**BEFORE THE PUBLIC UTILITIES COMMISSION**

**OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Continue Implementation and Administration of the California Renewables Portfolio Standard Program. | R.11-05-005<br>(Filed May 5, 2011) |

# COMMENTS OF IBERDROLA RENEWABLES, INC. ON IMPLEMENTATION OF NEW PORTFOLIO CONTENT CATEGORIES

**August 8, 2011**

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# COMMENTS OF IBERDROLA RENEWABLES, INC. ON IMPLEMENTATION OF NEW PORTFOLIO CONTENT CATEGORIES

The Commission has devoted significant time and resources addressing issues associated with renewable generation resources that might best serve the interests of utility ratepayers and Californians at large as California embarked on raising the renewable content of the portfolio of retail electric sellers.

Now, with the advent of a 33 percent Renewable Portfolio statute in the form of Senate Bill 2 (1X) ("SB 2X"), the Commission is well positioned to tailor an implementation program that responds effectively, efficiently, and timely to the direction provided by the Governor and General Assembly.

The questions posed by Judge Simon in the Ruling filed July 12, 2011 address important details for implementation of Section 399.16 in SB 2X. Many parties to this and previous RPS proceedings have discussed these issues at length

and in detail. Substantial conceptual agreement on many of the implementation issues is manifested by the diverse interests supporting the RPS Product Matrix included here as Attachment B. Iberdrola Renewables, Inc. ("Iberdrola Renewables") supports the RPS Product Matrix and further appreciates the opportunity to respond in detail to the 24 questions posed in the July 12, 2011 Ruling.

## RESPONSES OF IBERDROLA RENEWABLES TO THE QUESTIONS ENUMERATED IN THE RULING FILED MAY 5, 2011

1. Yes. The fulfillment of RPS procurement transactions constitutes "electricity products" that would be counted toward RPS compliance.

2. Yes, assuming the clarification addressed in Question #1 is in effect. Stated comprehensively, "energy transactions from an RPS-eligible facility that has a first point of interconnection with a California balancing authority, or energy transactions from an RPS-eligible facility that has a first point of interconnection with distribution facilities used to serve end users within a California balancing authority area, or energy from an RPS-eligible facility that schedules energy from that facility into a California balancing authority without substituting electricity from another source qualify under Section 399.19(b)(1)(A)."

3. California balancing authorities ("CBA") that meet the "primarily located in" definition include the California Independent System Operator; Los Angeles Department of Water and Power; Turlock Irrigation District; Imperial Irrigation District, and the Balancing Authority of Northern California, a joint powers authority (operated by Sacramento Municipal Utility District ("SMUD")). This is consistent with the RPS Product Matrix position. For changes in qualifying CBAs, the CPUC should not have to determine at this time the method of changing the list but should have the flexibility to do so in the future.

4. This qualifying electricity product is comprised of real-time deliveries of electricity to a California balancing authority area produced by eligible renewable energy resources that are not directly interconnected with a California balancing authority or dynamically transferred into a California balancing authority area. The phrase may be broken into several component parts:

- "scheduled from the eligible renewable energy resource" covers day-ahead, hourly or sub-hourly delivery schedules of electricity from an eligible renewable resource utilizing one or more transmission paths;
- "into a California balancing authority" means the energy is delivered into one of the five CBAs addressed in Question 3;

- "without substituting electricity from another source" means that the schedule (with the exception of energy used to provide ancillary services) is not sourced from non-eligible generation resources. As the response to question #7 suggests, the volume of energy that is an eligible electricity product under 399.16(b)(1)(A) would be equal to the lesser of the schedule (or schedules) or the metered output of the eligible resource on an hourly basis.

An example of such a transaction involves the power-purchase agreement between Iberdrola Renewables and SMUD for output from the Simpson Tacoma biomass cogeneration facility—which was certified as California RPS-eligible in 2008 by the California Energy Commission ("CEC"). Under this transaction, energy from the facility is delivered in real time to SMUD. The energy is scheduled on an hourly basis directly from the renewable resource, across transmission lines owned and operated by Tacoma Power and the Bonneville Power Administration ("BPA"), with delivery to the Balancing Authority of Northern California for SMUD's load. BPA provides the intra-hour ancillary services to allow for a firm schedule for the delivery hour.

Another example of a transaction that would qualify under this definition is a wind facility located in Washington State, which has also been certified by the CEC as

CA RPS-eligible, and interconnects to a substation owned by BPA. Utilizing BPA network and intertie transmission, the facility energy is scheduled from the resource to the California-Oregon Border ("COB"), where the customer takes the energy on CAISO transmission to its load. Intra-hour ancillary services are provided in the host balancing authority area to allow for a firm schedule for the delivery hour. These examples and the characteristics above are consistent with the RPS Product Matrix.

5. Inclusion of these transactions subsumes the work done by the Energy Division in response to Ordering Paragraph 26 of Decision 10-03-021. That effort focused on real-time deliveries of electricity from eligible renewable resources not directly interconnected to a California balancing authority or dynamically transferred into a California balancing authority *using firm transmission.* There is no firm-transmission requirement for eligible electricity products in Section 399.16(b)(1)(A).

6. The CEC retains the responsibility of determining RPS eligibility of specific generation facilities.

For tracking and verifying the transactions described in Question #4, a comparison may be made of hourly metered output from the RPS-eligible facility and the corresponding hourly energy schedules. The lesser of the two quantities would

equal the volume of energy that will qualify for this product content category on an hourly basis.

