

August 6, 2014

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**Re: California Independent System Operator Corporation  
Filing of Service Agreement No. 3104  
Docket No. ER14-\_\_\_\_-000**

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits for Commission filing and acceptance a Dynamic Transfer Operating Agreement (“Dynamic Transfer Agreement”) between the CAISO and the Bonneville Power Administration (“Bonneville”).<sup>1</sup> The CAISO submits this filing to commence dynamic transfers between the CAISO and Bonneville consistent with the dynamic transfer provisions of the CAISO tariff.<sup>2</sup> The CAISO proposes that the Dynamic Transfer Agreement be made effective on October 1, 2014.

#### **I. Purpose of the Dynamic Transfer Agreement**

The Dynamic Transfer Agreement addresses both dynamically scheduled resources and pseudo-tie resources, collectively referred to as dynamic transfers. Both forms of dynamic transfer are made available either to or from the CAISO and Bonneville balancing authority areas. At this time there will be one dynamic schedule from Bonneville into the CAISO balancing authority area with respect to the Iberdrola Renewables, LLC’s resources in Bonneville’s

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<sup>1</sup> The CAISO submits the Dynamic Transfer Operating Agreement pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d (2012). Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the CAISO tariff.

<sup>2</sup> The dynamic transfer provisions of the CAISO tariff were accepted by Commission order dated September 30, 2011 in ER11-4161-000 (136 FERC ¶ 61,239).

balancing authority area.<sup>3</sup>

The Dynamic Transfer Agreement is consistent with the requirements of the CAISO tariff and has been agreed to by Bonneville.<sup>4</sup> In the Dynamic Transfer Agreement, the CAISO and Bonneville have built upon similar agreements between the CAISO and the Balancing Authority of Northern California, the CAISO and Public Service Company of New Mexico, and the CAISO and Imperial Irrigation District to provide for both dynamically scheduled resources and pseudo-tie resources, consistent with the dynamic transfer provisions of the CAISO tariff.<sup>5</sup> Further, the Dynamic Transfer Agreement incorporates Bonneville's dynamic transfer business practice by reference, and communications and equipment requirements in Exhibit B. Specifically:

- Section 1 provides for the effective date and termination;
- Section 2 includes defined terms referenced in the agreement;
- Section 3 describes exhibits in the agreement;
- Section 4 outlines the requirements for dynamic transfers;
- Section 5 outlines the requirements for information exchange and confidentiality;
- Section 6 establishes limitations on the parties' liability;
- Section 7 covers no third party beneficiaries;
- Sections 9 through 16 covers miscellaneous provisions for administrative updates of exhibits, amendment to the agreement, waivers, freedom of information act, counterparts for execution, governing law, and signatures;
- Exhibit A contains notices;
- Exhibit B identifies communications and equipment requirements;
- Exhibit C identifies dynamic scheduled resources; and
- Exhibit D identifies pseudo-tie resources.

The Dynamic Transfer Agreement does not apply to EIM Transfers between the CAISO balancing authority area and an EIM Entity balancing authority area that makes its transmission available for use in the Energy Imbalance Market. EIM Transfers are not similarly situated to dynamic transfers

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<sup>3</sup> Separate agreements with the resource and the resource's scheduling coordinator are also required (see, e.g., CAISO tariff Section 4.5.4.3.1).

<sup>4</sup> See CAISO tariff, Appendix M, Sections 1.2.1 and 2.2.1 (requiring a balancing authority area operating agreement for dynamic scheduling); CAISO tariff, Appendix N, Sections 1.3.1 and 2.3.1 (requiring a balancing authority operating agreement for pseudo-ties).

