements.

Consequently, a rule limiting the number of RECs that LSEs may use would diminish the attractiveness and the liquidity and value of a REC market.

Finally, given the limitations imposed by SB 107, PG&E supports limiting tradable RECs for the time being to those associated with electricity delivered in or to California. However, a system that recognizes only those RECs delivered to California increases costs to LSEs' customers since it does not allow for access to potentially lower cost out-of-state sources of RECs to supplement California renewable sources. Moreover, a California-only REC market is not likely to be sustainable given the existence of a region-wide REC tracking and verification system and it would diminish the value of the use of the WREGIS.

G. Summary

In summary, PG&E strongly supports the authorization of tradable RECs for RPS compliance. PG&E suggests the Commission do the following:

- Approve the use of tradable RECs for RPS compliance as soon as possible in order to allow time for a robust market to develop
- Adopt a review and approval process for REC contracts, similar to bundled RPS contracts.

PG&E looks forward to participating in the Commission sponsored workshop to further discuss these issues. PG&E recommends that the Commission revise the agenda topics as proposed for Day 2 of the Workshop, since Day 2 appears to be focused entirely on coordinating REC trading with other REC and GHG markets. PG&E reiterates that the Commission does not need to resolve the overall GHG policy questions before adopting tradable RECs, therefore it seems as though this time might be better spent focused on more immediate issues.

II. PROPOSED GUIDING PRINCIPLES

ALJ Simon's July 19, 2007 Order proposed the following Guiding Principles for a Tradable REC Program:

1. Use of REC trading for RPS compliance should be consistent with the legislative goals for the RPS program.
2. REC Trading should result in minimal disruption to the current RPS program.
3. REC Trading should not increase the cost of RPS compliance in the near term, and should lower the cost of RPS compliance over the longer term.
4. REC Trading should promote development of new infrastructure in California and neighboring states for renewable energy generation.
5. REC Trading rules, guidelines, and policies should not be inconsistent with the development of a regional REC trading regime.
6. REC trading rules, guidelines, and policies should take account of the process of implementing California's greenhouse gas (GHG) reduction policy and the potential for federal programs for GHG reduction.
7. REC trading rules, guidelines, and policies should meet the Commission's requirements for REC trading set out in D.03-06-071.
8. REC trading rules, guidelines, and policies should be simple, transparent, easily administered, uniformly applied, and equitable to all LSEs.

In general, these guiding principles are reasonable. However, the Commission need not satisfy each of these principles before implementing a REC trading program. Instead, given the importance of tradable RECs, the Commission should develop and implement a program as soon as possible, revising it as necessary in the future to satisfy each of these principles. PG&E's specific comments on the value of these principals for evaluating proposals for the use of REC

trading for RPS compliance, and initial thoughts about how REC trading is consistent with principles, are provided below.

Guiding Principal No. 1

The overriding legislative goal is to attain a target of 20% eligible renewable generation by the year 2010. With the target date for this goal a little more than 3 years away, it is unrealistic to expect REC trading for RPS compliance to have a significant impact on increasing renewable generation by 2010. However, with the possibility of increasing the renewable target in the future, the value of REC trading should be considered in a longer term context. Similarly, focusing only on the 2010 goal does not factor in the benefit REC trading will have on managing yearly fluctuations in renewable generation levels and retail sales.

Guiding Principal No. 2

PG&E agrees that REC trading should cause minimal disruption to the current RPS program. As described above, REC trading can be implemented with minimal disruption using existing programs, systems and processes as a foundation.

Guiding Principal No. 3

PG&E agrees that over the long-term, REC trading should not increase RPS costs. PG&E does not expect REC trading will increase costs as REC purchases represent an additional procurement alternative to purchasing bundled power. Having more RPS procurement options should result in lower overall RPS costs.

Guiding Principal No. 4

PG&E agrees that REC trading should promote new development of renewable generation in California and neighboring states. However, this measurement should be considered over a long-term perspective. New development will not occur immediately.

Participants will need to get comfortable with the robustness and liquidity of the market in order to support new project financing. It may take several years to achieve this state of confidence.

Guiding Principal No. 5

PG&E agrees that REC trading rules, guidelines, and policies should not be inconsistent with the development of a regional REC trading regime. However, California should not wait for the development of a regional trading regime to develop its own trading policies.