NERC eTags are the mechanism by which energy is scheduled in the WECC between control areas and thus for schedules into a CBA. The eTags contain key information necessary to track and verify the real-time deliveries characterized in the response to Question #4 above. The fields of the eTags that are required for tracking energy in the product category specified in Section 399.16(b)(1)(A) include:

- Purchasing Selling Entity ("PSE"): Identifies the buyer and seller included in the schedule
- Source: The "source" field will be the eligible renewable resource
- Physical Path: Identifies the transmission segment(s) from Point of Receipt to Point of Delivery
- Sink: The "sink" field will be a location in the California balancing authority area
- Energy Profile: The MWh that are delivered per this schedule
- Misc. Info: This field will include "Token Value" where the resource-specific CEC RPS certification code may be included

- Start time/stop time: Provides date and hour of energy

In its presentation at the April 23, 2010, workshop on Ordering Paragraph 26, Iberdrola Renewables provided visual examples for tracking real-time deliveries from renewable generation to a CBA. These examples, which are included in the Iberdrola Renewables April 23 workshop slide presentation, are part of the record in R. 06-02-012 and thus are also included in the record of this proceeding.

To verify the tracked information in the near term, the party or parties to a transaction responsible for scheduling eligible renewable generation into a CBA should be required to provide verification data to the Commission and attest to its accuracy on a calendar year basis under penalty of perjury. The data will support the RECs per facility that qualify for the different product classifications for that calendar year.

WREGIS should be the platform for tracking and verifying all product content categories. To create a more user-friendly, automated system, Iberdrola Renewables proposes that the Commission request any necessary modifications to the WREGIS accounting system to support the verification and retirement of the product categories. Presently, the Qualified Reporting Entity ("QRE") for each facility reports the monthly metered output of the facility to WREGIS for certificate creation. WREGIS has some ability to report the key eTag fields.

Additional data points may be required along with greater granularity of the data and enhancement of WREGIS retirement mechanisms. A review with WREGIS, the WREGIS software vendor, and the vendor supplying the NERC e-tag data, of the current capabilities vs. the desired capabilities will help craft the modifications required to support the product categories. Alternatively, simpler methods of utilitizing WREGIS RECs for all retirements in WREGIS, and employing other automated proof of product categories outside of WREGIS can be explored.

The development of automated solutions for verification should not prevent the CPUC from implementing product categories and using the interim verification methods described above.

7. Host balancing authorities typically ensure the provision of a range of ancillary services to integrate generation of all types into the grid in the interest of maintaining a stable and reliable system. For example, in the BPA balancing authority area ("BAA"), three ancillary services are notable in this context: regulation, load-following and imbalance services. These services are important for variable generation resources, like wind and photovoltaic solar, as they allow BPA to maintain system reliability. In the BPA BAA, BPA provides all regulation and load-following services to variable generators under an integration tariff. For the imbalance service, variable generators may choose BPA to provide it or may provide it themselves through a self-supply option. These services work in both

directions – raising generation at other sources when variable generation produces less than the hourly schedule (known as "inc") and lowering generation at other sources when variable generation produces more than the hourly schedule (known as "dec"). The sourcing of generation to provide "inc" and "dec" ancillary services will vary. Regardless of the provider or source of the ancillary services, the ancillary services ensure not only a reliable grid but also firm, hourly schedules from generating resources in its BAA.

As described above, ancillary services are tools used by BAs for all generators, thus, for the requirement that "...only the fraction of the schedule actually generated by the eligible renewable energy resources shall count toward this specific portfolio content category..." it follows that a purchaser should be credited for the lesser of the schedule volume or the metered output from the renewable facility over the delivery hour.

To illustrate: Iberdrola schedules energy from an eligible wind generation facility in the Pacific Northwest. Based on the forecast, Iberdrola Renewables schedules 100 MW to be delivered to COB for a specified hour. During that hour, the facility generates 98 MW. The remaining two MW of the schedule are provided through the provision of imbalance service. Thus, a full 100 MW are delivered to COB per the schedule. For purposes of Section 399.16(b)(1)(A), however, only 98 MWh

would qualify under this content category as it is the fraction of the schedule that was actually generated by the eligible renewable resource.

8. Yes. The facility operator or an affiliated business would be the generator-side entity that is party to a dynamic transfer agreement.

9. No. Iberdrola Renewables proposes that the phrase "unbundled renewable energy credit" be defined as a renewable energy credit [as defined in new 399.12(h)] is procured without any energy from the associated eligible renewable energy resource.

10. No. Treating electrically-equivalent resources based on location in the WECC would subvert several goals of the law. Section 399.11(e)(2) "...requires generating resources located outside of California but are able to supply that electricity to California end-use customers, to be treated identically to generating resources located within the state, without discrimination." Treating an in-state eligible renewable resource that does not sell energy and RECs as a bundled product but separates the energy transaction from the REC transaction would be discriminatory. Further, Section 399.11(b)(5) cites "…promoting stable retail rates for electric service..." as a justification for the RPS. The ability to separate energy from RECs, however, means a generator could price the energy at market rates while selling an unbundled REC at a fixed price in the unlimited category. A

transaction like this would undermine the price stability that bundled renewable generation would otherwise bring to end users. In summary, an in-state REC-only transaction should be treated the same as an out-of-state REC-only transaction.

11. Yes, "(A)ny fraction of the electricity generated..." should be interpreted to mean "any fraction of the electricity generated by the eligible renewable energy resource." This generation would encompass generation that does not meet the requirements included in Section 399.16(b)(1) or 399.16(b)(2).

