



California Independent System Operator Corporation

December 30, 2016

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

Re: California Independent System Operator Corporation

**Amendment No. 1 to the CAISO-BANC Dynamic Transfer Balancing
Authority Operating Agreement, Service Agreement No. 2502
Docket No. ER17-____-000**

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits for Commission filing and acceptance Amendment No. 1 to the Dynamic Transfer Balancing Authority Operating Agreement (“Amendment”) between the CAISO and the Balancing Authority of Northern California (“BANC”).¹ The CAISO respectfully requests that the Amendment be made effective on March 1, 2017.

I. Background

The CAISO filed the Dynamic Transfer Balancing Authority Operating Agreement (“Agreement”) with BANC on April 27, 2012 in Docket No. ER12-1636-000. By letter order issued June 14, 2012, the Commission accepted the Agreement.

¹ The CAISO submits the Amendment pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d.

The Honorable Kimberly D. Bose
December 30, 2016
Page 2

II. Purpose of the Amendment to the Dynamic Transfer Balancing Authority Operating Agreement

The purpose of the Amendment is two-fold. First, the parties desire to revise Schedule 1 of the Agreement to incorporate the Sacramento Municipal Utility District's ("SMUD") dynamic schedule for regulation up service of 125 MW into the CAISO balancing authority area from SMUD's internal resources. These resources comprise the generation resources and associated distribution factors identified in the Market Efficiency Enhancement Agreement ("MEEA") between SMUD and the CAISO, which may be modified from time to time to account for seasonal variations as the MEEA provides.² The MEEA was chosen as the reference point because it accurately reflects SMUD's internal resources that will be providing the regulation service to the CAISO. It is important that the modeling of the resources remain aligned as between the Agreement and the MEEA.

Second, the Amendment modifies Section 7.8 (Amendments) of the Agreement to allow administrative changes to Schedule 1 (Description of Dynamic Scheduling Resources), and Schedule 2 (Pseudo-Tie Generating Unit, Pseudo Tie Technical Information, Native and Attaining Balancing Authority Area Information) by mutual agreement of the Parties, in writing. As such, future changes to either of these schedules would not constitute an amendment to the Agreement and therefore would not require filing with the Commission to become effective. This will allow the parties to make administrative changes to these schedules without incurring the time, expense, and potential for delay associated with the regulatory approval process. For example, the 125 MW addition in available dynamic scheduling capacity presented here would have been agreed upon, documented and implemented by the parties without the need to present a filing such as this. These schedules do not change the rates, terms and conditions of the services being provided, only the description of the resources that receive the service. This is consistent with how the CAISO administers such changes in similar agreements.³

III. Effective Date

The CAISO respectfully requests that the Commission accept the Amendment, effective March 1, 2017, the expected implementation date of SMUD's dynamic schedule for regulation up service from SMUD's internal resources into the CAISO Balancing Authority Area.

² See Letter Order dated October 15, 2013 in Docket No. 13-2178-000 (accepting the Market Efficiency Enhancement Agreement between SMUD and the CAISO).

³ See Letter Order dated August 7, 2014 in Docket No. ER14-2218-000 (accepting revisions to the Dynamic Transfer Balancing Authority Operating Agreement between the CAISO and the Public Service Company of New Mexico that included provisions to achieve a similar administrative change).

The Honorable Kimberly D. Bose
December 30, 2016
Page 3

IV. Service

The CAISO has served copies of this filing upon BANC, SMUD, the California Public Utilities Commission, the California Energy Commission, and all parties on the official service list for Docket No. ER12-1636-000. 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;
- (2) Amendment No. 1 to the Dynamic Transfer Balancing Authority Operating Agreement (Attachment A);
- (3) Clean version of the Dynamic Transfer Balancing Authority Operating Agreement Attachment B); and
- (4) Red-lined version of the Dynamic Transfer Balancing Authority Operating Agreement (Attachment C).

V 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

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

The Honorable Kimberly D. Bose
December 30, 2016
Page 4

VI. Conclusion

The CAISO respectfully requests that the Commission accept the Amendment as requested. If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,
By: /s/ John C. Anders
Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
John C. Anders
Lead Counsel
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Attorneys for the California Independent
System Operator Corporation

Attachment A – Amendment No. 1

**Amendment No. 1 to CAISO-BANC Dynamic Transfer Balancing Authority Operating Agreement
California Independent System Operator Corporation**

December 30, 2016



CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

AND

**BALANCING AUTHORITY OF
NORTHERN CALIFORNIA**

**AMENDMENT NO. 1 TO THE
DYNAMIC TRANSFER BALANCING AUTHORITY OPERATING AGREEMENT**

This Amendment No. 1 ("Amendment No. 1") to the DYNAMIC TRANSFER BALANCING AUTHORITY OPERATING AGREEMENT ("Agreement") is dated this 28th day of December, 2016, and is entered into, by and between:

Balancing Authority of Northern California ("BANC"), a joint powers authority established pursuant to the laws of the State of California,

and

California Independent System Operator Corporation ("CAISO"), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, currently 250 Outcropping Way, Folsom, California 95630.

BANC and the CAISO are hereinafter referred to individually as "Party" or collectively as the "Parties".

Whereas:

- A.** The Parties are signatories to the Agreement which became effective June 28, 2012.
- B.** The Parties desire to amend Schedule 1 to add the Sacramento Municipal Utility District's ("SMUD") dynamic schedule for regulation service of up to 125 MW from SMUD's system resources into the CAISO Balancing Authority Area.
- C.** The Parties desire to amend the Agreement to allow Schedules 1 and 2 to be modified from time to time by the mutual agreement of the Parties in writing, which would not constitute an amendment to the Agreement.



NOW THEREFORE, in consideration of the mutual covenants set forth herein, the Parties agree as follows:

1. Effective Date

This Amendment No. 1 shall be effective on the date accepted for filing and made effective by the Federal Energy Regulatory Commission (FERC).

2. Termination

The terms of this Amendment No. 1 shall remain in full force and effect, unless subsequently amended, until the termination of the Agreement.

3. Amendment to the Agreement

The Agreement shall be amended as follows:

3.1 Section 7.8 (Amendments) is deleted in its entirety and replaced with the following:

“7.8 Amendments

7.8.1 This Agreement may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. Notwithstanding the forgoing, Schedules 1 and 2 may be amended from time to time solely by the mutual agreement of the Parties in writing and such changes shall not require the approval of FERC to become effective.

7.8.2 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 of the FPA 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 FPA and FERC’s rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.”



- 3.2** Schedule 1 (Description of Dynamic Scheduling Resources) is deleted in its entirety and Schedule 1 attached to this Amendment No. 1 is substituted in its place.
- 4.** This Amendment No. 1 constitutes the complete and final agreement of the Parties with respect to the purpose of this Amendment No. 1 as described in the Recitals hereto and supersedes all prior understandings, whether written or oral, with respect to such subject matter.
- 5.** Except as expressly modified in this Amendment No. 1, the Agreement shall remain in full force and effect in accordance with its terms, and the unmodified terms of the Agreement shall apply to any new rights and/or obligations established by this Amendment No. 1.
- 6.** This Amendment No. 1 may be executed in one (1) or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, shall constitute one (1) and the same agreement.