Guiding Principal No. 6

Without knowing the content and design of future GHG reduction policy programs, it is difficult to identify the specific elements of a REC trading system most important for coordination with a California or federal program for GHG reduction. Whether a REC will be used for future GHG compliance will not be clear until GHG rules are established. As a general principle, flexible design of a REC trading system facilitates coordination with a number of types of GHG cap and trade systems, and unambiguous definitions of the environmental attributes, including GHG emission reductions, embodied in a REC ensure functionality across systems. REC trading, however, should not be delayed until these issues are resolved.

Guiding Principal No. 7

PG&E agrees with the overall principal that the REC program should meet the Commission's requirements for REC trading set out in D.03-06-071. However, PG&E does not expect the authorization of tradable RECs for RPS compliance will dilute the environmental benefits or create environmental justice problems. The same benefits attributable to bundled power will continue to exist with unbundled RECs, since renewable projects will still be built to generate the RECs. Additionally, since tradable REC purchases would represent an additional

means for RPS compliance along with current bundled transactions, PG&E does not envision tradable RECs will add to market gaming concerns.

Guiding Principal No. 8

PG&E agrees that any REC program for RPS compliance adopted by the Commission should be simple, transparent, easily administered, uniformly applied, and equitable to all LSEs. PG&E believes the Commission's focus should be on authorizing unbundled RECs for RPS compliance, as opposed to specifying REC trading rules which should be handled by the market.

III. ANSWERS TO COMMISSION QUESTIONS

PG&E respectfully submits the following responses to the specific questions posed in ALJ Simon's July 19, 2007 Order. For ease of review, PG&E has reproduced each question prior to providing our response.

1. Comparing REC Trading With Current RPS Procurement Methods

a. Commenters should briefly summarize their experience (or, for commenters other than LSEs, the experience of others) with each of these mechanisms. Identify how, if at all, REC trading is likely to provide more flexibility, be less costly, or otherwise improve RPS compliance, or, if to the contrary, how REC trading is likely to provide less flexibility, be more costly, or otherwise to impede RPS compliance.

To date, PG&E has signed contracts for nearly all of its RPS supplies under long-term contracts, and only a small amount under short-term contracts, with the following characteristics and approximate proportions:

- Delivery Point in PG&E Service Territory: 50% (based on GWh)
- Delivery Point outside of PG&E Service Territory but within CAISO: 20%
- Delivery Point outside of CAISO: 30%

Compliance with RPS requirements is constrained by supply, deliverability, and timing of energy production relative to demand. REC trading, by creating additional supply of RPS-

compliant instruments, by potentially reducing the need for transmission for physical delivery, as well as by increasing the ability to procure RPS-compliant instruments without procuring energy during times of low load, should clearly increase flexibility and can lead to lower overall procurement costs.

b. LSE commenters should estimate, very roughly, how much of their RPS procurement for the period 2007-2010 will be obtained using each of the above methods. (For example, 30% long-term contracts with shaped/firmed products; 20% long-term contracts not shaped/firmed delivered anywhere in California; 30% long-term contracts not shaped/firmed delivered to LSE's service territory; 10% long-term curtailable contracts; 10% short-term contracts.)

In compliance with D.07-05-028, PG&E will continue to procure a minimum of 0.25% of its bundled load through long-term contracts or contracts with new renewable generation. Since the market for short-term RPS-eligible contracts is relatively new, and PG&E has not yet conducted a short-term RPS solicitation, as requested in its 2008 RPS Plan Amendment, and unbundled RECs are not yet eligible, PG&E cannot speculate at this time on what resources the market may provide to meet this combination.

c. Would REC trading be likely to completely or partially supersede any of the mechanisms listed above? How?

As discussed in (a) above, REC trading has the potential to increase the available supply of RPS-compliant instruments, to reduce transmission constraints currently impeding delivery of RPS-compliant instruments, and to decrease the reliance on delivery of energy bundled with RPS-compliant instruments during times of low demand. PG&E expects that RECs could possibly supersede bundled RPS purchases of similar term. For example, a short-term REC purchase could supersede a short-term bundled purchase, while a long-term REC purchase might supersede a long-term bundled purchase. PG&E does not expect short-term RECs to displace bundled power that would otherwise be purchased through long-term contracts.

2. Evaluating REC Trading for RPS Compliance

a. How, if at all, will REC trading aid in overcoming transmission congestion on existing transmission lines with respect to RPS-eligible generation?