The metric should be the industry standard of measuring energy in megawatts per hour (a "megawatt-hour" or "MWh") which is also the minimum increment that RECs are measured in and WREGIS uses to create certificates. In the event that the scheduled energy for an hour is greater than the metered energy for the hour, then this excess schedule MWhs would not count towards the product requirement of Section 399.16(b)(1). To the extent the total metered energy at a facility measured over a month results in a sum that is not a whole number, then the current WREGIS practice of aggregating fractional MW until a whole MW is created is the appropriate method. Procurement of this generation may be tracked and verified through the WREGIS certificate record—no different than as in place today. Since Section 399.16(b)(3) does not include any delivery of energy, the provision of NERC eTag information should not be required for inclusion in this product category. The Energy Commission continues to be vested with the

responsibility of certifying any facility as an eligible renewable energy facility. WREGIS continues to provide the service that certifies renewable generation volumes and REC retirement. The Commission has the responsibility under the new law to oversee the proper classification of renewable products into the three categories and enforce the floors and ceilings for these categories as specified in Section 399.16(c)-(e).

12. There are many different ways by which energy can be "firmed," "shaped," or "firmed and shaped." As noted in this response as well as to Question #13, the overriding theme in all of these is that there is a fixed contractual delivery obligation related to a variable energy resource. For a "firmed" transaction, the fixed contractual delivery obligation is based on the forecasted output of the variable resource. The "firming" energy is energy from alternate energy resources used to supplement, on an inter-hour basis, the delivery schedule when the variable resource is under generating. The firming energy may be resource-specific, or may be purchased from system resources in hourly markets. Please see the comments in Question #13 below for additional comments on firming and shaping.

13. "Shaped" transactions convert the variable resource output to a flat, predictable delivery schedule over specified delivery hours. This means that in some hours the renewable resource can be supplemented with alternate energy resources, or excess generation can be sold into the market in periods when generation exceeds the set

delivery schedule. While there have been several methods used in the past to define "firmed and shaped" deliveries, for purposes of this rulemaking Iberdrola Renewables proposes a requirment for a fixed contractual delivery obligation related to a variable energy resource. A "firmed and shaped" product should provide a set delivery schedule to a buyer while the seller or an affiliate or third party manages the intermittency of the variable resource—by procuring energy from alternate sources when the variable resource is not generating energy sufficient to meet the set delivery schedule and selling the excess generation when facility is generating more than the set delivery schedule.

To illustrate, please see the second slide in Attachment A. In sum, the details include of that illustration include:

- Wind facility installed capacity: 100 MW
- "Firmed and Shaped" Delivery Schedule: 30 MW (meaning that 30 MW will be delivered for every hour of the agreement term)

*Example Hour 1:*

- Wind facility: Generating 60 MW
- Delivery Schedule: 30 MW schedule is sourced solely from the Wind facility

- Excess Generation: 30 MW of generation above the schedule are sold into the market or used for other obligations of Seller; the excess RECs are held by Seller to be matched to energy deliveries in hours when the facility is not generating

*Example Hour 2:*

- Wind facility: Generating 0 MW
- Delivery Schedule: 30 MW schedule is sourced from other resources (eg wholesale power market or other Seller owned resources); the excess RECs from Example Hour 1 would be matched to the delivered energy for this hour at the end of the calendar year

A more specific example of a firmed-and-shaped transaction that comports with these definitions was provided by Iberdrola Renewables in the aforementioned presentation at the April 23, 2010 workshop on Ordering Paragraph 26. In that case, the output from Big Horn Wind, a Washington State RPS-eligible project, is sold to a California utility. Deliveries are firmed and shaped to provide a consistent block of power each hour to a specified delivery point.

During periods when Big Horn is not forecasted to generate energy sufficient to meet the contractual delivery obligation, Iberdrola Renewables procures generation

(in the wholesale power market or from other company-owned resources) to meet the contractual delivery obligation.

During periods when Big Horn is forecasted to generate in excess of the contractual delivery obligation, Iberdrola Renewables sources the energy for the contractual delivery obligation solely from Big Horn, sells the excess Big Horn generation in the wholesale power market and subsequently assigns the renewable energy credits ("RECs") from this delivery period to the other periods in the same calendar year when Big Horn generation is less than the contractual delivery obligation. Consequently, at the end of the calendar year the number of RECs created by Big Horn is equal to the volume of energy delivered to the customer, with minor differences trued up by the seller and buyer.

Under the new law, these or similar structures, may include products that qualify for 399.16(b)(1) and 399.16(b)(2) categorization. To illustrate, in the hours when the facility is generating energy sufficient to meet the delivery obligation (aka a real-time delivery of energy), those delivery hours meet the 399.16(b)(1) requirements. During hours of generation in excess of the set delivery obligation, energy is sold in the wholesale power market and RECs are created. For the remaining delivery hours when the seller sources the energy from other resources for the set delivery obligation, as long as at the end of the calendar year there are sufficient RECs from periods of generation above the set delivery obligation that

match the amount of energy delivered, those hours qualify for 399.16(b)(2) given that both energy and RECs were delivered to the customer.

14. Transactions that meet the requirements of 399.16(b)2 should include the following transactional elements, and the test for "incremental" should be based on contract terms:

- The transaction should include a purchase of the both the energy and RECs from an eligible renewable energy resource and firming and shaping services that are not be in the portfolio of the buyer at the time the contract is executed. For transactions of five years' duration or longer, the product – energy and RECs, firming and shaping energy -- must be provided at a fixed price for at least five years. The fixed-price firming and shaping offer may be longer than five years but does not have to be.

- For transactions of fewer than five years, the firming and shaping product must be provided at a fixed price for a period that corresponds with the associated renewable energy contract. For example, a three-year renewables procurement with a firming and shaping product must offer firming and shaping energy for three years.

- Fixed price energy may include escalators but not escalators based on an energy-price index. For example, a two percent annual escalator or a CPI

adjustment would be permitted. Transmission and integration charges are not included in the fixed-price requirement and may move up or down based on approved tariffs.

- Firming and shaping contracts may be separate from the bundled REC and energy procurement and may be provided by the generator, an affiliate or a third-party.

- The firming and shaping energy must be scheduled to the buyer in the same calendar year as the generation for the product to be counted toward Section 399.16(b)(2) in that year. The firming and shaping energy need not be sourced from the same balancing area.