<sup>5</sup> See Letter Orders dated June 14, 2012 in Docket No. ER12-1636-000, February 21, 2013 in Docket No. ER13-711-000, and March 14, 2014 in Docket No. ER14-1512-000 (accepting similar dynamic transfer agreements as filed by the CAISO).

of energy and ancillary services from individual or aggregated resources outside the CAISO balancing authority area. Rather, EIM Transfers are modeled and managed in accordance with CAISO tariff as the mechanism by which the CAISO extends its real-time market to balancing authority areas other than the CAISO.<sup>6</sup> EIM Transfers are facilitated pursuant to an EIM Entity Agreement between the CAISO and an EIM Entity, not an agreement entered into between the CAISO and the host or native balancing authority to facilitate the delivery of resources dynamically transferred to the CAISO balancing authority area.<sup>7</sup> Arrangements needed to facilitate EIM Transfers with parties other than the EIM Entity, if any, must be separately agreed to and are not addressed by the Dynamic Transfer Agreement.

## **II. Effective Date**

The CAISO requests that the Dynamic Transfer Agreement be made effective on October 6, 2014.

## **III. Service**

The CAISO has served copies of this filing upon Bonneville, Iberdrola Renewables, LLC, the California Public Utilities Commission, and the California Energy Commission. In addition, the CAISO has posted the filing on the CAISO website.

Enclosed for filing is each of the following:

- (1) This letter of transmittal; and
- (2) Dynamic Transfer Operating Agreement (Attachment A).

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<sup>6</sup> See CAISO tariff, section 29.7(e) and Section 29.7(f).

<sup>7</sup> See CAISO tariff, Appendix M, Sections 1.2.1 and 2.2.1 (requiring a balancing authority area operating agreement for dynamic scheduling); CAISO tariff, Appendix N, Sections 1.3.1 and 2.3.1 (requiring a balancing authority operating agreement for pseudo-ties); see *also*, Docket No. ER14-2607-000 (filing of a non-conforming First Amended EIM Entity Agreement between the CAISO and PacifiCorp).

#### **IV. Correspondence**

The CAISO requests that all correspondence, pleadings, and other communications concerning this filing be served upon the following:

John C. Anders\*  
Lead Counsel  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7287  
Fax: (916) 608-7222  
E-mail: [janders@caiso.com](mailto:janders@caiso.com)

\* Individual designated for service pursuant to Rule 203(b)(3),  
18 C.F.R. § 203(b)(3).

#### **V. Conclusion**

The CAISO respectfully requests that the Commission accept this filing and permit the CAISO's submittal of this Dynamic Transfer Agreement, Service Agreement No. 3104, to be effective as of the date requested. If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

**By: /s/ John C. Anders**

Roger Collanton  
General Counsel  
Sidney M. Davies  
Assistant General Counsel  
John C. Anders  
Lead Counsel  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7287  
Fax: (916) 608-7222  
[janders@caiso.com](mailto:janders@caiso.com)

Attorneys for the California Independent  
System Operator Corporation

**Attachment A – Dynamic Transfer Operating Agreement**

**Filing of Service Agreement 3104**

**California Independent System Operator Corporation**

**DYNAMIC TRANSFER OPERATING AGREEMENT**

**executed by the**

**UNITED STATES OF AMERICA**

**DEPARTMENT OF ENERGY**

**acting by and through the**

**BONNEVILLE POWER ADMINISTRATION**

**and**

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

This DYNAMIC TRANSFER OPERATING AGREEMENT (Agreement) is entered into by the UNITED STATES OF AMERICA, Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION (BPA), and CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION (CAISO), a California nonprofit public benefit corporation organized and existing under the laws of the State of California. BPA and the CAISO are sometimes referred to individually as "Party" and collectively as "Parties".

**RECITALS**

WHEREAS, BPA is a Balancing Authority Area operator that provides transmission service over the Federal Columbia River Transmission System (FCRTS) and the path operator of the California-Oregon Intertie north of the California-Oregon border;

WHEREAS, the CAISO is a Balancing Authority Area operator, an independent system operator in the State of California, and the path operator of the California-Oregon Intertie south of the California-Oregon border;

WHEREAS, the Parties are adjacent Balancing Authorities and operate interconnected Balancing Authority Areas connected at the California-Oregon border, Malin Substation;

WHEREAS, the Parties wish to coordinate operation of Dynamic Transfer functionality to satisfy North American Electric Reliability Corporation ("NERC") and Western Electricity Coordinating Council ("WECC") standards and criteria and Good Utility Practice;

WHEREAS, the Parties wish to enter into an Agreement to establish the terms and conditions for the Parties to effect Dynamic Transfers through or from the each Party's respective Balancing Authority Area to the other Party's Balancing Authority Area; and

WHEREAS, the Parties have certain statutory obligations under state and federal law, and NERC and WECC standards and criteria to maintain power system reliability.