PG&E does not expect REC trading alone will overcome congestion on existing transmission lines with respect to interconnecting and allowing power to flow into the system from RPS-eligible generation. For example, REC trading will not mitigate the need for the basic transmission infrastructure required for many California renewable generation projects for delivery of their power to the CAISO grid.[4] However to the extent an LSE purchases bundled RPS power outside its service area, REC trading will provide the LSE another alternative for achieving RPS compliance that may be less costly than the current methods which require either arranging delivery of the power to the LSE's customers or executing alternative commercial arrangements, such as swaps.

b. How, if at all, will REC trading increase the likelihood that LSEs will attain their annual procurement targets (APTs) for RPS compliance in timely fashion?

PG&E expects that short-term contracts with existing resources will have some incremental impact on PG&E's ability to meet its APTs, because those resources are able to deliver power with very limited lead-times. Since most tradable RECs are likely to come from existing generation resources in the short-term, PG&E expects that authorization of tradable RECs for RPS compliance will provide some incremental improvement in PG&E's ability to meet its RPS targets. However, over the long-term, a robust REC market which includes long-term REC transactions could also help foster new renewable development and therefore help LSE's attain their APTs.

[4] Without such network transmission upgrades, the real power output of the renewable generator could be curtailed thereby generating neither real megawatts nor RECs.

c. How, if at all, will REC trading increase the efficiency of LSEs RPS compliance activities?

REC trading will provide LSEs with an additional means for RPS compliance and will provide generators with another vehicle to sell their power. With REC trading, a generator will have the option to sell the underlying generation to one party and the unbundled RECs to another. With this added flexibility a generator may be able to realize additional efficiencies in structuring its transactions. These added efficiencies should increase the efficiency of LSE's compliance activities.

d. How, if at all, will REC trading aid in increasing renewable distributed generation in California? What barriers, if any, exist to integrating REC trading with renewable distributed generation?

Sale of the unbundled RECs provides additional financial incentives for renewable DG, which could help make it more cost effective for customers, providing shorter payback and more financing options. Although there are currently tax incentives and ratepayer funded incentives for renewables, REC trading provides an additional market-based incentive mechanism to encourage the development of RPS-eligible distributed generation. PG&E understands that existing DG owners are currently participating in voluntary REC markets in California. A more robust, liquid WREGIS verified REC market should increase the number of market participants.

Metering requirements could pose one of the biggest barriers to DG participation in REC trading, particularly for the smaller, mass-market DG sources. For example, in order to reduce metering costs, the Commission recently issued D.07-07-028 that allows all California Solar Initiative (CSI) participants under the Expected Performance Based Buydown (EPBB) incentive structure to use meters that are accurate to within ± 5%, including inverter-integrated meters. However, the current WREGIS Operating Rules require all participants regardless of system size to adhere to the ANSI C-12 standards for ± 2% accurate meters. Unless changes are made to the

WREGIS Operating Rules, this meter requirement may pose a barrier to many smaller solar systems that would be required to install additional, more expensive metering in order to participate in REC trading.

In addition, given their relatively small system output, smaller, mass-market customers that would like to participate in REC trading will likely need to work through an aggregator. The potential additional transactional costs required to participate via an aggregator may make it less attractive for smaller customers to participate. While these customers are typically very small in terms of their generation, there will ultimately be large numbers of these customers. However, they may elect not to participate in REC trading because of these barriers.

e. How, if at all, will REC trading aid in increasing renewable generation generally in California? In neighboring states?

As a noted above, as a robust REC market develops, long-term REC transactions could help support new renewable development. The current in-state delivery requirement will limit the impact California REC trading will have on increasing renewable generation in neighboring states. A REC trading program in California will only help increase renewable generation in neighboring states if the California RPS law is changed to allow out-of-state RECs to meet the California RPS without an accompanying deliverability requirement.

f. How, if at all, will REC trading aid in increasing transmission infrastructure for renewable generation in California? In neighboring states?

REC trading alone will not have a significant impact on increasing transmission infrastructure for renewable generation in California or in neighboring states. However, to the extent that REC trading opens new markets for renewable generators it may provide pricing certainty and stability for projects that may enhance their ability to pursue transmission infrastructure improvements.

g. How, if at all, will REC trading affect the costs of RPS compliance in the period 2007-2010? In the period 2010-2015?