IN WITNESS WHEREOF, the Parties have caused this Amendment No. 1 to the Agreement to be duly executed by and through their respective authorized representatives as of the date hereinabove written.

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

By: DocuSigned by:
Eric Schmitt
0971A84CB55B4B8...
Name: Eric Schmitt
Title: VP, Operations
Date: 12/28/2016

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

By: DocuSigned by:
James R. Shetler
6F62FA89A7C5403...
Name: James R. Shetler
Title: General Manager
Date: 12/28/2016

SCHEDULE 1

DESCRIPTION OF DYNAMIC SCHEDULING RESOURCES

[Section 4.4.5]

A. Dynamic Scheduling System Resources Into the CAISO Balancing Authority Area

System Resource ID:	RANCHO_2_SMUDSYSDYN
Description of System Resource(s):	System Resource as used in this Agreement means all of the supply resources identified in Schedule 1 of the Market Efficiency Enhancement Agreement between Sacramento Municipal Utility District (“SMUD”) and the CAISO (“MEEA”) and the supply resource’s respective distribution factors as determined pursuant to Schedule 2 of the MEEA, as these schedules may be amended from time to time.
Regulation Up	
PMax Values ¹ :	125 MW
CAISO Inertie:	Rancho Seco 230-kV interconnection at the Rancho Seco Substation
Host Balancing Authority Area:	Balancing Authority Area of Northern California
Intermediary Balancing Authority Areas:	N/A

¹ This value represents the maximum amount of power that can be 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.

Attachment B – Clean Tariff

**Amendment No. 1 to CAISO-BANC Dynamic Transfer Balancing Authority Operating Agreement
California Independent System Operator Corporation**

December 30, 2016

Dynamic Transfer Balancing Authority Operating Agreement

THIS DYNAMIC TRANSFER BALANCING AUTHORITY OPERATING AGREEMENT (“AGREEMENT”) is established this 9th day of April, 2012 and is accepted by and between:

Balancing Authority of Northern California (“BANC”), a joint powers authority established pursuant to the laws of the State of California,

and

California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, currently 250 Outcropping Way, Folsom, California 95630.

The BANC and the CAISO are hereinafter referred to as the “Parties”.

Whereas:

- A.** The Parties named above operate Balancing Authority Areas.
- B.** The CAISO has determined that the pilot Pseudo-Tie program successfully demonstrated the dynamic transfer of generating resources between adjacent Balancing Authority Areas and that this Agreement, and the associated CAISO Tariff revisions and additions, implement the features of the pilot pseudo-tie program.
- C.** The Parties wish to coordinate operation of dynamic transfers to satisfy North American Electric Reliability Corporation (“NERC”) and Western Electricity Coordinating Council (“WECC”) reliability standards and criteria and Good Utility Practice.
- D.** The Parties desire to implement an agreement to facilitate dynamic transfers from resources in their respective Balancing Authority Area.
- E.** The Parties wish to enter into this Agreement to establish the terms and conditions for the operation of the dynamic transfer functionality to include

Dynamic Schedules and Pseudo-Tie arrangements between the Parties' Balancing Authority Areas.

- F. The Parties have certain statutory obligations under California law to maintain power system reliability.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, **THE PARTIES AGREE** as follows:

1. Term and Termination

1.1 Effective Date

This Agreement shall be effective as of the date set forth above, unless this Agreement is accepted for filing and made effective by the Federal Energy Regulatory Commission ("FERC") on some other date, if FERC filing is required, and shall continue in effect until terminated.

1.2 Termination

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. For entities subject to FERC jurisdiction, termination will be effective upon acceptance by FERC of notice of termination, if this Agreement has been filed with FERC, or two (2) years after the date of the notice of termination by a Party, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders. 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: (1) 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 (2) the CAISO files the notice of termination with FERC in accordance with the requirements of FERC Order No. 2001.

2. Definitions

2.1 NERC/WECC Definitions

Except as defined below, terms and expressions used in this Agreement shall have the same meanings as those contained in the NERC Glossary of Terms Used in NERC Reliability Standards and the WECC Glossary of WECC Terms and Acronyms.

2.2 Specific Definitions

- 2.2.1 Attaining Balancing Authority Area:** The Balancing Authority Area where the output of a Pseudo-Tie generating unit is fully included for purposes of calculation of Area Control Error and meeting Balancing Authority Area load responsibilities.
- 2.2.2 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.
- 2.2.3 CAISO Tariff:** CAISO Operating Agreement, Protocols, and Tariff as amended from time to time, together with any appendices or attachments thereto.
- 2.2.4 Good Utility Practice:** Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry in the WECC region 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 practices, reliability, safety, and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.
- 2.2.5 Native Balancing Authority Area:** The Balancing Authority Area where a Pseudo-Tie generating unit is physically interconnected to the electric grid.
- 2.2.6 Point of Contact:** A person or entity having the authority to receive and act upon scheduling or dispatch communications from the other Balancing Authority and available through a communications device mutually agreed upon on a 24-hour, 7-day basis.
- 2.2.7 Scheduling Coordinator:** An entity certified by the CAISO for the purposes of undertaking the functions of: submitting bids or schedules for energy, generation, transmission losses, and ancillary services; coordinating generation; tracking, billing, and settling trades with other Scheduling Coordinators; submitting forecast information; paying the CAISO's charges; and ensuring compliance with CAISO protocols.

2.2.8 System Resource: "System Resource" is defined in the CAISO Tariff and, in the context of this Agreement, may include combinations of resources as described in the CAISO Dynamic Transfer Protocols.

3. General

3.1 Purpose

This Agreement sets forth the requirements that must be satisfied by the Parties to support Scheduling Coordinators' and generating unit owners' requests for implementation of dynamic transfer functionality and delivery of energy and energy associated with ancillary services to the respective Balancing Authority Area. The requirements encompass technical (energy management system ("EMS"), automatic generation control ("AGC"), and communications), interchange scheduling, telemetry, and aspects of Balancing Authority Area operations. Nothing in this Agreement is intended to interfere with the rights of an affected transmission owner or transmission operator in the BANC Balancing Authority Area to determine its own terms of service associated with the facilitation of dynamic transfer by BANC.

3.2 NERC/WECC Operating Standards Observed

Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by NERC and WECC reliability standards and policies and WECC criteria.

3.3 Applicable Standards

This Agreement incorporates, by reference, the CAISO Dynamic Transfer Protocols and Standards for Imports of Regulation. Where there is an inconsistency between the CAISO's Dynamic Transfer Protocols and Standards for Imports of Regulation and this Agreement, this Agreement will prevail to the extent of the inconsistency.

3.4 Communication

The Parties shall each operate and maintain a 24-hour, 7-day control center with real-time scheduling and control functions. Appropriate control center staff will be provided by each Party who shall be responsible for operational communications and who shall have sufficient authority to commit and bind that Party. The Parties shall jointly develop communication procedures necessary to support scheduling and dispatch

functions relative to dynamic transfers. The Parties agree to exchange operational contact information in a format to be provided by the CAISO and completed as of the effective date of this Agreement. Each Party shall provide the other Party ten (10) calendar days advance notice of updates to its operational contact information for known changes, and as soon as practical, for unplanned changes.