NOW THEREFORE, the CAISO and BPA agree to the following terms and conditions:

## **1. TERM AND TERMINATION**

### **1.1 Effective Date**

This Agreement shall be effective upon execution of both Parties and acceptance for filing by the Federal Energy Regulatory Commission ("FERC") pursuant to a filing by the CAISO (the "Effective Date"), and shall continue in effect until terminated.

### **1.2 Termination**

- (a) Except as provided in Section 1.2(b) and (c) below, this Agreement may be terminated by either Party upon two (2) years written notice to the other Party or upon mutual consent of both Parties; provided, however, that the CAISO, as a FERC jurisdictional entity, is subject to the following:
  - (i) In the event that the CAISO seeks to terminate this Agreement, termination will be effective upon the later of (i) acceptance by FERC of the CAISO's notice of termination, if this Agreement has been filed with FERC, or (ii) two (2) years after the date of the CAISO's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.
  - (ii) The CAISO shall timely file any required notice of termination with FERC. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (i) the filing of the notice of termination is made after the preconditions for termination have been met, and the CAISO files the notice of termination with FERC within sixty (60) days after issuance of the notice of termination by a Party; or (ii) the CAISO files the notice of termination with FERC in accordance with the requirements of FERC Order No. 2001.
- (b) If the CAISO makes a unilateral application to FERC under section 205 or 206 of the Federal Power Act for changes to rates, terms, or conditions of this Agreement, BPA may terminate this Agreement upon 30 days written notice to the CAISO. Such changes will not be enforceable with respect to BPA without BPA's prior written approval.

- (c) If BPA amends its business practices, as identified in Section 4(a) of this Agreement, and if such amendments would change CAISO's obligations under this Agreement, the CAISO may terminate this Agreement upon 30 days written notice to BPA. Such changes will not be enforceable with respect to the CAISO without the CAISO's prior written approval.

## 2. DEFINITIONS

Unless otherwise defined herein, capitalized terms are defined by BPA in its Open Access Transmission Tariff (OATT) and 2014 Transmission & Ancillary Service Rate Schedules (Rate Schedules), or their successors, Federal Energy Regulatory Commission (FERC) in its Standards and Communication Protocols for Open Access Same-Time Information System (OASIS), the NERC, the WECC, or their successors.

- (a) **CAISO Dynamic Transfer Protocols**

The CAISO's Dynamic Transfer Protocols, which are set forth in Appendix M (Dynamic Scheduling Protocol) and Appendix N (Pseudo-Tie Protocol) of the CAISO Tariff.

- (b) **Dynamic Schedule**

A telemetered reading or value that is updated in real time and used as a schedule in the Automatic Generation Control (AGC) and the Area Control Error (ACE) equation and the integrated value of which is treated as a schedule for interchange accounting.

- (c) **Dynamic Transfer**

The provision of the real-time monitoring, telemetering, computer software, hardware, communications, engineering, energy accounting (including inadvertent interchange), and administration required to electronically move all or a portion of the real energy services associated with a generator or load out of one Balancing Authority Area into another. (NERC definition)

Also defined as a term that refers to methods by which the control response to loads or generation is assigned, on a real-time basis, from the Balancing Authority to which such load or generation is electrically interconnected (native Balancing Authority) to another Balancing Authority (attaining Balancing Authority) or other controlling entity on a real-time basis. This includes Pseudo-Ties and Dynamic Schedules.

- (d) **Dynamic Transfer Limit Signal**

The telemetry signal communicated by BPA or the CAISO, as host Balancing Authority, to the non-host Balancing Authority and/or other applicable Entity to limit or reduce the Dynamic Transfer.