The cost of RPS compliance will be a function of the cost of new RPS resources. The same can be said for compliance using unbundled RECs. Since REC trading is unlikely to result in new generation resources in the short-term, REC trading will likely have limited impact on the costs of RPS compliance in the 2007- 2010 period. However, over the longer term, to the extent that a robust REC market supports the development on new RPS resources, there would be a beneficial affect on the cost of RPS compliance. This longer term benefit should become realized during the latter half of the 2010-2015 time frame, provided a REC market is established in the immediate future and is allowed to develop.

h. What sources of tradable RECs are likely to be available to California RPS-obligated LSEs in the period 2007-2010? In the period 2010-2015? Please take into account the specific requirements of § 399.16(a).

As noted above, the source of tradable RECs during the 2007-2010 timeframe are likely to be primarily existing resources. However, once a robust REC market develops, tradable RECs will also come from new renewable resources. The timeframe for when a robust REC market will occur will depend on how quickly a REC compliance market is implemented. If a REC market begins in the next year, then new renewables should become a viable source of RECs in the 2010-2015 time frame.

i. How, if at all, would the approach to the above issues change if a formal, enforceable RPS goal that 33% of electricity sold at retail in California must be from eligible renewable resources by the end of 2020 were to be adopted?

If the RPS goal is increased to 33% by 2020, REC trading would be even more valuable, due to the longer term benefits that are expected to result from a robust REC market.

///
///
///

j. What additional issues, if any, are relevant in evaluating REC trading for RPS compliance?

PG&E has not identified at this time any additional issues relevant in evaluating REC trading for RPS compliance.

3. Establishing REC Trading Rules

a. Who should be able to participate in a market for RECs used for compliance with the California RPS? (E.g., only RPS-obligated LSEs; only LSEs and renewable generators; anyone; etc.) Should there be any limits or requirements on any types of participants?

The market for tradable RECs will develop between any parties that are required to comply with California RPS, as well as parties that may not have California RPS obligations. The Commission should not attempt to regulate who can buy and sell RECs. The Commission should only require that both buyer and seller using RECs for RPS compliance use WREGIS.

b. What steps, if any, should be taken to maximize the opportunities for owners of solar distributed generation systems that are funded through the California Solar Initiative to participate in a REC trading market for RPS compliance?

Owners of solar distributed generation systems funded through the CSI should be required to adhere to the same rules as other generators, or operate through an aggregator, if they wish to sell the REC associated with their generation for California RPS compliance. Thus, the generators must be RPS eligible, and registered in WREGIS, or they must participate via an aggregator that is registered in WREGIS[5]. This assumes that all customers, even those that do not export any electricity to the grid, are allowed to participate in REC trading without restriction or penalty.

As noted above, California renewable stakeholders could work to modify the WREGIS Operating Rules to encourage smaller, mass-market customers to participate by allowing meters

[5] Rules for aggregators of DG for RPS compliance must be developed and incorporated in the WREGIS Operating Rules.

certified to ± 5% accuracy to be used for REC trading for CSI systems receiving an Expected Performance Based Buydown incentive, consistent with D.07-07-028, or for solar systems receiving incentives under the CEC's New Solar Homes Partnership (NSHP). Participants with these less accurate meters could have their REC prices discounted to account for the difference in meter accuracy from the ANSI C-12 standards.

Since the Commission directed CSI Program Administrators working with the CSI Metering Subcommittee to develop certification standards for ± 5% accurate meters, including inverter-integrated meters, once this certification process is complete, this will help enhance confidence in this category of meters. This would also help align the metering requirements for REC trading standards with those adopted by the Commission in D.06-08-028 and more recently in D.07-07-028 for CSI incentive recipients. This would benefit both smaller CSI customers and participants in the CEC's NSHP by potentially allowing them to use meters already supplied with their inverters for REC trading purposes.

c. Should there be a limit on the quantity of tradable RECs that can be used by LSEs for RPS compliance? Should the limit be different for different classes of LSEs.? How should such a limit, if any, be determined? (See § 399.16(a)(7).)

Commission policy has been very clear—all CPUC-jurisdictional LSEs, including Energy Service Providers (ESPs), Community Choice Aggregators (CCAs) and utilities have the same obligations under the RPS program. For example, in D.07-05-028 the Commission determined that all LSEs would have a minimum long-term contract obligation of 0.25% annually. Consistent with the Commission's overall RPS policy, similar rules for RECs should apply to all LSEs. It is unnecessary to establish a separate limit for unbundled RECs. The limit for unbundled RECs should be included with the limit for short-term bundled power, *i.e.*, only for short-term contracts (less than 10 years).

d. Should tradable RECs have an "expiration date" (e.g., three years after the electricity with which the REC is associated was generated)?