4. Dynamic Schedules of Imports and Exports

Should the Parties elect to support a Scheduling Coordinators' request to implement dynamic scheduling functionality, all applicable operating, technical and business requirements set forth in Appendix M of the CAISO Tariff shall be satisfied, including but not limited to the following:

4.1 Telecommunications Requirements

The Parties shall establish and maintain real-time, redundant, diversely routed, communications links between the CAISO EMS and the BANC EMS, with the primary link utilizing the standard inter-control center communications protocol ("ICCP") in accordance with the Applicable Standards for the for the dynamically scheduled resources listed in Schedule 1.

4.2 Telemetry

For each operating hour for which a dynamically scheduled resource is delivering energy, and/or energy associated with ancillary services to the receiving Balancing Authority Area, the Host Balancing Authority shall provide, via the ICCP communication links to the receiving Balancing Authority EMS, the data for each dynamically scheduled resource, as set forth in the Applicable Standards.

4.3. Interchange Scheduling Requirements

4.3.1 Dynamic Schedules

The Parties shall coordinate the arrangements for dynamic interchange schedules for the delivery of energy to the respective Balancing Authority Area reflecting the dynamically scheduled resource's instantaneous energy production or allocation level and taking into account available transmission capacity and, in the case of BANC, the impact of dynamic interchange schedules on transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area.

4.3.2 Treatment of Area Control Error (“ACE”)

For Dynamic Scheduling, the Host Balancing Authority shall instantaneously compensate its AGC for the dynamically scheduled resource's energy output that is generated or allocated for establishing the dynamic schedule to the receiving Balancing Authority such that the dynamically scheduled resource energy production or allocation changes have an equal in magnitude and opposite in sign effect on the Host Balancing Authority's ACE.

4.3.3 Integration of Dynamic Schedules

For each operating hour during which energy was dynamically scheduled for delivery to the receiving Balancing Authority Area, the Host Balancing Authority shall compute an integrated amount of interchange based on the dynamically scheduled resource's integrated energy production, by integrating the instantaneous dynamically scheduled resource production levels. Such integrated MWH value shall be agreed to hourly by the real-time schedulers.

4.3.4 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.

4.3.5 Access to Information

The Parties agree to exchange information related to telemetry sent and received with respect to the delivery of energy (i) at the request of the other Party for purposes of after-the-fact interchange accounting or (ii) on demand for any other purpose.

4.3.6. Other Balancing Authority Responsibilities

4.3.6.1 Operational Jurisdiction

The Host Balancing Authority will have, at a minimum, the level of operational jurisdiction over the dynamically scheduled resource and the associated dynamic schedule that NERC and WECC vest in Host Balancing Authorities. Such level of operational jurisdiction shall not exceed that necessary to meet applicable reliability standards.

4.3.6.2 E-Tagging

The Parties must support associated e-tagging as described in the CAISO Dynamic Transfer Protocols and deemed to be consistent with NERC and/or WECC requirements.

4.3.6.3 Real-Time Adjustments

The Host Balancing Authority Area for a dynamically transferred resource must have a means to manually override and/or otherwise adjust the dynamic signal for a dynamic schedule in real-time, if needed.

4.3.6.4 Coordination with Other Balancing Authorities

The Balancing Authority Area hosting a dynamic resource must provide in real-time the instantaneous value of each dynamic schedule to every intermediary Balancing Authority Area through whose systems such dynamic schedule may be implemented to the receiving Balancing Authority.

4.4. Other

4.4.1 Losses

The Parties shall not be responsible for transmission losses caused by transmitting energy dynamically within or across the other Parties Balancing Authority Area.

4.4.2 Certification

Only CAISO-certified System Resource/Host Balancing Authority arrangements will be allowed to bid or self provide ancillary services in the CAISO's ancillary services market through a CAISO-certified Scheduling Coordinator.

4.4.3 No Guarantee of Award

Certification of a System Resource/Host Balancing Authority arrangement allows for bidding of energy and/or certain ancillary services into the CAISO market; it does not, however, guarantee selection of such bid.

4.4.4 Performance Assessment

The CAISO will monitor and measure dynamically imported ancillary services, whether bid or self-provided, against the performance benchmarks described in the CAISO Dynamic Scheduling Protocol.

4.4.5 Description of System Resources

Each dynamically scheduled System Resource permitted pursuant to this Agreement is described in Schedule 1.

4.4.6 Notifications

The Parties shall jointly develop methods for coordinating the notification of all affected scheduling entities within their respective Balancing Authority Areas regarding schedule changes in emergency or curtailment conditions.

5. Pseudo-Ties

Should the Parties elect to support a Pseudo-Tie generator's request to implement a Pseudo-Tie arrangement, the Parties shall comply with the applicable provisions of the Pseudo-Tie Protocol in Appendix N of the CAISO Tariff, including but not limited to the following:

- 5.1** Operation of Pseudo-Tie functionalities must comply with all applicable NERC and WECC reliability standards, policies, requirements, and guidelines regarding inter-Balancing Authority Area scheduling. A Pseudo-Tie must be registered as a "Point Of Delivery" (POD) on NERC's Transmission Service Information Network (TSIN). All (off-system) static scheduling associated with Pseudo-Tie functionality must be consistent with NERC Reliability Standards for interchange scheduling and coordination.
- 5.2** The Parties will establish the terms of any Pseudo-Tie between the two Balancing Authority Areas, will specify the location of that Pseudo-Tie

point, and will register that location as a point of delivery to the Attaining Balancing Authority Area.

- 5.3** All Energy transfers associated with a Pseudo-Tie generating unit must be electronically tagged (E-tagged).
- 5.4** Unless a particular service is procured by the Pseudo-Tie generator from some other source, the Attaining Balancing Authority shall provide to a Pseudo-Tie generating unit all Balancing Authority services available to other generating units in the Attaining Balancing Authority Area, which may include the auxiliary load equipment needs of the Pseudo-Tie generating unit, provided firm transmission service is reserved across the transmission path from the CAISO Intertie to the Pseudo-Tie generating unit.
- 5.5** The Parties, in conjunction with the affected Participating Transmission Owner, or, in the case of BANC, affected transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area and the owner of the Pseudo-Tie generating unit will develop a coordinated operating procedure outlining the agreed upon framework among all parties for the operation of a Pseudo-Tie of the generating unit out of the CAISO Balancing Authority Area, and to facilitate the continued delivery of Energy and Ancillary Services from a Pseudo-Tie generating unit into the CAISO Balancing Authority Area to the desired delivery points in the event the primary contract path is unavailable or curtailed.
- 5.6** All applicable communication and telemetry requirements of the WECC, the CAISO, and a Pseudo-Tie generating unit's Native Balancing Authority Area regarding generating units and inter-Balancing Authority Area Interties must be satisfied. These requirements include the requirements of Appendix M applicable to Dynamic Schedules of imports and the requirements of the CAISO Tariff applicable to generating units in the CAISO Balancing Authority Area.
- 5.7** Proper incorporation of the dynamic signal into all involved Balancing Authority Areas' ACE equations will be required.
- 5.8** Should there be any need or requirement, whether operational or procedural, for the CAISO or the Balancing Authority for the Attaining Balancing Authority Area to make real-time adjustments to the CAISO's inter-Balancing Authority Area schedules at the pre-existing CAISO Intertie associated with the Pseudo-Tie generating unit (including

curtailments), the dynamic transfer from the Pseudo-Tie generating unit shall be treated in the same manner as any CAISO Interchange Schedule at that pre-existing CAISO Intertie, and in accordance with any applicable operating instructions from any affected Participating Transmission Owner.