- Incremental electricity in a renewable firming and shaping transaction is generation that is not in the portfolio of the retail utility at the time the contract is executed. For example, if an eligible renewable resource is to be firmed and shaped using specific alternate sources, the retail utility must neither own the sources nor have an existing contract for the output from those sources. If non-specific resources or market purchases are the sources used under a firming and shaping transaction, then the generation from the renewable and firming and shaping procurements must be additive to the retail utility's generation portfolio. The retail utility should declare that the

firming and shaping resources are incremental when it seeks formal approval of the procurement (e.g., through an advice letter for a Commission-jurisdictional entity.

15. Products eligible for Section 399.16(b)(2) should not be limited to energy generated at facilities outside the boundaries of a California balancing authority. Also, while 399.16(b)(2) is most relevant to variable generators, it should not be limited to those resources. There may be some variability from biomass, geothermal, or other eligible forms of generation which should not impair those generators and purchasers of that generation from taking steps that optimize the resource output with the profile of the buyer's load.

16. In a single delivery hour, only generation that is scheduled from the eligible renewable energy resource into a California balancing authority without substituting electricity from another source (except for ancillary services), will qualify as meeting the requirements of 399.16(b)1A. However, there may be transactions that will result in a product that qualifies for both 399.16(b)(1) and 399.16 (b)(2) in a single hour. An illustration of this type of transaction providing these two products is shown in Attachment A.

17. Ownership agreement in the context of 399.16(d) means an agreement by a retail utility to purchase an asset. The three sub-questions all address transition

issues from current law and regulation to the new law. Iberdrola Renewables suggests the Commission "count in full" all contracts executed prior to June 1, 2010, irrespective of contract terms and conditions. We consider "count in full" to mean that the contracts are *not* subject the procurement requirements of SB 2X and shall fully qualify for the RPS procurement pursuant to the classification and limits of D. 10-03-021 as modified by D. 11-01-025. Under Section 399.16(d), contracts executed after June 1, 2010 are to be classified according to the three categories in Section 399.16(b), subject to the limits of Section 399.16(c).

18. SB 2X and this proceeding subsume current law and Commission rules. Thus, the direction given to Commission-jurisdictional entities in D. 10-03-021 as modified by D.11-010-25 does not apply to transactions executed after June 1, 2010.

19. The content limitations should formally go into effect on the effective date of the statute. The Commission should use its discretion in assessing and ruling on procurement proposals associated with contracts executed after June 1, 2010 in anticipation of the portfolio content categories and limitations.

20. To the extent the contracts entered into and approved under the to-be-repealed delivery requirements prescribe delivery requirements, those contract terms are not voided by the new law. Consistent with the response to Question #19, the

Commission should consider the delivery requirement ended for all procurement that falls after the grandfathering provisions of SB 2X.

21. An advice letter should provide the terms under which the seller and buyer intend to meet the resource eligibility and scheduling qualifications for Section 399.16(b)(1), (2), or (3). Some transactions may include products that fall into one or more of the three categories as noted in our answer to Question 16. A variable generation procurement with firming and shaping services described in the answers to Questions #12 – 14 may fall in part under Section 399.16(b)(1) and in part under Section 399.16(b)(2). An advice letter should set forth the details of the product content category, including the source of the eligible renewable energy, the firming and shaping arrangements, and the means by which schedule information will be tracked and provided to the Commission for verification. Approvals of shorter-term transactions should be fast-tracked. Energy Division staff may review the details against the Commission's implementing rules. Over the term of the agreement, this information should be provided on a regular basis to the Energy Division staff to ensure the Commission has the ability to verify that a utility's transactions comply with the portfolio content requirements.

22. Post-contracting verification should be conducted to ensure compliance with the procurement quantity obligations as well as the portfolio content requirements. There does not appear to be any basis in statute for creating different verification

requirements for different types of retail sellers under the jurisdiction of the Commission, nor is it necessary for there to be a difference. Unlike the previous "delivery" requirements enforcement of which was explicitly given to the Energy Commission, the portfolio content requirements are incorporated into the Public Utilities Code, with enforcement logically flowing to the Public Utilities Commission rather than the Energy Commission.

The information required to verify transactions may vary according to the portfolio content category to which specific transactions may be assigned as is shown below. A REC-only transaction that is compliant with Section 399.16(b)3 would simply require identification of the WREGIS certificates. The table below shows per Product Category what data is required to verify the product applicability for each product category and the analysis needed to validate the WREGIS certificates to be retired in the product categories. At a minimum for all eligible resources the WREGIS certificates will be created on the basis of hourly metered data aggregated over a month. The volume of WREGIS certificates to be retired against a product category will be dependent the NERC eTag data and analysis of product qualification. As referenced in Question #6 modifications within WREGIS may be appropriate to enhance and automate the needed verification and retirements.

| Product Category | Metered Data (1) | NERC e-tag Data (2) | Analysis (3) | WREGIS Certificates |
|---|---|---|---|---|
| 399.16 (b)(1)(A) – "Bucket 1" interconnected to a CBA | YES | N/A | N/A | Total RECs = (1) |
| 399.16(b)(1)(A) – "Bucket 1" scheduled to a CBA | YES | YES | Lesser of (1) or (2) on hourly basis | Total RECs = (1)<br>Bucket 1 = (3)<br>(See Bucket 2 row below for additional accounting) |
| 399.16(b)(1)(B) "Bucket 1" Dynamic Transfer to a CBA | YES | N/A | N/A | Total RECs = (1) |
| 399.16(b)(2)<br>--"Bucket 2" firmed and shaped to a CBA | YES | YES | (3A) = Lesser of (1) or (2) on an hourly basis<br>(3B) = Lesser of (1) or (2) over calendar year | Total RECs = (1)<br>Bucket 1 portion = (3A)<br>Bucket 2 portion = (3B) – (3A) |

For transactions with a real-time deliveries described above in Question 4 or are dynamically transferred and thus will be eligible per either Section 399.16(b)(1)(A) or (B), the information required to verify categorization of these transactions includes the metered output data from the eligible renewable resources, the NERC eTags that show the information described in #6 above (source, sink, volume and CEC-issued eligible renewable resource identification numbers), and the WREGIS certificates. As previously noted in #6, WREGIS will be the best tool for verifying products that are eligible for Section 399.16(b)(1)(A), or (B).