No expiration date is needed for unbundled RECs. As long as a REC isn't "retired," it should have an unlimited lifespan and can be traded and used for compliance at any time.

e. Should RPS-obligated LSEs be able to "bank" tradable RECs without limitation as to quantity? If not, what should the quantity limitations be?

In D.06-10-050, the Commission authorized the unlimited use of banking of bundled power transactions for RPS compliance. Using a consistent approach, the Commission should not limit the amount of RECs an LSE can bank. If an LSE has exceeded its Annual Procurement Target (APT) either by procuring eligible bundled power or unbundled RECs, unlimited forward banking should be allowed. There is no need to establish separate rules for unbundled REC banking.

f. Should RPS-obligated LSEs be able to "bank" tradable RECs without temporal limitations? If not, what should the temporal limitations be?

Unlimited forward banking should be allowed, just as is currently allowed for bundled power.

g. Should non-LSE participants in a market for RECs used for compliance with the California RPS be able to hold RECs without limitation as to quantity? If not, what should the quantity limitations be?

The same rules should apply to non-LSE participants as LSE participants. There should be no limit on the quantity of RECs a non-LSE participant may hold. PG&E notes that although PG&E is a firm believer in a level playing field for all participants, it is not clear how the Commission would regulate the holding of non-LSE RECs.

h. Should non-LSE participants in a market for RECs used for compliance with the California RPS be able to hold RECs without temporal limitations? If not, what should the temporal limitations be?

See answer (g) above.

i. Should contracts of particular lengths be required for some or all of the REC purchases to be used for RPS compliance? What lengths? What proportion of REC purchases, if any, should be subject to such requirements?

As long as a LSE has fulfilled its annual obligation to procure the minimum required amount from "new" facilities and/or from long-term contracts, no restrictions should be imposed on the length of REC contracts used for RPS compliance.

j. What steps, if any, other than contract length requirements should be taken by the Commission to encourage long-term REC purchases?

The most important step for the Commission to take to encourage long-term REC purchases is to approve the use of tradable RECs for RPS compliance as soon as possible in order to accelerate the development of a robust market. The Commission should clearly define the eligibility requirements for RECs to meet RPS compliance and work in close coordination with WREGIS to ensure that RECs are properly tracked and verified. A clearly defined and verified REC product will enhance confidence in the market, lead to increased participation, and over the long-term result in a robust market with long-term REC transactions that support new renewable resource development.

k. Should RECs be allowed to be traded for RPS compliance that are associated with electricity from RPS contracts already approved by the Commission? How would such RECs be disaggregated and tracked?

RECs associated with electricity from RPS contracts already approved by the Commission should be allowed to be traded for RPS compliance. However, if the REC is traded, then pursuant to the principle of no double counting, the underlying power will no longer be eligible toward meeting the utility's RPS targets. Since most, if not all LSEs need additional RPS procurement to achieve their RPS goals, it is unlikely that significant amounts of disaggregating will take place in the near-term. However, once targets are met, LSEs may find disaggregating useful in balancing year to year fluctuations with inter-LSE REC trades.

There could be situations where it would be beneficial to disaggregate RECs from RPS contracts already approved by the Commission. If load migration increases due to CCA or the potential re-institution of Direct Access, unbundling of existing contracts could help balance the RPS requirements among LSEs by allowing the REC component of existing contracts to be freely traded among LSEs.

The disaggregation and tracking could be handled within the WREGIS.

l. Should RECs be allowed to be traded for RPS compliance that are associated with electricity from RPS contracts already approved by the Commission? How would such RECs be disaggregated and tracked?

Please see response to (k), above.

m. Should RECs be allowed to be used for RPS compliance only if the electricity with which they are associated has come from currently operational renewable generators?

No. The Commission has already established a minimum threshold for purchases that must come from long-term resources or new generation. Beyond that, the Commission does not discriminate between purchases of bundled energy from new or existing resources for RPS-compliance from in-state resources. Similarly, there is no basis to discriminate between RECs from new and existing resources. RECs from all eligible generators should be allowed for RPS compliance.

n. Bearing in mind that WREGIS does not allow the creation of RECs until the associated electricity is generated, by what mechanism, if any, can purchases of RECs to be used for RPS compliance for which the associated electricity will be generated in the future be allowed?