- (e) **Dynamic Transfer Request Signal**  
The telemetry signal provided by the CAISO or BPA, as host Balancing Authority, to the non-host Balancing Authority and/or other applicable Entity that corresponds to each Dynamic Transfer e-Tag representing the Dynamic Transfer.
- (f) **Dynamic Transfer Return Signal**  
The return telemetry signal that BPA or the CAISO, as host Balancing Authority, sends to the non-host Balancing Authority and/or other applicable Entity, which is the response to the Dynamic Transfer Request Signal.
- (g) **Entity**  
A load, generator, generation provider, transmission customer, or other party that is using BPA or CAISO transmission to effect a Dynamic Transfer.
- (h) **Good Utility Practice**  
The practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practice, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act section 215(a)(4).
- (i) **Pseudo-Tie**  
A telemetered reading, or value that is updated in real time, that represents generation or auxiliary load assigned dynamically between Balancing Authorities and used as a tie line flow in the affected Balancing Authorities' AGC/ACE equation, but for which no physical Balancing Authority tie actually exists. To the extent that no associated energy metering equipment exists, the integration of the telemetered real-time signal is used as a meter MWh value for interchange accounting purposes.
- (j) **Ramp Rate Limit Signal**  
The real-time telemetry signal sent by BPA or the CAISO, as host Balancing Authority, to the non-host Balancing Authority and/or other applicable Entity to communicate the current maximum MW/minute ramp rate limit.
- (k) **Ramp Rate Signal**  
The real-time telemetry signal provided by the applicable Entity effecting a Dynamic Transfer to BPA or the CAISO, as the host Balancing Authority, that confirms the current ramp rate.

**3. EXHIBITS**

Exhibit A (Notices), Exhibit B (Communications/Signaling Equipment Requirements), Exhibit C (Description of Dynamic Schedule Resources), and Exhibit D (Description of Pseudo-Tie Resources) are incorporated herein and made a part hereof.

**4. DYNAMIC TRANSFER SERVICE**

**(a) BPA Dynamic Transfer Business Practice**

BPA shall provide Dynamic Transfer service consistent with this Agreement and BPA's Dynamic Transfer Operating and Scheduling Requirements Business Practice, Version 3 (Dynamic Transfer Business Practice), or its successor, which may be replaced or revised from time to time. Subject to the CAISO's termination rights under Section 1.2(c), the CAISO shall comply with all applicable requirements in BPA's Dynamic Transfer Business Practice or its successor, only to the extent such provisions are applicable to CAISO as the Balancing Authority operator, to facilitate Dynamic Transfer with BPA. BPA's Dynamic Transfer Business Practice is posted on BPA's Transmission Services website under Business Practices. The CAISO shall comply with the operations and equipment requirements set forth in Exhibit B to this Agreement prior to commencement of Dynamic Transfers. Additional terms for equipment limitations, or to facilitate scheduling may be required.

**(b) CAISO Dynamic Transfer Protocols**

The CAISO shall provide Dynamic Transfer service consistent with this Agreement and the CAISO's Dynamic Transfer Protocols, or its successor, which may be replaced from time to time. Subject to BPA's termination rights under Section 1.2(b), BPA shall comply with all applicable requirements in the CAISO's Dynamic Scheduling Transfer Protocols or its successor, only to the extent such provisions are applicable to BPA as the Balancing Authority operator, to facilitate Dynamic Transfer with the CAISO. BPA shall comply with the operations and equipment requirements set forth in Exhibit B to this Agreement prior to commencement of Dynamic Transfers. Additional terms for equipment limitations, or to facilitate scheduling may be required.

**(c) Conflicts Among the Parties' Business Practices or the Terms of this Agreement**

In the event of conflicts or inconsistencies among (i) BPA's Dynamic Transfer Business Practice, (ii) the CAISO's Dynamic Transfer Protocols, or (iii) the terms of this Agreement, the Parties agree to work in good faith to resolve them in a timely manner consistent with the intent of this Agreement to facilitate Dynamic Transfers between their respective Balancing Authority Areas.