For firmed and shaped products, the information required to verify inclusion in this category includes the delivery schedules that fulfill the firming and shaping obligation and the WREGIS certificates that are associated with the transaction. This information should include the dates necessary to show that scheduled energy and renewable generation occurred within the same calendar year.

23. Value propositions:

**Value to Buyer:**

- Directly-interconnected/real-time delivery/dynamically-transferred products: Buyer receives renewable energy in the same hour that it was generated. Renewable energy contracts provide stable and predictable pricing and eliminate price volatility associated with fossil fuels. Renewable energy

displaces conventional sources of generation, lowering the cost of compliance with federal and state air and water pollution laws including AB 32.

- Firmed and shaped products: Buyer can rely on a predictable delivery schedule which minimizes variability and is more easily integrated into an overall resource portfolio. This should result in lower costs than an RPS portfolio that is strictly derived from renewables purchased on an as-generated basis. Firmed and shaped renewable products also make it easier to displace dispatchable and non-dispatchable baseload generation over the long term—much of which are fossil fuel resources. Fixed pricing for firming and shaping energy services insulate utilities from price volatility associated with fossil fuel costs and reduces the need for utility-side fuel hedging.

- Unbundled RECS: Buyer gets flexibility -- without concern for scheduling requirements and minimal concern (must be generated in the WECC) for source. Unbundled RECS may be useful to "true up" procurement needs to meet periodic compliance requirements. The transaction is simpler and there is ease of administration and verification.

**Value to Seller:**

- Directly-interconnected/real-time delivery/dynamically-transferred products: Seller is likely to receive a premium price for the product as it is the only procurement category that has a floor and no ceiling for procurement amounts.

- Firmed and shaped products: Seller can be more flexible in delivering product to buyer which may be valuable in the face of transmission constraints and challenges associated with scheduling variable renewable generation.

- Unbundled RECS: Seller has no scheduling or timing requirements for delivering the product to buyer, thus allowing for less complicated transactions, and ease of administration.

**Value to Ratepayers:**

- Directly-interconnected/real-time delivery/dynamically-transferred products: Rates will reflect stable, predictable prices for the renewable component of utilities' generation portfolios. These products also provide a price hedge against fuel-cost volatility. An expanded portfolio of renewable generation will achieve certain environmental benefits including reduced emissions of air pollutants including greenhouse gases, and potentially lower consumption of

water associated with power generation. In addition, ratepayers are receiving the exact volume of energy that they paid for at the same time it is generated.

- Firmed and shaped products: Firmed and shaped products help ensure reliable, consistent delivery of energy. The cost to ratepayers from firmed and shaped renewable products may be lower than a portfolio consisting entirely of renewable energy received on an as-generated basis. Variable renewable generation and loads share a characteristic in that they both vary from hour to hour, month to month, and season to season. Firming and shaping may smooth out the generation variability and better enable utilities to match generation with loads while also providing more efficient use of transmission. This flexibility should result in lower energy and transmission costs to ratepayers.

- Unbundled RECS: Flexibility simpler administration and verification should result in lower utility compliance costs.

24. The Commission should move to adopt new rules for the RPS, particularly in the area of product content categories as quickly as possible in 2011 to supplant the delivery requirements currently in place (i.e. TREC). Commission-jurisdictional utilities are reviewing procurement proposals today, as are many non-jurisdictional utilities. The General Assembly and Governor Brown have made obsolete the old notions of "delivery" and "bundled transactions." Utilities, ESPs, and CCAs are in

procurement limbo for contracts executed after June 1, 2010. This limbo has created great uncertainty in the procurement market and thus, utilities, ESPs and CCAs are less willing to move forward with transactions at this time. Consequently, the ability of these entities to meet the aggressive renewable targets is being hampered. Better long-term procurement decisions will come if the Commission provides clarity on the issues addressed in these questions in time to affect pending procurement decisions. Timely adoption of the rules should result in the initiation of more renewable construction that qualifies for federal tax incentives and payments in lieu of those tax credits the benefits of which will inure to ratepayers—incentives that are currently scheduled to be expire in the near-term.

*/s/ Kevin A. Lynch*
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## VERIFICATION

I am an officer of Iberdrola Renewables, Inc. and am authorized to make this verification on its behalf. I have read the foregoing **COMMENTS OF IBERDROLA RENEWABLES, INC. ON IMPLEMENTATION OF NEW PORTFOLIO CONTENT CATEGORIES** and am informed and believe, and on that ground allege, that the matters stated are true and correct to the best of my knowledge.