The utility currently purchases bundled power on a scheduled basis, but the power is not generally credited for RPS compliance until the power is generated. Similarly, a REC could be contracted for on a forward basis, but the REC would not exist before the associated electricity has been generated.

o. What, if any, limit should be put on the proportion of an LSE's APT that can be met with the use of tradable RECs? How should such a limit, if any, be determined?

There should be no such limits. Any limits would make the compliance options less flexible and cost effective for LSEs and create additional reporting and compliance burdens for LSEs and for the Commission.

p. How can liquidity be maintained in a tradable REC market for California RPS compliance? What steps to maintain liquidity should be taken by the Commission? What steps to maintain liquidity should be taken by other actors? (Identify each actor and its appropriate role.)

A liquid market could take time to develop especially in the early years while renewable generation capacity is below the levels required to comply with the state mandated goal for renewable generation. As long as the renewable generation market is in the build-up phase there will be a relative shortage of RECs whether unbundled or bundled with renewable power.

The Commission can help assure a liquid market by creating a stable regulatory regime for buyers and sellers. In order to ensure the value of REC contracts for buyers and sellers, the Commission should attempt to avoid rule changes that would have large impacts on the market value of RECs, such as imposing limits on the use of RECs after REC contracts have been executed. In addition, once a facility has been certified as an Eligible Renewable Energy Resource by the California Energy Commission, the eligibility of the RECs generated by the facility should not be subject to any risk that the laws or rules for RPS eligibility subsequently change in a way that makes the generation ineligible. So long as the facility continues to comply with the RPS eligibility laws and rules in place at the time of its original certification, the generation from the facility should continue to be eligible for compliance with the California RPS for the entire contract term.

q. Should a tradable REC market for California RPS compliance include a separate entity with "watchdog" functions, such as an advisory committee or oversight group? How would such a group be established? Who should be eligible to be a member of such a group? What entity or entities should choose the members of such a group?

It is not clear what type of "watch dog" functions the Commission is considering in this question. However, given the current "watch dog" functions performed by the Commission and WREGIS, PG&E does not see an additional group being necessary.

4. Coordinating with State and Regional REC Trading Policies and GHG Policies

Regional REC Trading

a. What elements of a REC trading system are most important for coordination of a California REC trading system for RPS compliance with a possible regional REC trading system (e.g., REC definition, who may participate in the market, etc.)?

REC certificates to be issued by WREGIS must clearly indicate if a REC complies with California RPS requirements in order for that REC to be used for compliance in California.

b. What steps, if any, should be taken in the design of a California REC trading system for RPS compliance to allow later coordination with a possible regional REC trading system?

Since PG&E believes the Commission should only set requirements for eligibility, tracking, and reporting of RECs used for compliance, it need take no other steps. WREGIS can serve as coordinator for a regional system.

c. Should REC trading for California RPS compliance be implemented only as part of a regional REC trading system?

REC trading in California can be implemented on its own and does not need to wait to be a part of a regional REC trading system. There is no reason to delay the implementation of REC trading in California.

///
///
///

Greenhouse Gases

There are myriad questions associated with how renewables goals and greenhouse gas goals can be integrated going forward. As a preface to the responses below, PG&E notes that the Commission should be careful not to confuse overarching questions about RPS interaction with GHG, with questions about the use of unbundled RECs.

a. What elements of a REC trading system are most important for coordination with a possible GHG cap and trade system (e.g., REC definition, who may participate in the market, etc.)?

The design of a GHG cap and trade system has yet to be determined. Therefore, it is difficult to identify the elements of a REC trading system important for market coordination. As a general principle, flexible design of a REC trading system facilitates coordination with a number of types of GHG emission cap and trade systems, and unambiguous definitions of the environmental attributes, including GHG emission reductions, embodied in a REC will ensure functionality across systems.

b. What are the advantages and disadvantages, from the perspective of development of renewable generation, to having both a REC trading system and a GHG cap and trade system? Will different benefits be achieved by each, or would such a situation be redundant? If you had to choose, which system would you prioritize? On what basis?

Whether or not to have separate trading systems may ultimately depend on whether there are separate GHG and RPS compliance requirements, and would depend on the specific design of the GHG cap and trade system. Because there are clear RPS requirements, and yet-to-be-established GHG requirements, the priority should be to implement the RPS RECs trading system. By implementing REC trading now, important lessons can be learned which could be incorporated into the design of the cap and trade system for GHG.

///
///
///

c. What steps, if any, should be taken in the design of a REC trading system to allow later coordination with a possible GHG cap and trade system?