- (d) **Regulation Obligation**  
The host Balancing Authority shall be responsible for regulation obligation for the portion of the Dynamically Scheduled resource's output not Dynamically Scheduled into the receiving Balancing Authority Area in accordance with WECC and NERC reliability standards. Dynamic energy deliveries to the receiving Balancing Authorities will be used to determine pro rata allocations of real time deviations applicable to each Balancing Authority that receives the Dynamically Scheduled generation.
- (e) **Related Requirements**  
Performance by the Parties under this Agreement is contingent on executing relevant agreements necessary to facilitate Dynamic Transfer, including any necessary communications and signaling equipment requirements.
- (f) **Description of Dynamic Transfer Resources**  
Prior to enabling any Dynamic Transfer under this Agreement, the Parties shall mutually agree in writing, consistent with Exhibit A (Notices) requirements, on the Dynamically Scheduled system resources and Pseudo-Ties that are permitted under this Agreement, and described in Exhibits C and D which may be revised from time to time in accordance with Section 10 of this Agreement.

## 5. INFORMATION EXCHANGE AND CONFIDENTIALITY

Exchange of information and confidentiality is governed under Contract No. 09TX-14447, the Adjacent Balancing Authority Operating Agreement, between the Parties.

## 6. LIABILITY

- (a) **Uncontrollable Forces**  
The Parties shall not be in breach of their respective obligations to the extent that the failure to fulfill any obligation is due to an Uncontrollable Force. "Uncontrollable Force" means an event beyond the reasonable control of, and without the fault or negligence of, the Party claiming the Uncontrollable Force, which prevents that Party from performing its contractual obligations under this Agreement and which, by exercise of that Party's reasonable care, diligence and foresight, such party was unable to avoid. Uncontrollable Forces include, but are not limited to:
  - (1) strikes or work stoppage;
  - (2) floods, earthquakes, or other natural disasters; terrorist acts; and
  - (3) final orders or injunctions issued by a court or regulatory body having competent subject matter jurisdiction which the Party claiming the Uncontrollable Force, after diligent efforts, was unable to have stayed, suspended, or set aside pending review by a court of competent subject matter jurisdiction.

Neither the unavailability of funds or financing, nor conditions of national or local economies or markets shall be considered an Uncontrollable Force. The economic hardship of either Party shall not constitute an Uncontrollable Force. Nothing contained in this provision shall be construed to require either Party to settle any strike or labor dispute in which it may be involved.

If an Uncontrollable Force prevents a Party from performing any of its obligations under this Agreement, such Party shall: (1) immediately notify the other Party of such Uncontrollable Force by any means practicable and confirm such notice in writing as soon as reasonably practicable; (2) use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligation hereunder as soon as reasonably practicable; (3) keep the other Party apprised of such efforts on an ongoing basis; and (4) provide written notice of the resumption of performance. Written notices sent under this section must comply with Exhibit A, Notices.

(b) **Liability Between the Parties**

The Parties' duties and standard of care with respect to each other, and the benefits and rights conferred on each other, shall be no greater than as explicitly stated herein. Neither Party, nor its directors, officers, employees or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge, or expense arising from the Party's performance or nonperformance under this Agreement, except for a Party's gross negligence or willful misconduct and subject to applicable law.

Notwithstanding the foregoing, neither Party, its directors, officers, employees, nor agents shall be liable for or be entitled to recover from the other Party, whether in contract, tort, or other legal theory, any damages for business interruption or loss of actual or anticipated profits or any indirect, consequential, special, incidental, economic, contingent, exemplary, or penal damages whatsoever.

Nothing in this section shall be construed to exempt an Entity or other customer from BPA's Rate Schedules, as may be amended from time to time.

**7. NO THIRD PARTY BENEFICIARIES**

This Agreement is made and entered into for the sole benefit of the Parties, and the Parties intend that no other person or entity shall be a direct or indirect beneficiary of this Agreement.

**8. ASSIGNMENT**

This Agreement is binding on any successors and assigns of the Parties. Neither Party may otherwise transfer or assign this Agreement, in whole or in part, without the other Party's written consent. Such consent shall not be unreasonably withheld.