5.9 Each Pseudo-Tie generating unit permitted pursuant to this Agreement is described in Schedule 2.

6. Liability

6.1 Uncontrollable Forces

An Uncontrollable Force means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, earthquake, explosion, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond the reasonable control of a Balancing Authority which could not be avoided through the exercise of Good Utility Practice.

Neither Party will be considered in default of any obligation under this Agreement or liable to the other for direct, indirect, and consequential damages if prevented from fulfilling that obligation due to the occurrence of an Uncontrollable Force. Neither Party will be considered in default of any obligation under this Agreement to the extent caused by any act, or failure to act, of any intermediary Balancing Authority.

In the event of the occurrence of an Uncontrollable Force, which prevents either Party from performing any obligations under this Agreement, the affected entity shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Uncontrollable Force. The Parties shall each use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligations hereunder.

6.2 Liability To Third Parties

Except as otherwise expressly provided herein, nothing in this Agreement shall be construed or deemed to confer any right or benefit on, or to create any duty to, or standard of care with reference to any third party, or any liability or obligation, contractual or otherwise, on the part of the CAISO or the BANC.

6.3 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, its directors, officers, employees, or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge, or expense, whether direct, indirect, or consequential, arising from the Party's performance or nonperformance under this Agreement, except for a Party's gross negligence, or willful misconduct.

7. Miscellaneous

7.1 Assignments

Either Party to this Agreement may assign its obligations under this Agreement, with the other Party's prior written consent. Such consent shall not be unreasonably withheld.

Obligations and liabilities under this Agreement shall be binding on the successors and assigns of the Parties. No assignment of this Agreement shall relieve the assigning Party from any obligation or liability under this Agreement arising or accruing prior to the date of assignment.

7.2 Notices

Any notice, demand, or request which may be given to or made upon either Party regarding this Agreement shall be made in writing and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 3 and shall be deemed properly served, given, or made: (a) upon delivery if delivered in person, (b) five (5) days after deposit in the mail if sent by first class United States mail, postage prepaid, (c) upon receipt of confirmation by return facsimile if sent by facsimile, or (d) upon delivery if delivered by prepaid commercial courier service. A Party must update the information in Schedule 3 relating to its address as that information changes. Such changes shall not constitute an amendment to this Agreement.

7.3 Waivers

Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or matter arising in connection with this Agreement. Any delay short of the statutory period of limitations, in asserting or enforcing any right under this Agreement, shall not constitute or be deemed a waiver of such right.

7.4 Governing Law and Forum

Subject to Section 7.4, this Agreement shall be deemed to be a contract made under and for all purposes shall be governed by and construed in accordance with the laws of the State of California. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement shall be brought in any of the following forums, as appropriate: a court of the State of California or any federal court of the United States of America located in the State of California or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission. No provision of this Agreement shall be deemed to waive the right of any Party to protest, or challenge in any manner, whether this Agreement, or any action or proceeding arising under or relating to this Agreement, is subject to the jurisdiction of the Federal Energy Regulatory Commission.

7.5 Consistency with Federal Laws and Regulations

(a) Nothing in this Agreement shall compel any person or federal entity to: (1) violate federal statutes or regulations; or (2) in the case of a federal agency, to exceed its statutory authority, as defined by any applicable federal statutes, regulations, or orders lawfully promulgated thereunder. If any provision of this Agreement is inconsistent with any obligation imposed on any person or federal entity by federal law or regulation to that extent, it shall be inapplicable to that person or federal entity. No person or federal entity shall incur any liability by failing to comply with any provision of this Agreement that is inapplicable to it by reason of being inconsistent with any federal statutes, regulations, or orders lawfully promulgated thereunder; provided, however, that such person or federal entity shall use its best efforts to comply with the CAISO Tariff to the extent that applicable federal laws, regulations, and orders lawfully promulgated thereunder permit it to do so.

(b) If any provision of this Agreement requiring any person or federal entity to give an indemnity or impose a sanction on any person is unenforceable against a federal entity, the CAISO shall submit to the Secretary of Energy or other appropriate Departmental Secretary a report of any circumstances that would, but for this provision, have rendered a federal entity liable to indemnify any person or incur a sanction and may request the Secretary of Energy or other appropriate Departmental Secretary to take such steps as are necessary to give effect to any provisions of this Agreement that are not enforceable against the federal entity.

7.6 Severability

If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

7.7 Section Headings

Section headings provided in this Agreement are for ease of reading and are not meant to interpret the text in each Section.

7.8 Amendments

7.8.1 This Agreement may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. Notwithstanding the forgoing, Schedules 1 and 2 may be amended from time to time solely by the mutual agreement of the Parties in writing and such changes shall not require the approval of FERC to become effective.

7.8.2 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 of the FPA 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 FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

7.9 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.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date first written above.

California Independent System Operator Corporation

By: _____

Name: Eric J. Schmitt

Title: Vice President, Operations

Date: April 9, 2012

Balancing Authority of Northern California

By: _____

Name: James C. Feider

Title: General Manager

Date: 4-5-12

SCHEDULE 1**DESCRIPTION OF DYNAMIC SCHEDULING RESOURCES****[Section 4.4.5]****A. Dynamic Scheduling System Resources Into the CAISO Balancing Authority Area**

System Resource ID:	RANCHO_2_SMUDSYSDYN
Description of System Resource(s):	System Resource as used in this Agreement means all of the supply resources identified in Schedule 1 of the Market Efficiency Enhancement Agreement between Sacramento Municipal Utility District ("SMUD") and the CAISO ("MEEA") and the supply resource's respective distribution factors as determined pursuant to Schedule 2 of the MEEA, as these schedules may be amended from time to time.
Regulation Up	
PMax Values:	125 MW
CAISO Intertie:	Rancho Seco 230-kV interconnection at the Rancho Seco Substation
Host Balancing Authority Area:	Balancing Authority Area of Northern California
Intermediary Balancing Authority Areas:	N/A

SCHEDULE 2**PSEUDO-TIE GENERATING UNIT, PSEUDO TIE Technical Information
NATIVE and ATTAINING BALANCING AUTHORITY AREA Information****[Section 5.9]****A. Pseudo-Tie Out of CAISO Balancing Authority Area**

Pseudo Tie Location	Registered TNAME: NML230 Location: New Melones Substation, 230 kV
Pseudo Generating Unit	Generator Name: New Melones Power Plant Capacity: 384 MW at 1.00 pf Pmax ¹ : 384 MW
Attaining Balancing Authority Area	BANC Balancing Authority Area
Native Balancing Authority Area	CAISO Balancing Authority Area
Existing Contract	United States Department of Energy Western Area Power Administration Central Valley Project, California Contract with Pacific Gas and Electric Company For Transmission Service For New Melones, Western Contract No. 8- 07-20-P0004, PG&E First Revised Rate Schedule FERC No. 60.