Please see response to question (a), above.

d. What steps might be required later to allow coordination with a possible GHG cap and trade system (e.g., development of technology-specific emissions factors, development of emissions conversion factors, revisions to RPS compliance requirements, etc.)?

Please see response to question (a), above.

e. Should REC trading for RPS compliance be implemented only as part of a possible cap and trade system for GHG?

REC trading should be implemented independent of the GHG cap and trade system. By implementing a REC trading system now, the benefits of the system will accrue earlier.

Possible Federal Programs

a. What elements of a REC trading system are most important for coordination with a possible federal RPS?

The design of a federal RPS has yet to be determined. Therefore, it is difficult to specify which elements of a REC trading system are most important for coordination, at this time. In general, ensuring product functionality and clarity will help harmonize the California market with any federal program.

b. What elements of a REC trading system are most important for coordination with a possible federal GHG program?

As previously discussed, it is too early to speculate on the most critical elements of a REC trading system with regard to a GHG program. The characteristics of the market designs which are being considered vary significantly. It is important to develop a REC trading system in the near-term to provide valuable experience.

///
///
///

5. Administration and Compliance

Cost Recovery

a. How should the reasonable cost of REC purchases be determined? Should this method vary depending on the length of the contract or any other REC purchase contract attribute? Please be specific about the elements of any proposed process and/or information necessary to determine the reasonable cost of REC purchases. If relevant, identify any other states where the proposed process has been used.

In PG&E's June Comments on market benchmarks[6] PG&E presented the criteria by which the Commission should evaluate the cost of bundled RPS power. In that filing, PG&E explained that the Commission should recognize that green power is more expensive than brown power, and determine a green premium for renewable power that is considered reasonable. The same principles should be applied to assessing the reasonableness of the price of RECs.

b. How often should the determination of reasonable cost be made? Annually? Monthly? Some other interval?

As PG&E explained in its June comments, the determination is dependent on the contract term. For contracts longer than 3 years, the determination should be made annually as part of the MPR proceeding.

c. Should Commission staff make individual determinations of the reasonableness of all REC purchases, analogous to the contract approval process for RPS energy procurement? If not, how should reasonableness be evaluated? (E.g., REC purchases in contracts for fewer than X months at a price less than or equal to Y are deemed reasonable.) How often should such evaluations be made?

For the determination of the reasonableness of REC purchases, the Commission should use principles as similar as possible to the contract approval process. RECs should be considered reasonable if the price is at or below a "Green Premium." For contracts up to three years, the "green premium" is the higher of $20/MWh or 10% of the applicable market price. For contracts longer than three years, the *per se* reasonable price is 10% of the MPR, determined annually by

[6] *Comments of Pacific Gas and Electric Company (U 39-E) on the May 10, 2007 Administrative Law Judge's Ruling Providing Opportunity for Comments and Reply Comments*, June 14, 2007.

the Commission. In addition to approving certain prices as reasonable *per se*, the Commission should also allow the utilities to seek approval for projects with higher prices that may present unique opportunities or other non-monetary benefits. Prices above the benchmark should be considered on a case-by-case basis.

d. Should the market price of RECs be presumed to be reasonable, subject to a price cap and/or a price floor? How would such price controls be determined? Should price controls change over time, or vary with other REC purchase contract attributes?

The market price for RECs should be considered reasonable as long as it is at or below the "Green Premium." To the extent that a renewable project presents certain benefits, even if its price is above the Green Premium, it should not be *per se* unreasonable. However, the utility must make a showing that it is in the public interest to approve a REC purchase priced above the "Green Premium."

Compliance

a. How, if at all, could tradable RECs best be integrated with the current RPS procurement program based on bundled energy purchases and actual delivery of energy to RPS-obligated LSEs?

With the anticipated use of WREGIS for RPS tracking both bundled purchases and unbundled RECs will be tracked in WREGIS in a consistent manner. The RECs tracked by WREGIS (bundled and unbundled) will be reported to the CEC and incorporated into the CEC's verification report to the Commission. Consistent with today's practice, the LSE's RPS compliance report will utilize RPS data from the CEC's verification report. Therefore, WREGIS will be the vehicle to integrate the current RPS program based on bundled generation with tradable RECs.

///
///
///

b. How, if at all, could the use of tradable RECs for RPS compliance be integrated into the existing RPS flexible compliance regime?