**9. ENTIRE AGREEMENT**

This Agreement, including documents expressly incorporated by reference, constitutes the entire agreement between the Parties. It supersedes all previous communications, representations, or contracts, either written or oral, which purport to describe or embody the subject matter of this Agreement.

**10. ADMINISTRATIVE UPDATES OF EXHIBITS**

With the mutual consent in writing of both Parties, not to be unreasonably withheld, the Parties shall have the right to add and remove a Dynamically Scheduled system resource and Pseudo-Tie generating unit to Exhibits C and D or to reflect administrative updates to Exhibits C and D, such as updates to the ownership, name, site address, or MW size of a Pseudo-Tie generating unit or System Resource or the transmission capacity reservation amount listed in Exhibits C and D. Such updates, in accordance with the rights provided in this Agreement, shall not be interpreted by the Parties to be an amendment to this Agreement.

**11. AMENDMENT**

This Agreement and the Exhibits attached hereto may be amended from time to time by the mutual agreement of the Parties in writing for any reason, other than described in Section 10. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. Subject to Section 1.2(b) and (c), nothing contained herein shall be construed as affecting in any way the right of the Parties to unilaterally make application to FERC for a change in the rates, terms and conditions of this Agreement under Section 205 or 206 of the Federal Power Act and pursuant to FERC's rules and regulations promulgated thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under Sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

**12. WAIVERS**

No waiver of any provision or breach of this Agreement shall be effective unless such waiver is in writing and signed by the waiving Party, and any such waiver shall not be deemed a waiver of any other provision of this Agreement or any other breach of this Agreement.

**13. FREEDOM OF INFORMATION ACT (FOIA)**

BPA may release information provided by the CAISO to comply with FOIA or if required by any other federal law or court order. The CAISO will be notified in writing, to the extent practicable, of any proprietary information released by BPA to comply with FOIA or if required by any other federal law or court order. For information that the CAISO designates in writing as proprietary, BPA will limit the use and dissemination of that information within BPA to employees who need the information for the purposes of this Agreement.

**14. COUNTERPARTS**

This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one and the same Agreement.

**15. GOVERNING LAW**

This Agreement shall be interpreted, construed, and enforced in accordance with Federal law.

**16. SIGNATURES**

The Parties have executed this Agreement as of the last date indicated below.

CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR CORPORATION

By:

Name:

Title:

Date:

  
\_\_\_\_\_  
Eric J. Schmitt  
*(Print/Type)*  
VP, Operations  
\_\_\_\_\_  
7/7/14  
\_\_\_\_\_

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By:

Name:

Title:

Date:

  
\_\_\_\_\_  
Young S. Linn  
*(Print/Type)*  
Senior Transmission Account Executive  
\_\_\_\_\_  
07/02/2014  
\_\_\_\_\_

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**EXHIBIT A  
NOTICES**

Any notice required under this Agreement shall be in writing and shall be delivered in person; or with proof of receipt by a nationally recognized delivery service or by United States Certified Mail. Notices are effective when received. Either Party may change the name or address for receipt of notice by providing notice of such change. The Parties shall deliver notices to the following person and address:

**If to the CAISO:**

California Independent System Operator  
Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Attention: Regulatory Contracts  
Phone: (916) 608-7027  
Fax: (916) 608-5063  
E-mail: RegulatoryContracts@caiso.com

**Secondary Point of Contact:**

California Independent System Operator  
Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Attention: Christopher J. Sibley  
Title: Infrastructure Policy & Contracts  
Phone: (916) 608-7030  
Fax: (916) 608-5063  
Email: csibley@caiso.com

**If to BPA:**

Attention: Transmission Account  
Executive for CAISO– TSE/TPP-2  
Phone: (360) 619-6016  
Fax: (360) 619-6940

**If by First Class Mail:**

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

**If by Overnight Delivery Service:**

Bonneville Power Administration –  
TSE/TPP-2  
7500 NE 41<sup>st</sup> Street, Suite 130  
Vancouver, WA 98662