¹ This value is the unity power factor and represents the maximum amount of power that can be scheduled by the Pseudo-Tie Generating Unit or into the CAISO Balancing Authority Area, and is subject to limitation pursuant to existing contracts regarding transmission service rights on the scheduling path due to System Emergencies, or to provide necessary voltage support, which could temporarily reduce the ability to generate and transfer power to amounts less than Pmax.

Pseudo-Tie Into the CAISO Balancing Authority Area

Pseudo Tie Location	Registered TNAME: OBN230 Location: Sutter Substation 230kV
Pseudo-Tie Generating Unit	Generator Name: Sutter Energy Center Combined Cycle Capacity: 572 MW, Pmax ² : 525 MW Resource ID: Sutter_2_PL1X3
Attaining Balancing Authority Area	CAISO Balancing Authority Area
Native Balancing Authority Area	BANC Balancing Authority Area
Intertie	TRCYPP_2_TESLA

² This value is the unity power factor and represents the maximum amount of power that can be scheduled by the Pseudo-Tie Generating Unit or into the CAISO Balancing Authority Area, and is subject to limitation pursuant to existing contracts regarding transmission service rights on the scheduling path due to System Emergencies, or to provide necessary voltage support, which could temporarily reduce the ability to generate and transfer power to amounts less than Pmax.

SCHEDULE 3

NOTICES

[Section 7.2]

Balancing Authority of Northern California

Name of Primary

Representative: James Feider

Title: General Manager

Company: Balancing Authority of Northern California

Address: 6201 S Street, M.S. B408

City/State/Zip Code Sacramento, CA 95817

Email Address: jimcfeider@gmail.com

Phone: (916) 732-6346

Fax No: N/A

Name of Primary

Representative: Vicken Kasarjian

Title: Director, Grid Planning and Operations

Company: Sacramento Municipal Utility District (BANC Operator)

Address: 6001 S Street, M.S. D109

City/State/Zip Code: Sacramento, CA 95817

Email Address: vkasarj@smud.org

Phone: (916) 732-5727

Fax No: (916) 732-7026

Name of Primary Representative: C. Anthony Braun
Title: General Counsel
Company: Braun Blaising McLaughlin, P.C
Address: 915 L Street, Suite 1270
City/State/Zip Code: Sacramento, CA 95814
Email Address: braun@braunlegal.com
Phone: (916) 326-4449
Fax No: (916) 441-4068

Name of Alternative Representative: Richard Buckingham
Title: Principal Power Contracts Specialist
Company: SMUD (BANC Operator)
Address: 6001 S Street, M.S. D105
City/State/Zip Code: Sacramento, CA 95817
Email Address: rbuckin@smud.org
Phone: (916) 732-7027
Fax No: (916) 732-7026

Name of Alternative

Representative: Mark Willis
Title: Supervisor, Power Operations Engineering.
Company: SMUD (BANC Operator)
Address: 6001 S Street, M.S. D105
City/State/Zip Code: Sacramento, CA 95817
Email Address: mwillis@smud.org
Phone: (916) 732-5451
Fax No: (916) 732-7026

CAISO

Name of Primary

Representative: Ms. Roni L. Reese
Title: Sr. Contracts Analyst
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: regulatorycontracts@caiso.com
Phone: (916) 608-7027
Fax: (916) 608-7292

Name of Alternative

Representative: Christopher J. Sibley
Title: Lead Contract Negotiator
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: csibley@caiso.com
Phone: (916) 608-7030
Fax: (916) 608-7292

Attachment C – Marked Tariff

**Amendment No. 1 to CAISO-BANC Dynamic Transfer Balancing Authority Operating Agreement
California Independent System Operator Corporation**

December 30, 2016

Dynamic Transfer Balancing Authority Operating Agreement

THIS DYNAMIC TRANSFER BALANCING AUTHORITY OPERATING AGREEMENT (“AGREEMENT”) is established this 9th day of April, 2012 and is accepted by and between:

Balancing Authority of Northern California (“BANC”), a joint powers authority established pursuant to the laws of the State of California,

and

California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, currently 250 Outcropping Way, Folsom, California 95630.

The BANC and the CAISO are hereinafter referred to as the “Parties”.

Whereas:

- A.** The Parties named above operate Balancing Authority Areas.
- B.** The CAISO has determined that the pilot Pseudo-Tie program successfully demonstrated the dynamic transfer of generating resources between adjacent Balancing Authority Areas and that this Agreement, and the associated CAISO Tariff revisions and additions, implement the features of the pilot pseudo-tie program.
- C.** The Parties wish to coordinate operation of dynamic transfers to satisfy North American Electric Reliability Corporation (“NERC”) and Western Electricity Coordinating Council (“WECC”) reliability standards and criteria and Good Utility Practice.
- D.** The Parties desire to implement an agreement to facilitate dynamic transfers from resources in their respective Balancing Authority Area.
- E.** The Parties wish to enter into this Agreement to establish the terms and conditions for the operation of the dynamic transfer functionality to include

Dynamic Schedules and Pseudo-Tie arrangements between the Parties' Balancing Authority Areas.

- F. The Parties have certain statutory obligations under California law to maintain power system reliability.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, **THE PARTIES AGREE** as follows:

1. Term and Termination

1.1 Effective Date

This Agreement shall be effective as of the date set forth above, unless this Agreement is accepted for filing and made effective by the Federal Energy Regulatory Commission ("FERC") on some other date, if FERC filing is required, and shall continue in effect until terminated.

1.2 Termination

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. For entities subject to FERC jurisdiction, termination will be effective upon acceptance by FERC of notice of termination, if this Agreement has been filed with FERC, or two (2) years after the date of the notice of termination by a Party, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders. 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: (1) 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 (2) the CAISO files the notice of termination with FERC in accordance with the requirements of FERC Order No. 2001.

2. Definitions

2.1 NERC/WECC Definitions

Except as defined below, terms and expressions used in this Agreement shall have the same meanings as those contained in the NERC Glossary of Terms Used in NERC Reliability Standards and the WECC Glossary of WECC Terms and Acronyms.

2.2 Specific Definitions

- 2.2.1 Attaining Balancing Authority Area:** The Balancing Authority Area where the output of a Pseudo-Tie generating unit is fully included for purposes of calculation of Area Control Error and meeting Balancing Authority Area load responsibilities.
- 2.2.2 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.
- 2.2.3 CAISO Tariff:** CAISO Operating Agreement, Protocols, and Tariff as amended from time to time, together with any appendices or attachments thereto.
- 2.2.4 Good Utility Practice:** Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry in the WECC region 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 practices, reliability, safety, and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.
- 2.2.5 Native Balancing Authority Area:** The Balancing Authority Area where a Pseudo-Tie generating unit is physically interconnected to the electric grid.
- 2.2.6 Point of Contact:** A person or entity having the authority to receive and act upon scheduling or dispatch communications from the other Balancing Authority and available through a communications device mutually agreed upon on a 24-hour, 7-day basis.
- 2.2.7 Scheduling Coordinator:** An entity certified by the CAISO for the purposes of undertaking the functions of: submitting bids or schedules for energy, generation, transmission losses, and ancillary services; coordinating generation; tracking, billing, and settling trades with other Scheduling Coordinators; submitting forecast information; paying the CAISO's charges; and ensuring compliance with CAISO protocols.

