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**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.

Rulemaking R.06-02-012

Order Instituting Rulemaking to
Continue Implementation and
Administration of California Renewables
Portfolio Standard Program.

Rulemaking R.08-08-009

**POST-WORKSHOP REPLY COMMENTS OF THE
GREEN POWER INSTITUTE ON TREC IMPLEMENTATION**

May 12, 2010

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POST-WORKSHOP REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON TREC IMPLEMENTATION

Introduction

Pursuant to the April 26, 2010, *Administrative Law Judge's Ruling Requesting Post-Workshop Comments*, the April 30, 2010, *Administrative Law Judge's Supplemental Ruling Requesting Post-Workshop Comments*, and the May 4, 2010, Grant of an Extension of Time to File and Serve Post-Workshop Reply Comments on the April 23 Workshop, by ALJ Simon, the Green Power Institute (GPI) hereby submits *Post-Workshop Reply Comments of the Green Power Institute on TREC Implementation*, in Proceedings R.06-02-012, **Order Instituting Rulemaking to Develop Additional Methods to Implement the California Renewables Portfolio Standard Program**, and R.08-08-009, **Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program**. We reply generally to the comments of the IOUs and parties.

1. Use of NERC E-Tags to Verify Delivery of Energy

Regarding the issue of using energy that is injected into the grid outside of California (or outside of a California Balancing Authority Area – CBAA) to serve California load, it is important to distinguish between physical energy, and the ownership of energy. Once injected into the grid it is impossible to trace the flow of the physical energy provided by an individual generator, as distinguished from the general flow of energy in the interconnected system. That is as true of energy that is dynamically scheduled into California as it is of energy that is being transmitted to a CBAA without dynamic scheduling.

Energy ownership, as opposed to the actual physical energy, can be traced from the generator, into the WECC system, and through the WECC system into a CBAA, through

the use of NERC e-tags. NERC tags include an entry point, a routing, and an extraction point, based on the final, accepted schedule associated with the energy. NERC tags do not trace physical energy, but they do match inputs and outputs on the integrated transmission grid, with enough information to ensure that the physical energy could have flown through the indicated route, consistent with all relevant schedules on the system. The information on a NERC tag cannot trace the flow of physical energy, but it does provide the final schedule, including input and output points, of the energy generated by the eligible renewable facility.

Before discussing the use of NERC Tags to verify energy deliveries into California, it is necessary to distinguish between two different meanings of the term, “delivery.” By statute all renewable energy that is counted towards a California RPS obligation, whether the REC is bundled or a TREC, must be delivered into the state. However, delivery does not have to be coincident in time with the generation of the energy. For purposes of distinguishing between bundled RECs and TRECs for out-of-state generators, we interpret Decision D.10-03-021 to indicate that for purposes of qualifying as bundled transactions, the Commission believes that the deliveries should be coincident in time with the renewable energy generation, meaning that the actual renewable energy underlying the bundled RECs has been used to serve California load.

NERC tags can be used to verify energy deliveries into California using both definitions of delivery discussed in the paragraph above. In order to meet the statutory requirement for delivery, as implemented by CEC rules, two NERC tags may be provided for the REC, the tag belonging to the injection of the qualifying generator’s renewable energy into the grid, and a second tag representing the same quantity of energy that is extracted from the grid inside a CBAA (non-coincident delivery), subject to CEC regulations. For purposes of proving that a REC is bundled, which is to say that the underlying energy is delivered in real time to serve California load, only a single NERC tag can be used. The tag will show the scheduled injection and extraction points for the renewable energy, as well as its transmission pathway. In other words, RECs with a single NERC tag showing renewable

energy scheduled straight through to a CBAA could be considered bundled, while RECs that have two NERC tags to demonstrate delivery (non-coincident) would be considered TRECs.

3. Remarketing of Energy with Firm Transmission

On page 35 of Decision D.10-03-021, the discussion sets forth two reasons that might compromise the bundled nature of contracts for out-of-state renewables that include firm-transmission rights, but not dynamic scheduling:

However, firm transmission arrangements may not be enough in themselves to allow an RPS procurement transaction to be considered bundled, for at least two reasons. First, the buyer of firm transmission is not required to use it; in that case, the transmission provider can sell the transmission to another entity. Second, even when firm transmission is used to bring energy to a California balancing authority scheduling point, the buyer could enter into an arrangement to remarket the electricity from that point.

The second point, that even when the energy is transmitted to California it might still be remarketed, is equally true for energy that is generated in-state and directly interconnected to a CBAA as it is for energy that is transmitted to California via firm-transmission capacity, with or without dynamic scheduling. Either way, it seems to the GPI, the energy is purchased for the use of and on behalf of California consumers. We are not privy to the decision-making process within utility companies regarding trading of energy, but we assume that utilities only do it when it is to their advantage. Moreover, it is our understanding that the utilities do not remarket the energy from specific generating sources, but rather they remarket energy from the general mix on the grid. Thus, the second point, that energy that is verifiably transmitted into the CBAA could still be remarketed, in no way undermines the bundled nature of the RECs.