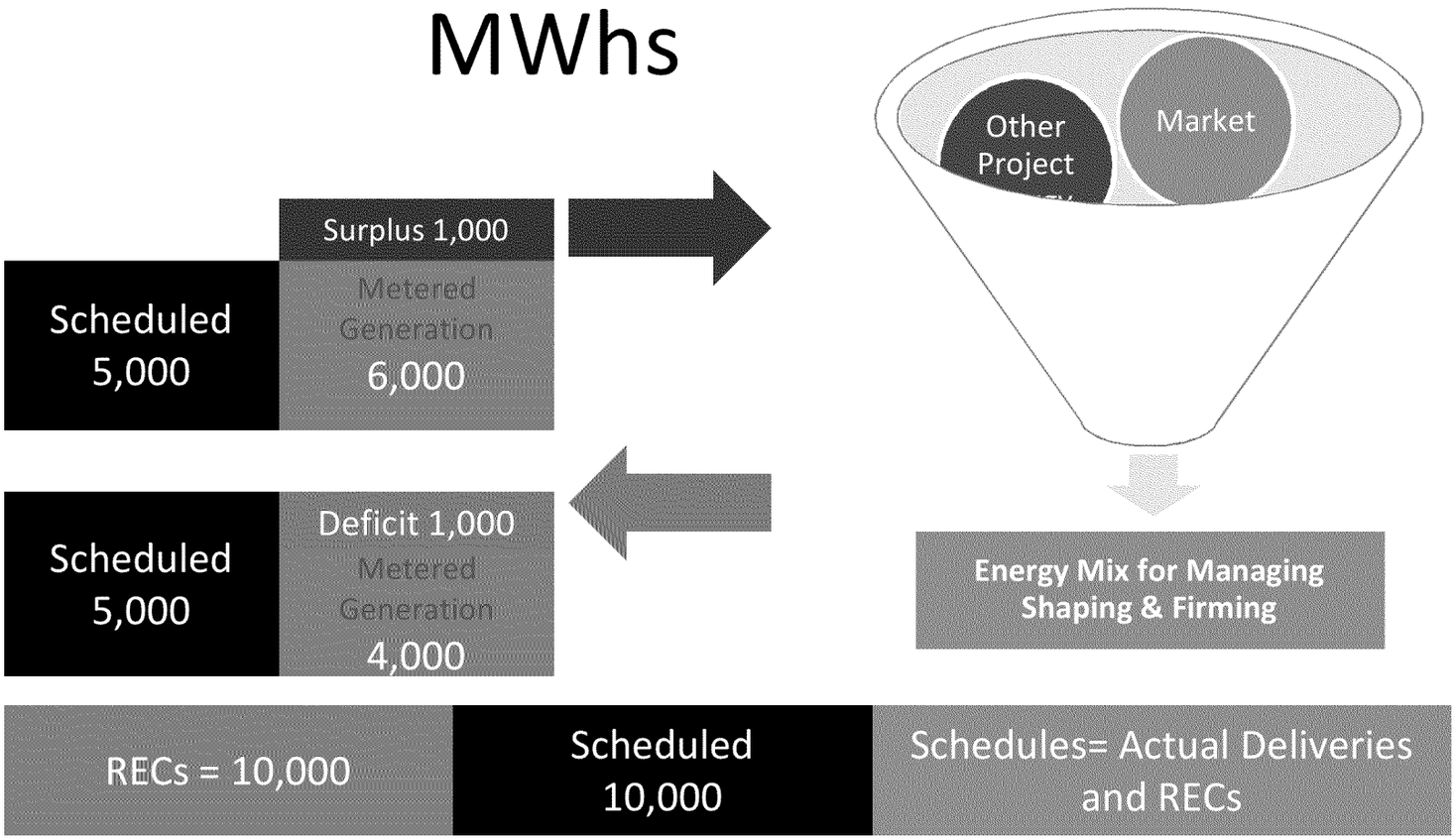
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 8th day of August, 2011, at Portland, Oregon.