2.2.8 System Resource: "System Resource" is defined in the CAISO Tariff and, in the context of this Agreement, may include combinations of resources as described in the CAISO Dynamic Transfer Protocols.

3. General

3.1 Purpose

This Agreement sets forth the requirements that must be satisfied by the Parties to support Scheduling Coordinators' and generating unit owners' requests for implementation of dynamic transfer functionality and delivery of energy and energy associated with ancillary services to the respective Balancing Authority Area. The requirements encompass technical (energy management system ("EMS"), automatic generation control ("AGC"), and communications), interchange scheduling, telemetry, and aspects of Balancing Authority Area operations. Nothing in this Agreement is intended to interfere with the rights of an affected transmission owner or transmission operator in the BANC Balancing Authority Area to determine its own terms of service associated with the facilitation of dynamic transfer by BANC.

3.2 NERC/WECC Operating Standards Observed

Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by NERC and WECC reliability standards and policies and WECC criteria.

3.3 Applicable Standards

This Agreement incorporates, by reference, the CAISO Dynamic Transfer Protocols and Standards for Imports of Regulation. Where there is an inconsistency between the CAISO's Dynamic Transfer Protocols and Standards for Imports of Regulation and this Agreement, this Agreement will prevail to the extent of the inconsistency.

3.4 Communication

The Parties shall each operate and maintain a 24-hour, 7-day control center with real-time scheduling and control functions. Appropriate control center staff will be provided by each Party who shall be responsible for operational communications and who shall have sufficient authority to commit and bind that Party. The Parties shall jointly develop communication procedures necessary to support scheduling and dispatch

functions relative to dynamic transfers. The Parties agree to exchange operational contact information in a format to be provided by the CAISO and completed as of the effective date of this Agreement. Each Party shall provide the other Party ten (10) calendar days advance notice of updates to its operational contact information for known changes, and as soon as practical, for unplanned changes.

4. Dynamic Schedules of Imports and Exports

Should the Parties elect to support a Scheduling Coordinators' request to implement dynamic scheduling functionality, all applicable operating, technical and business requirements set forth in Appendix M of the CAISO Tariff shall be satisfied, including but not limited to the following:

4.1 Telecommunications Requirements

The Parties shall establish and maintain real-time, redundant, diversely routed, communications links between the CAISO EMS and the BANC EMS, with the primary link utilizing the standard inter-control center communications protocol ("ICCP") in accordance with the Applicable Standards for the for the dynamically scheduled resources listed in Schedule 1.

4.2 Telemetry

For each operating hour for which a dynamically scheduled resource is delivering energy, and/or energy associated with ancillary services to the receiving Balancing Authority Area, the Host Balancing Authority shall provide, via the ICCP communication links to the receiving Balancing Authority EMS, the data for each dynamically scheduled resource, as set forth in the Applicable Standards.

4.3. Interchange Scheduling Requirements

4.3.1 Dynamic Schedules

The Parties shall coordinate the arrangements for dynamic interchange schedules for the delivery of energy to the respective Balancing Authority Area reflecting the dynamically scheduled resource's instantaneous energy production or allocation level and taking into account available transmission capacity and, in the case of BANC, the impact of dynamic interchange schedules on transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area.

4.3.2 Treatment of Area Control Error (“ACE”)

For Dynamic Scheduling, the Host Balancing Authority shall instantaneously compensate its AGC for the dynamically scheduled resource's energy output that is generated or allocated for establishing the dynamic schedule to the receiving Balancing Authority such that the dynamically scheduled resource energy production or allocation changes have an equal in magnitude and opposite in sign effect on the Host Balancing Authority's ACE.

4.3.3 Integration of Dynamic Schedules

For each operating hour during which energy was dynamically scheduled for delivery to the receiving Balancing Authority Area, the Host Balancing Authority shall compute an integrated amount of interchange based on the dynamically scheduled resource's integrated energy production, by integrating the instantaneous dynamically scheduled resource production levels. Such integrated MWH value shall be agreed to hourly by the real-time schedulers.

4.3.4 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.

4.3.5 Access to Information

The Parties agree to exchange information related to telemetry sent and received with respect to the delivery of energy (i) at the request of the other Party for purposes of after-the-fact interchange accounting or (ii) on demand for any other purpose.

4.3.6. Other Balancing Authority Responsibilities

4.3.6.1 Operational Jurisdiction

The Host Balancing Authority will have, at a minimum, the level of operational jurisdiction over the dynamically scheduled resource and the associated dynamic schedule that NERC and WECC vest in Host Balancing Authorities. Such level of operational jurisdiction shall not exceed that necessary to meet applicable reliability standards.

4.3.6.2 E-Tagging

The Parties must support associated e-tagging as described in the CAISO Dynamic Transfer Protocols and deemed to be consistent with NERC and/or WECC requirements.

4.3.6.3 Real-Time Adjustments

The Host Balancing Authority Area for a dynamically transferred resource must have a means to manually override and/or otherwise adjust the dynamic signal for a dynamic schedule in real-time, if needed.

4.3.6.4 Coordination with Other Balancing Authorities

The Balancing Authority Area hosting a dynamic resource must provide in real-time the instantaneous value of each dynamic schedule to every intermediary Balancing Authority Area through whose systems such dynamic schedule may be implemented to the receiving Balancing Authority.

4.4. Other

4.4.1 Losses

The Parties shall not be responsible for transmission losses caused by transmitting energy dynamically within or across the other Parties Balancing Authority Area.

4.4.2 Certification

Only CAISO-certified System Resource/Host Balancing Authority arrangements will be allowed to bid or self provide ancillary services in the CAISO's ancillary services market through a CAISO-certified Scheduling Coordinator.

4.4.3 No Guarantee of Award

Certification of a System Resource/Host Balancing Authority arrangement allows for bidding of energy and/or certain ancillary services into the CAISO market; it does not, however, guarantee selection of such bid.

4.4.4 Performance Assessment

The CAISO will monitor and measure dynamically imported ancillary services, whether bid or self-provided, against the performance benchmarks described in the CAISO Dynamic Scheduling Protocol.

4.4.5 Description of System Resources

Each dynamically scheduled System Resource permitted pursuant to this Agreement is described in Schedule 1.

4.4.6 Notifications

The Parties shall jointly develop methods for coordinating the notification of all affected scheduling entities within their respective Balancing Authority Areas regarding schedule changes in emergency or curtailment conditions.

5. Pseudo-Ties

Should the Parties elect to support a Pseudo-Tie generator's request to implement a Pseudo-Tie arrangement, the Parties shall comply with the applicable provisions of the Pseudo-Tie Protocol in Appendix N of the CAISO Tariff, including but not limited to the following:

- 5.1** Operation of Pseudo-Tie functionalities must comply with all applicable NERC and WECC reliability standards, policies, requirements, and guidelines regarding inter-Balancing Authority Area scheduling. A Pseudo-Tie must be registered as a "Point Of Delivery" (POD) on NERC's Transmission Service Information Network (TSIN). All (off-system) static scheduling associated with Pseudo-Tie functionality must be consistent with NERC Reliability Standards for interchange scheduling and coordination.
- 5.2** The Parties will establish the terms of any Pseudo-Tie between the two Balancing Authority Areas, will specify the location of that Pseudo-Tie

point, and will register that location as a point of delivery to the Attaining Balancing Authority Area.