Once the integration described above using WREGIS takes place, RECs can be integrated into the existing compliance program. The flexible compliance features will occur downstream of the WREGIS integration of bundled and unbundled transactions. LSEs will file their RPS compliance reports, and report on their progress toward meeting APTs using bundled and REC transactions, and apply flexible compliance rules as needed.

c. How, if at all, would REC trading for RPS compliance affect the obligations of certain multi-jurisdictional utilities set out in § 399.17?

REC trading for RPS compliance should provide those multi-jurisdictional utilities more RPS compliance options.

d. How, if at all, would REC trading for RPS compliance be affected by the compliance flexibility granted to certain multijurisdictional utilities in § 399.17?

For the same reasons noted in b. above, RPS compliance flexibility granted to certain multi-jurisdictional utilities should not be affected by REC trading.

Administration

a. If long-term contracts for tradable RECs for RPS compliance are developed and allowed to be used, should the viability of the generator of the electricity associated with a tradable REC be evaluated by Commission staff? How would such an evaluation be made?

For the determination of the viability of a long-term REC purchase associated with a particular renewable generator, the Commission should use principles as similar as possible to the evaluation of the viability of a generator under an RPS bundled contract. However, such evaluation may not always be possible. For example, it is possible that a utility may enter into a contract to procure firm RECs in the market that may not be tied to a particular generator. Such a contract would provide the flexibility to allow counterparties to source certified RECs most effectively in the marketplace, taking advantage of liquidity. As long as the RECs retired for

compliance purposes have met the verification requirements as they are claimed, there is no need to assess viability of the generator associated with those RECs.

b. What documentation should the Commission require of an IOU's purchase price for RECs, whether through long-term contracts or shorter-term or spot purchases?

For short-term transactions up to three years, the documentation can be in the form of confirms for shorter-term or spot purchases can be provided with quarterly ERRA filings. For longer-term transactions, documentation should include actual contracts to be approved via advice letter or application, as appropriate.

c. Are there issues of confidentiality related to REC prices? Please be specific and relate the discussion to the decisions in the Commission's confidentiality proceeding, R. 05-06-040. How should any confidentiality issues be handled?

Yes. To maintain competitive markets and protect customers' interests, commercially sensitive terms and conditions, including pricing, for REC purchases and contracts, should be subject to the same confidentiality considerations as other procurement practices.

Respectfully submitted,

WILLIAM V. MANHEIM
MATTHEW A. FOGELSON
CHARLES R. MIDDLEKAUFF

By: /s/
CHARLES R. MIDDLEKAUFF

Pacific Gas and Electric Company
P. O. Box 7442
San Francisco, CA 94120
Telephone: (415) 973-6971
Facsimile: (415) 973-5520
Email: crmd@pge.com

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

Dated: August 17, 2007

VERIFICATION

I am an employee of PACIFIC GAS AND ELECTRIC COMPANY, a corporation, and am authorized to make this verification on its behalf. I have read the foregoing "Comments of Pacific Gas and Electric Company (U 39 E) in Response to Administrative Law Judge's Ruling Requesting Pre-Workshop Comments on Tradable Renewable Energy Credits", dated August 17, 2007. The statements in the foregoing document are true of my own knowledge, except as to matter which are therein stated on information and belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 17th day of August, 2007 at San Francisco, California

/s/

Sandra J. Burns, Manager
Renewable Energy Policy & Planning

CERTIFICATE OF SERVICE BY ELECTRONIC MAIL OR U.S. MAIL

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is Pacific Gas and Electric Company, Law Department B30A, 77 Beale Street, San Francisco, CA 94105.

I am readily familiar with the business practice of Pacific Gas and Electric Company for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence is deposited with the United States Postal Service the same day it is submitted for mailing.

On the 17th day of August 2007, I caused to be served a true copy of:

COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) IN RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING PRE-WORKSHOP COMMENTS ON TRADABLE RENEWABLE ENERGY CREDITS

[XX] By Electronic Mail – serving the enclosed via e-mail transmission to each of the parties listed on the official service list for R.06-02-012, R.06-05-027, R.06-03-004 and R.06-04-009 with an e-mail address.

[XX] By U.S. Mail – by placing the enclosed for collection and mailing, in the course of ordinary business practice, with other correspondence of Pacific Gas and Electric Company, enclosed in a sealed envelope, with postage fully prepaid, addressed to those parties listed on the official service list for R.06-02-012, R.06-05-027, R.06-03-004 and R.06-04-009 without an e-mail address.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 17th day of August, 2007 at San Francisco, California.

/s/
STEPHANIE LOUIE