*/s/ W. Benjamin Lackey*
W. Benjamin Lackey
General Counsel

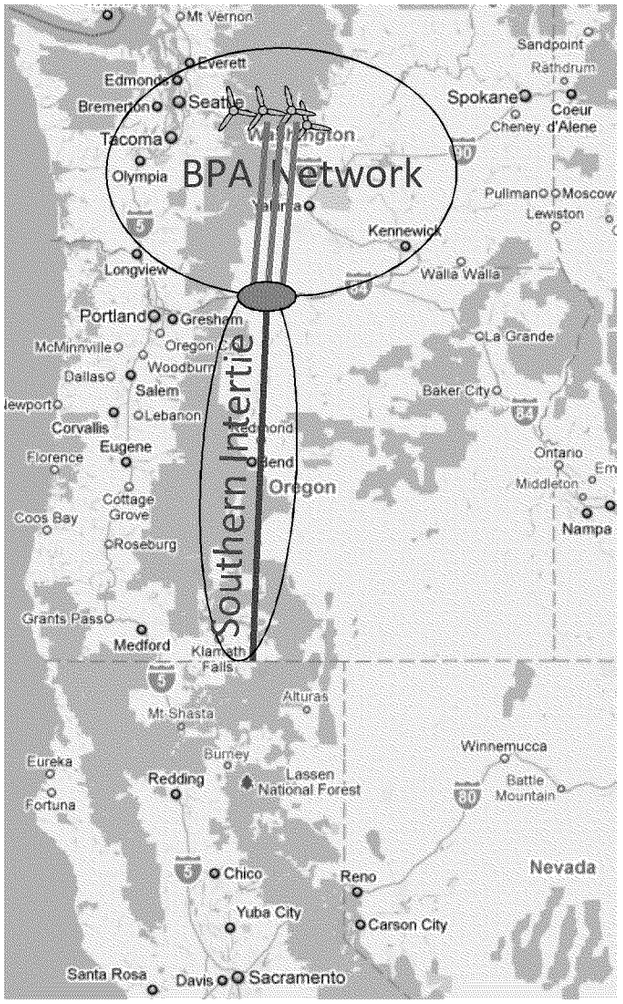
# Exhibit A

# Firming and Shaping Balances Actuals and Delivered MWhs




1

# Firmed and Shaped Delivery of Intermittent Renewable Generation




- An Iberdrola Renewables (IBR) project LLC and California LSE enter into a 15-year PPA to acquire the output of a 100 MW wind power project with a 33% Capacity Factor.
- IBR and California LSE enter into firming and shaping contracts for IBR to deliver 33 MW every hour to a California Balancing Authority delivery point, e.g., COB, for 15 years.
- IBR schedules day-ahead and hour-ahead based on forecasts, and secures firming resources to ensure the firm obligation will be met.
- Firming resources may come from other renewable facilities, other hydro or thermal (Klamath gas), or system generation.
- When the facility generates at the firm obligation, 33 MW is delivered to COB, from the facility and qualifies as a product under Section 399.16(b)(1)(A), aka “Bucket 1.”
- When the facility generates above the firm obligation, excess energy is sold in the market. The RECs from the excess generation are reserved.
- When the facility under-generates, 33 MW will be delivered to COB from the facility and firming resources.
- RECs from the period of over-generation are assigned to the power delivered from the period of under-generation in a calendar-year true-up. These energy-and-REC packages qualify as products under Section 399.16(b)(2) aka “Bucket 2.”
- Pricing for the energy components of these transactions is fixed, allowing for escalators not tied to an energy index. The periodic reconciliation of deliveries may be indexed.
  - For contracts of 5 years or more, the firming and shaping energy price must be fixed for a minimum of five years.
  - For contracts shorter than 5 years, the firming and shaping energy price must be fixed for the period of time that corresponds to the RPS contract (e.g., one-year RPS contract with one-year fixed-price firming and shaping).

# Exhibit B

**Note**: The following table was produced by a broad group of stakeholders in order to develop a common conceptual framework for discussing the RPS Product Content Requirements, identifying where stakeholder consensus exists, and allowing individual comments to focus on the identified open issues in the last column. The following stakeholders participated in discussions regarding this table and its refinement based on those discussions: Coalition of California Utility Employees; Division of Ratepayer Advocates; enXco; First Solar; Iberdrola; Independent Energy Producers Association; Large-Scale Solar Association; NextEra; Pacific Gas and Electric Company; San Diego Gas and Electric Company; Southern California Edison; Sunpower; The Utility Reform Network; and the Union of Concerned Scientists.

| Issue or RPS Portfolio Content Category Requiring Interpretation | New Statutory Language (from SB 2 (1X)) | Consensus RPS Product Description | Consensus Illustrative Contract / Interconnection Structures | Open Issues (No Consensus) |
|---|---|---|---|---|
| ***What Procurement is Affected?*** | *399.16(c)*<br><br>*"eligible renewable energy resource electricity products associated with contracts executed after June 1, 2010"* | "bundled purchase" means the purchase of RPS-eligible energy plus the associated Renewable Energy Credit (REC)<br><br>"unbundled REC" means the REC associated with the RPS-eligible energy separate from the associated energy | (1) Contract amendments or modifications occurring after June 1, 2010 unless such amendment or modification is grandfathered under the provisions set forth in 399.16(d)(3);<br><br>(2) New contracts with existing facilities (i.e., recontracting) after June 1, 2010, unless such contract is grandfathered under the provisions set forth in 399.16(d)(3);<br><br>(3) Any contract executed under an approved IOU Photovoltaic PPA program after June 1, 2010;<br><br>(4) Engineering, Procurement and Construction or Build Own Transfer | |

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|---|---|---|---|---|
| | | | contracts for renewable utility owned generation (UOG) executed after June 1, 2010;<br><br>(5) Any Feed in Tariff contract (ie., AB 1969, SB 32, Renewable Auction Mechanism, etc.) executed after June 1, 2010;<br><br>(6) Any enrollment in the IOU net energy metering (NEM) program for surplus distributed generation (i.e., including but not limited to participants in California Solar Initiative and Self-Generation Incentive Program) after June 1, 2010.<br><br>(7) Bilaterally-negotiated transactions after June 1, 2010;<br><br>(8) Any new renewable energy resource contract executed after June 1, 2010, including purchases of unbundled RECs associated with generation under any of the above contract structures. | |

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|---|---|---|---|---|
| ***Bucket #1(a)*** | ***399.16(b)(1)(A): [addressing point of interconnection of facility]***<br><br>*"Have a first point of interconnection with a California balancing authority"* | Facility must be an eligible renewable energy resource located within the WECC and Facility must be directly interconnected to a California Balancing Authority (CBA). CBAs include CAISO, LADWP, TID, IID, and Balancing Authority of Northern California (formerly SMUD).<br><br>• Any transaction for a product from an eligible renewable generator physically connected to any CBA<br><br>• Any transaction for a product from an eligible renewable generator located outside of a CBA, but which directly interconnects to a CBA through a gen-tie.<br><br>• "gen-tie" means an electrical conductor directly connecting the generation unit to a CBA | • Bundled procurement from eligible renewable generator physically connected to any CBA, including utility-owned generation (UOG)<br><br>• NEM surplus sales | • Should the CPUC establish a standard in advance for identifying future or additional CBAs now, or should that process wait until there is some change in the current CBA lineup? |
| ***Bucket #1(b)*** | ***399.16(b)(1)(A): [addressing point of interconnection of facility]*** | Facility must be an eligible renewable energy resource located within the WECC and Facility must be directly interconnected to the distribution system | • Bundled procurement from distributed generation facility interconnected at distribution level of any CBA, including UOG | • Do RECs associated with generation within a CBA area that serves load "behind-the-meter" (ie., |