- 5.3** All Energy transfers associated with a Pseudo-Tie generating unit must be electronically tagged (E-tagged).
- 5.4** Unless a particular service is procured by the Pseudo-Tie generator from some other source, the Attaining Balancing Authority shall provide to a Pseudo-Tie generating unit all Balancing Authority services available to other generating units in the Attaining Balancing Authority Area, which may include the auxiliary load equipment needs of the Pseudo-Tie generating unit, provided firm transmission service is reserved across the transmission path from the CAISO Intertie to the Pseudo-Tie generating unit.
- 5.5** The Parties, in conjunction with the affected Participating Transmission Owner, or, in the case of BANC, affected transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area and the owner of the Pseudo-Tie generating unit will develop a coordinated operating procedure outlining the agreed upon framework among all parties for the operation of a Pseudo-Tie of the generating unit out of the CAISO Balancing Authority Area, and to facilitate the continued delivery of Energy and Ancillary Services from a Pseudo-Tie generating unit into the CAISO Balancing Authority Area to the desired delivery points in the event the primary contract path is unavailable or curtailed.
- 5.6** All applicable communication and telemetry requirements of the WECC, the CAISO, and a Pseudo-Tie generating unit's Native Balancing Authority Area regarding generating units and inter-Balancing Authority Area Interties must be satisfied. These requirements include the requirements of Appendix M applicable to Dynamic Schedules of imports and the requirements of the CAISO Tariff applicable to generating units in the CAISO Balancing Authority Area.
- 5.7** Proper incorporation of the dynamic signal into all involved Balancing Authority Areas' ACE equations will be required.
- 5.8** Should there be any need or requirement, whether operational or procedural, for the CAISO or the Balancing Authority for the Attaining Balancing Authority Area to make real-time adjustments to the CAISO's inter-Balancing Authority Area schedules at the pre-existing CAISO Intertie associated with the Pseudo-Tie generating unit (including

curtailments), the dynamic transfer from the Pseudo-Tie generating unit shall be treated in the same manner as any CAISO Interchange Schedule at that pre-existing CAISO Intertie, and in accordance with any applicable operating instructions from any affected Participating Transmission Owner.

5.9 Each Pseudo-Tie generating unit permitted pursuant to this Agreement is described in Schedule 2.

6. Liability

6.1 Uncontrollable Forces

An Uncontrollable Force means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, earthquake, explosion, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond the reasonable control of a Balancing Authority which could not be avoided through the exercise of Good Utility Practice.

Neither Party will be considered in default of any obligation under this Agreement or liable to the other for direct, indirect, and consequential damages if prevented from fulfilling that obligation due to the occurrence of an Uncontrollable Force. Neither Party will be considered in default of any obligation under this Agreement to the extent caused by any act, or failure to act, of any intermediary Balancing Authority.

In the event of the occurrence of an Uncontrollable Force, which prevents either Party from performing any obligations under this Agreement, the affected entity shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Uncontrollable Force. The Parties shall each use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligations hereunder.

6.2 Liability To Third Parties

Except as otherwise expressly provided herein, nothing in this Agreement shall be construed or deemed to confer any right or benefit on, or to create any duty to, or standard of care with reference to any third party, or any liability or obligation, contractual or otherwise, on the part of the CAISO or the BANC.

6.3 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, its directors, officers, employees, or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge, or expense, whether direct, indirect, or consequential, arising from the Party's performance or nonperformance under this Agreement, except for a Party's gross negligence, or willful misconduct.

7. Miscellaneous

7.1 Assignments

Either Party to this Agreement may assign its obligations under this Agreement, with the other Party's prior written consent. Such consent shall not be unreasonably withheld.

Obligations and liabilities under this Agreement shall be binding on the successors and assigns of the Parties. No assignment of this Agreement shall relieve the assigning Party from any obligation or liability under this Agreement arising or accruing prior to the date of assignment.

7.2 Notices

Any notice, demand, or request which may be given to or made upon either Party regarding this Agreement shall be made in writing and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 3 and shall be deemed properly served, given, or made: (a) upon delivery if delivered in person, (b) five (5) days after deposit in the mail if sent by first class United States mail, postage prepaid, (c) upon receipt of confirmation by return facsimile if sent by facsimile, or (d) upon delivery if delivered by prepaid commercial courier service. A Party must update the information in Schedule 3 relating to its address as that information changes. Such changes shall not constitute an amendment to this Agreement.

7.3 Waivers

Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or matter arising in connection with this Agreement. Any delay short of the statutory period of limitations, in asserting or enforcing any right under this Agreement, shall not constitute or be deemed a waiver of such right.

7.4 Governing Law and Forum

Subject to Section 7.4, this Agreement shall be deemed to be a contract made under and for all purposes shall be governed by and construed in accordance with the laws of the State of California. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement shall be brought in any of the following forums, as appropriate: a court of the State of California or any federal court of the United States of America located in the State of California or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission. No provision of this Agreement shall be deemed to waive the right of any Party to protest, or challenge in any manner, whether this Agreement, or any action or proceeding arising under or relating to this Agreement, is subject to the jurisdiction of the Federal Energy Regulatory Commission.

7.5 Consistency with Federal Laws and Regulations

(a) Nothing in this Agreement shall compel any person or federal entity to: (1) violate federal statutes or regulations; or (2) in the case of a federal agency, to exceed its statutory authority, as defined by any applicable federal statutes, regulations, or orders lawfully promulgated thereunder. If any provision of this Agreement is inconsistent with any obligation imposed on any person or federal entity by federal law or regulation to that extent, it shall be inapplicable to that person or federal entity. No person or federal entity shall incur any liability by failing to comply with any provision of this Agreement that is inapplicable to it by reason of being inconsistent with any federal statutes, regulations, or orders lawfully promulgated thereunder; provided, however, that such person or federal entity shall use its best efforts to comply with the CAISO Tariff to the extent that applicable federal laws, regulations, and orders lawfully promulgated thereunder permit it to do so.

(b) If any provision of this Agreement requiring any person or federal entity to give an indemnity or impose a sanction on any person is unenforceable against a federal entity, the CAISO shall submit to the Secretary of Energy or other appropriate Departmental Secretary a report of any circumstances that would, but for this provision, have rendered a federal entity liable to indemnify any person or incur a sanction and may request the Secretary of Energy or other appropriate Departmental Secretary to take such steps as are necessary to give effect to any provisions of this Agreement that are not enforceable against the federal entity.

7.6 Severability

If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

7.7 Section Headings

Section headings provided in this Agreement are for ease of reading and are not meant to interpret the text in each Section.

7.8 Amendments

7.8.1 This Agreement may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. Notwithstanding the forgoing, Schedules 1 and 2 may be amended from time to time solely by the mutual agreement of the Parties in writing and such changes shall not require the approval of FERC to become effective.

7.8.2 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 of the FPA 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 FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

~~This Agreement and the Schedules attached hereto may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. 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 of the FPA 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 FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.~~

7.9 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.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date first written above.