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**EXHIBIT B**  
**COMMUNICATIONS/SIGNALING EQUIPMENT REQUIREMENTS**

**1. DIVISION OF RESPONSIBILITIES**

- (a) At BPA's Dittmer and Munro Control Centers, BPA shall, using BPA approved telemetry and communications protocols such as Inter Control Center Protocol (ICCP), D20 RTU interfaces, and Electric Industry Data Exchange (EIDE), as mutually agreed between BPA and the CAISO, at the CAISO and/or other Entity's expense unless otherwise agreed to in separate reimbursable agreements, complete the following:
- (1) Modify BPA's Energy Management System (EMS)/Automatic Generation Control (AGC) and scheduling systems to enable sending and receiving the following schedule, dispatch, and settlement data that supports the Dynamic Transfer:
    - (A) Schedule and dispatch data from BPA to the CAISO and/or other applicable Entity for Dynamic Transfer Return Signal, Dynamic Transfer Limit Signal(s), Ramp Rate Limit Signal, and validation flag(s). BPA and CAISO and/or other applicable Entity may mutually agree to exclude some data when not required for specific Dynamic Transfer. Data exchange must be updated every four seconds, preferably more frequently. Latency time must be no greater than four seconds.
    - (B) Schedule and dispatch data from the CAISO and/or other applicable Entity to BPA for the Dynamic Transfer Request Signal, Ramp Rate Signal, Ramp Rate Limit Signal and validation flag. BPA and CAISO and/or other applicable Entity may mutually agree to exclude some data when not required for specific Dynamic Transfer. Data exchange must be updated every four seconds, preferably more frequently. Latency time must be no greater than four seconds.
    - (C) Settlement data from BPA to the CAISO and/or other applicable Entity for the hourly, integrated MWh data for after the fact settlement, starting update within the first 15 minutes after the hour.
  - (2) Modify BPA hourly accounting systems as follows:
    - (A) Implement the following changes:
      - (i) For Dynamic Transfer purposes, the value in the transmission profile of the Schedules cannot be resold or reassigned.

- (ii) Incorporate the Dynamic or Pseudo-Tie type e-Tag as an upper limit input to the AGC System and Transmission Services Scheduling Systems for the individual Dynamic Transfer. The lesser of the e-Tag Transmission Profile or Reliability Profile for any point in time will be used as the upper limit.
    - (iii) Create appropriate configuration changes Transmission Services' Scheduling Systems for a Dynamic or Pseudo-Tie type e-Tag.
    - (iv) Track losses on integrated energy delivered. Loss values will be included in the hourly obligation calculation shown in the customer data exchange daily loss report.
  - (B) Implement billing changes needed to record the CAISO and/or other applicable Entity's hourly Dynamic Transfer in the (D) and/or (U) accounts.
- (b) The CAISO and/or other applicable Entity shall, at their expense unless otherwise agreed to in separate reimbursable agreements, using BPA-approved telemetry and communication protocols such as Inter Control Center Protocol (ICCP), D20 RTU interfaces, and Electric Industry Data Exchange (EIDE), as mutually agreed between BPA and the CAISO, complete the following:
- (1) Develop its own processes, procedures, and accounting mechanisms needed within CAISO and/or other applicable Entity for reserving transmission, creating Dynamic or Pseudo-Tie type e-Tags, scheduling transmission, and confirming deliveries in accordance with the provisions above.
  - (2) Schedule and dispatch data from the CAISO and/or other Entity to BPA for the Dynamic Transfer Request Signal, Ramp Rate Signal, Ramp Rate Limit Signal and validation flag. BPA and CAISO or other Entity may mutually agree to exclude some data when not required for specific Dynamic Transfer. Data exchange must be updated every four seconds, preferably more frequently. Latency time must be no greater than four seconds. These signals will conform to SCADA requirements for data format, accuracy, and reliability consistent with BPA Transmission Services' AGC cycle time and anti-aliasing filtering.
  - (3) Submit a Dynamic or Pseudo-Tie type e-Tag that identifies hourly reserved capacity to transmit the output from each source/sink combination for the resources specified in Exhibits C and D to the Agreement.