Thus, having dispensed with the second concern, according to the Decision the only remaining valid concern pertaining to contracts with out-of-CBAA generators with firm transmission rights into the CBAA is that having guaranteed rights to transmit to the CBAA does not obligate the use of the rights. In other words, there may be times when

the owner of the firm transmission capacity, presumably the generator, could elect to sell his transmission capacity in the market rather than use it to move energy from the renewable generator to California, while the California utility that has purchased the energy and RECs from the generator would remarket the energy, presumably outside of California, without using the firm transmission capacity to first move it to the CBAA. It is apparently the risk of this particular circumstance occurring that is preventing the Commission from classifying this type of contract to be bundled, for purposes of compliance with the requirements of D.10-03-021.

There is little reason to believe that a generator that has secured firm transmission rights would have an incentive to not use those rights at the very time when, during a transmission-constrained event, its energy is particularly valued by the purchasing utility in California, and presumably not very valuable outside of California, as energy at the other end of the transmission line presumably is being dumped because it cannot get through the grid. We believe that the Commission should consider contracts with out-of-state renewable generators for energy and RECs that include firm transmission rights into a CBAA to be bundled.

7. Other Issues – GPI Proposal for Generators Lacking Firm Transmission

Contracts with generators with firm transmission capacity are a reasonable option for out-of-state baseload renewable generators like geothermal and biomass, but they do not work very well for intermittents. In addition, firm transmission rights may simply not be available for baseload resources, because capacity rights are already fully subscribed.

There are, in our opinion, legitimate criteria that could be developed to qualify as bundled, RECs from out-of-state contracts for energy and RECs for which the energy is imported into a CBAA at all times that transmission capacity is available between the generator and a CBAA, and remarketed outside of California when transmission capacity into the state is not available. For example, the Commission could adopt a minimum requirement of, for example, something in the range of 60 – 85 percent for the portion of an out-of-state renewable generator's output that must be scheduled all of the way into a CBAA, as

exhibited by the NERC tags issued to the generator for the energy it delivers to the bus, in order for the transaction to be considered bundled (we don't know what the correct number to use is). We believe that the standard should be generous enough to allow for both schedule deviations due to intermittency, and for a reasonable amount of time when transmission capacity into California is unavailable to the generator.

Supplemental Questions

2. Methodology for Inferring the Price of RECs

After all of the issues in the Petitions for Modification and Motions for Rehearing are resolved, some contracts for a combined energy and REC product from out-of-state eligible renewable generators may still be considered unbundled for purposes of compliance with the requirements of Decision D.10-03-021. In such cases the RECs are considered to be TRECs for purposes of RPS compliance, and the question becomes: How can the Commission determine whether the contract for these TRECs is in conformance with D.10-03-021, which, among other things, imposes a price cap on TRECs that can be used for RPS compliance purposes?

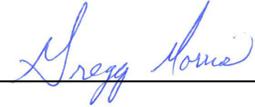
PG&E and SCE made presentations on the determination of REC values for contracts that involve purchases of a combined product of energy and RECs, for which the RECs are classified as TRECs, at the Commission's April 23, 2010, workshop in R.08-08-009 on TRECs. Both utilities apply the correct overall approach, in which the first step is to determine the value of brown energy at the location where the utility purchases the energy, and then by inference the balance of the contract price is attributable to the REC.

Unfortunately, both utilities prejudice the calculation by applying uneven approaches to valuation. This is done both by neglecting to include a capacity component in the renewable benefits, and burdening the cost of the renewable energy with components like debt equivalence, integration costs, and the cost of firming and shaping, even though these costs have not been vetted, and no comparable costs are attributed to conventional energy sources (brown energy).

The alternative to inferring a price for TRECs from combined energy and REC products is to count these RECs as TRECs as per Commission Decision, but rather than apply the TREC price cap, apply an overall just-and-reasonableness standard to the contract. The TREC price cap is properly imposed on contracts for RECs only, but it is not really directly applicable to contracts for combined energy and REC products for which the RECs are classified as TRECs. It seems to us that a standard contract-review process based on the just-and-reasonable standard would better serve to protect ratepayer interests.

Dated May 12, 2010, at Berkeley, California.

Respectfully Submitted,



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VERIFICATION

I, Gregory Morris, am Director of the Green Power Institute, and a Research Affiliate of the Pacific Institute for Studies in Development, Environment, and Security. I am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of *Post-Workshop Reply Comments of the Green Power Institute on TREC Implementation*, filed in proceedings R.06-02-012 and R.08-08-009, are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

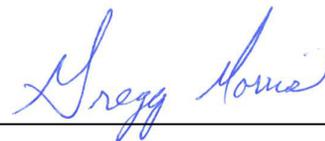
Executed on May 12, 2010, at Berkeley, California.



Gregory Morris

PROOF OF SERVICE

I hereby certify that on May 12, 2010, in Berkeley, CA, I have served a copy of POST-WORKSHOP REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON TREC IMPLEMENTATION, upon all parties listed on the Service List for proceedings R.06-02-012 and R-08-08-009. All parties have been served by email or first class mail, in accordance with Commission Rules.



Gregory Morris