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| | "[*H*]*ave a first point of interconnection with distribution facilities used to serve end users within a California balancing authority area…*" | located within a CBA's area.<br>• Any transaction for a product from an eligible renewable generator physically connected to distribution facilities serving end use customers in a CBA.<br>• Any transaction for a product from an eligible renewable generator located outside of a CBA, but which directly interconnects to a CBA's distribution facilities through a gen-tie.<br>• "gen-tie" means an electrical conductor directly connecting the generation unit to a CBA | • NEM surplus sales | CSI/NEM or industrial RPS generation serving on-site load) qualify as Bucket 1 if they are sold (unbundled) to a (1) the retail seller that is also buying the energy, or (2) another RPS-obligated retail seller?<br>• In general, should the "bucket" attribute of a REC remain with the REC until it is retired for compliance, no matter how many times it is traded as an unbundled product in the secondary market? If so, how can the bucket attribute of a REC best be tracked? |

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| ***Bucket #1(c)*** | ***[399.16(b)(1)(A): re specific types of commercial transactions]***<br><br>*"... or are* ***scheduled*** *from the eligible renewable energy resource into a California balancing authority* ***without substituting electricity from another source.*** *The use of another source to provide real-time ancillary services required to maintain an hourly or subhourly import schedule into a California balancing authority shall be permitted, but only the fraction of the schedule actually generated by the* | • Energy must be scheduled to a CBA from an eligible renewable energy resource ("ERR") located within the WECC and documented using E-tag information for generator source and delivery sink.<br><br>• Schedule into the CBA may be day-ahead, hourly, or sub-hourly.<br><br>• No specific transmission rights are required.<br><br>• Only the lesser of ERR metered-data and the final adjusted E-tags is eligible as "Bucket 1(c)".<br><br>• Import schedules may be firmed within the hour through the use of ancillary services markets, including intra-hour balancing services. | • Generator located in the Pacific Northwest schedules 100 MWh into CAISO over time period X. In that time period, generator meter data shows generation of 90 MWh, and final adjusted E-Tags show delivery of 100 MWh. Retail seller will receive 90 MWh of Bucket 1(c) credit from this resource over this time period.<br><br>• Over time period Y, Generator scheduled 100 MWh, but 110 MWh is actually generated; 100 MWh would be reflected on the E-tag and is counted for "Bucket # 1(c)." | • Over what period of time may the facility's meter data be netted against the final adjusted E-tags from the contract? Hourly? Monthly?<br><br>• What additional technology, data, or systems, if any, are needed to track, compute, and produce for verification these comparisons of meter data with final adjusted E-tags? How does the answer to this question impact the feasibility or reasonableness of any particular netting period, as discussed in the bullet above? |

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| | *eligible renewable energy resource shall count toward this portfolio content category.*" | | | |

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|---|---|---|---|---|
| ***Bucket #1(d)*** | **399.16(b)(1)(B):**<br><br>**[re dynamically scheduled transactions]**<br><br>*"Have an agreement to dynamically transfer electricity to a California balancing authority."* | • Any transaction in which the energy from an ERR located within the WECC is dynamically transferred into a CBA;<br><br>• Able to show agreement between generator and CBA (and, if necessary for a pseudo-tie, with the host BA) that allows for the CBA to dynamically transfer the electrical output from the eligible renewable resource to serve CBA load. | • Qualifying interconnection agreements include pseudo-tie agreements and dynamic scheduling agreements (or functional equivalent).<br><br>• Bundled deliveries pursuant to a dynamic transfer agreement (or functional equivalent). | |
| ***Bucket #2***<br><br>***"FIRMED AND SHAPED TRANSACTIONS"*** | **Section 399.16(b)(2):**<br><br>*"**Firmed and shaped** eligible renewable energy resource electricity products providing **incremental electricity** and scheduled into a California balancing authority."* | • Electricity products must derive from eligible renewable energy resources located with the WECC.<br><br>• REC must be "E-tagged" to energy scheduled for delivery to a CBA;<br><br>• Energy to which the REC is "E-tagged" must be "incremental"<br><br>• Energy to which the REC is "E-tagged" must have been delivered to the CBA within the same calendar year of the | • Retail seller buys bundled product of energy and RECs from an ERR not located in a CBA. Energy is immediately sold off locally. Retail seller tags the RECs from the RPS PPA to the E-tags for the imported incremental energy within the same calendar year that the RECs were generated.<br><br>• Procurement of bundled product from ERR outside of a CBA. ERR intends generally to qualify as | • What is the definition of "incremental electricity?"<br><br>• Are there any additional attributes or contract structures that must be included to qualify procurement as a "firmed and shaped" product (i.e., concurrent procurement, fixed price agreement, etc)?<br><br>• Should there be a grace |

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| | | creation of the REC within WREGIS. | Bucket #1(c) by scheduling imports directly into a CBA. However, ERR cannot transmit its full contract quantity into a CBA within the time period specified for Bucket #1(c). In the same time period, ERR delivers a firm schedule for import into the CBA using some substitute energy. The "stranded" RECs are tagged to the substitute energy within the same calendar year and qualify as Bucket #2. | period beyond the calendar year during which the tagging process may be "trued up?"<br><br>• Must the term of the firming and shaping agreement described in the first illustrative contract structure match the term of the RPS PPA producing the RECs?<br><br>• What other contract structures or variations on the consensus contract structures qualify as bucket #2? |
| ***"Bucket #3"***<br><br>***All Other RPS Products*** | **[Section 399.16(b)(3):]**<br><br>"*Eligible renewable energy resource electricity products, or any fraction of the electricity generated,* | • Any certificate registered within the Western Renewable Generator Information System (WREGIS) that does not qualify as Bucket 1 or Bucket 2.<br><br>• No energy and/or capacity need be associated with this type of | • Retail seller procures unbundled RECs from an ERR located within WECC, but not in a CBA. Retail seller does not "tag" these RECs to any energy.<br><br>• Energy to which a REC generated by a non-CBA facility is tagged is | |

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|---|---|---|---|---|
| | *including unbundled renewable energy credits, that do not qualify under the criteria of paragraph (1) or (2).*" | transaction. | imported outside the same calendar year or is not "incremental." | |