- (4) As provided in Section 1(a)(2)(A)(ii) of this Exhibit, the CAISO and/or other applicable Entity will make the entry(ies) in the Transmission Profile of the Dynamic or Pseudo-Tie type e-Tag up to 20 minutes prior to flow. The Transmission Profile can not be updated after the fact.
- (5) Develop its own processes and procedures to adjust the energy profile of the Dynamic or Pseudo-Tie type e-Tag with the Hourly Integrated value received from BPA within the first 10 minutes after the end of each hour of flow.

**2. COORDINATION**

BPA will not commence with the software and hardware changes in this Agreement (*i.e.*, implement Dynamic Transfer) until the CAISO and/or other applicable Entity's individualized telemetry requirements are finalized and the necessary contract actions have been met. BPA will notify the CAISO and/or other applicable Entity when these conditions have been satisfied.

**3. PROJECT SCHEDULE**

The Parties will make reasonable efforts to meet a scheduled in-service date as described in a separate construction agreement between BPA and Entity and/or CAISO.

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**EXHIBIT C**  
**DESCRIPTION OF DYNAMIC SCHEDULE RESOURCES**

**TABLE 1**

**1. TERM OF TRANSACTION**

Service Commencement Date: at 0000 hours on October 1, 2013.

Termination Date: at 0000 hours on October 1, 2015.

(BPA-Iberdrola Customer Supplied Generation Imbalance Phase III Pilot Agreement:  
13TX-15864)

**2. Dynamic Scheduling System Resources Into the CAISO Balancing Authority Area:**

Description of System Resource(s), including Associated Power Plants	Iberdrola Renewables participates in BPA's Customer Supplied Generation Imbalance Pilot program to self-supply generation imbalance reserves for its portfolio of wind generators in the Pacific Northwest using a combination of dynamic transmission and traditional transmission products to dispatch flexible generation. Under this program Iberdrola uses a virtual generation node – the "Centroid" – which represents an aggregation of the schedules and metered output of Iberdrola's wind fleet.		
Iberdrola's Centroid consists of the following wind generation facilities.	<b>Plant Name</b>	<b>Size (MW)</b>	<b>Location</b>
	Big Horn	201	Washington
	Big Horn II	50	Washington
	Hay Canyon	100.8	Oregon
	Klondike I	24	Oregon
	Klondike II	76	Oregon
	Klondike III	223.6	Oregon
	Klondike IIIa	76.5	Oregon
	Pebble Springs	98.7	Oregon
	Star Point	98.7	Oregon
	Leaning Juniper II	201.3	Oregon
	Juniper Canyon	151.2	Washington
	Stateline	89.76	Washington
	<b>Total Nameplate</b>	<b>1,389</b>	
Although the total installed capacity of Iberdrola's Northwest wind fleet is nearly 1,400 MWs, it is unlikely that more than 100 MW during Heavy Load Hours and 100 MWs during Light Load Hours would ever be scheduled across the dynamic path into the CAISO Balancing Authority Area. On most occasions, the volume is anticipated to be less than 100 MWs.			
System Resource ID:	MALIN_5_IBERDR		

PMax Value <sup>1</sup>	100 MW
CAISO Inertie	Malin500
Host Balancing Authority Area	BPA
Intermediary Balancing Authority Area(s)	N/A

**3. Dynamic Scheduling System Resources Out of the CAISO Balancing Authority Area into BPA Balancing Authority Area:**

There are no Dynamic Scheduling System Resources out of the CAISO Balancing Authority Area at this time.

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<sup>1</sup> This value represents the maximum amount of power that can be dynamically scheduled by the System Resource into the CAISO Balancing Authority Area, and is subject to limitation by congestion on the scheduling path or system emergencies that could reduce or eliminate the ability to schedule and transfer power from time-to-time.

**EXHIBIT D**  
**DESCRIPTION OF PSEUDO-TIE RESOURCES**

1. **Pseudo-Tie In to the CAISO Balancing Authority Area**  
BPA does not allow Pseudo-Ties on the California-Oregon Intertie at this time.
  
2. **Pseudo-Tie Out of the CAISO Balancing Authority Area**  
BPA does not allow Pseudo-Ties on the California-Oregon Intertie at this time.

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