California Independent System Operator Corporation

By: _____

Name: Eric J. Schmitt

Title: Vice President, Operations

Date: April 9, 2012

Balancing Authority of Northern California

By: _____

Name: James C. Feider

Title: General Manager

Date: 4-5-12

SCHEDULE 1

DESCRIPTION OF DYNAMIC SCHEDULING RESOURCES

[Section 4.4.5]

A. Dynamic Scheduling System Resources Into the CAISO Balancing Authority Area

<u>System Resource ID:</u>	<u>RANCHO 2 SMUDSYSDYN</u>
<u>Description of System Resource(s):</u>	<u>System Resource as used in this Agreement means all of the supply resources identified in Schedule 1 of the Market Efficiency Enhancement Agreement between Sacramento Municipal Utility District (“SMUD”) and the CAISO (“MEEA”) and the supply resource’s respective distribution factors as determined pursuant to Schedule 2 of the MEEA, as these schedules may be amended from time to time.</u>
<u>Regulation Up</u>	
<u>PMax Values:</u>	<u>125 MW</u>
<u>CAISO Intertie:</u>	<u>Rancho Seco 230-kV interconnection at the Rancho Seco Substation</u>
<u>Host Balancing Authority Area:</u>	<u>Balancing Authority Area of Northern California</u>
<u>Intermediary Balancing Authority Areas:</u>	<u>N/A</u>

~~There are no Dynamic Scheduling System Resources at this time.~~

SCHEDULE 2**PSEUDO-TIE GENERATING UNIT, PSEUDO TIE Technical Information
NATIVE and ATTAINING BALANCING AUTHORITY AREA Information****[Section 5.9]****A. Pseudo-Tie Out of CAISO Balancing Authority Area**

Pseudo Tie Location	Registered TNAME: NML230 Location: New Melones Substation, 230 kV
Pseudo Generating Unit	Generator Name: New Melones Power Plant Capacity: 384 MW at 1.00 pf Pmax ¹ : 384 MW
Attaining Balancing Authority Area	BANC Balancing Authority Area
Native Balancing Authority Area	CAISO Balancing Authority Area
Existing Contract	United States Department of Energy Western Area Power Administration Central Valley Project, California Contract with Pacific Gas and Electric Company For Transmission Service For New Melones, Western Contract No. 8- 07-20-P0004, PG&E First Revised Rate Schedule FERC No. 60.

¹ This value is the unity power factor and represents the maximum amount of power that can be scheduled by the Pseudo-Tie Generating Unit or into the CAISO Balancing Authority Area, and is subject to limitation pursuant to existing contracts regarding transmission service rights on the scheduling path due to System Emergencies, or to provide necessary voltage support, which could temporarily reduce the ability to generate and transfer power to amounts less than Pmax.

Pseudo-Tie Into the CAISO Balancing Authority Area

Pseudo Tie Location	Registered TNAME: OBN230 Location: Sutter Substation 230kV
Pseudo-Tie Generating Unit	Generator Name: Sutter Energy Center Combined Cycle Capacity: 572 MW, Pmax ² : 525 MW Resource ID: Sutter_2_PL1X3
Attaining Balancing Authority Area	CAISO Balancing Authority Area
Native Balancing Authority Area	BANC Balancing Authority Area
Intertie	TRCYPP_2_TESLA

² This value is the unity power factor and represents the maximum amount of power that can be scheduled by the Pseudo-Tie Generating Unit or into the CAISO Balancing Authority Area, and is subject to limitation pursuant to existing contracts regarding transmission service rights on the scheduling path due to System Emergencies, or to provide necessary voltage support, which could temporarily reduce the ability to generate and transfer power to amounts less than Pmax.

SCHEDULE 3

NOTICES

[Section 7.2]

Balancing Authority of Northern California

Name of Primary

Representative: James Feider

Title: General Manager

Company: Balancing Authority of Northern California

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Email Address: jimcfeider@gmail.com

Phone: (916) 732-6346

Fax No: N/A

Name of Primary

Representative: Vicken Kasarjian

Title: Director, Grid Planning and Operations

Company: Sacramento Municipal Utility District (BANC Operator)

Address: 6001 S Street, M.S. D109

City/State/Zip Code: Sacramento, CA 95817

Email Address: vkasarj@smud.org

Phone: (916) 732-5727

Fax No: (916) 732-7026

Name of Primary Representative: C. Anthony Braun
Title: General Counsel
Company: Braun Blaising McLaughlin, P.C
Address: 915 L Street, Suite 1270
City/State/Zip Code: Sacramento, CA 95814
Email Address: braun@braunlegal.com
Phone: (916) 326-4449
Fax No: (916) 441-4068

Name of Alternative Representative: Richard Buckingham
Title: Principal Power Contracts Specialist
Company: SMUD (BANC Operator)
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City/State/Zip Code: Sacramento, CA 95817
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Phone: (916) 732-7027
Fax No: (916) 732-7026

Name of Alternative

Representative: Mark Willis
Title: Supervisor, Power Operations Engineering.
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City/State/Zip Code Sacramento, CA 95817
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Fax No: (916) 732-7026

CAISO

Name of Primary

Representative: Ms. Roni L. Reese
Title: Sr. Contracts Analyst
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City/State/Zip Code: Folsom, CA 95630
Email address: regulatorycontracts@caiso.com
Phone: (916) 608-7027
Fax: (916) 608-7292

Name of Alternative

Representative: Christopher J. Sibley
Title: Lead Contract Negotiator
Address: 250 Outcropping Way
City/State/Zip Code: Folsom, CA 95630
Email address: csibley@caiso.com
Phone: (916) 608-7030
Fax: (916) 608-7292

FERC rendition of the electronically filed tariff records in Docket No. ER17-00726-000
Filing Data:
CID: C001183
Filing Title: 2016-12-30 Amdt 1 to CAISO and BANC Dynamic Transfer Balancing Authority Agmt
Company Filing Identifier: 571
Type of Filing Code: 10
Associated Filing Identifier:
Tariff Title: CAISO Non-Conforming Service Agreements
Tariff ID: 13
Payment Confirmation:
Suspension Motion:

Tariff Record Data:
Record Content Description, Tariff Record Title, Record Version Number, Option Code:
CAISO- BANC, Dynamic Transfer Balancing Authority Operating Agreement, 1.0.0, A
Record Narrative Name:
Tariff Record ID: 9157
Tariff Record Collation Value: 2147469010 Tariff Record Parent Identifier: 9156
Proposed Date: 2017-03-01
Priority Order: 500
Record Change Type: CHANGE
Record Content Type: 1
Associated Filing Identifier:

Dynamic Transfer Balancing Authority Operating Agreement

THIS DYNAMIC TRANSFER BALANCING AUTHORITY OPERATING AGREEMENT (“AGREEMENT”) is established this 9th day of April, 2012 and is accepted by and between:

Balancing Authority of Northern California (“BANC”), a joint powers authority established pursuant to the laws of the State of California,

and

California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at such place in the State of California as the CAISO Governing Board may from time to time designate, currently 250 Outcropping Way, Folsom, California 95630.

The BANC and the CAISO are hereinafter referred to as the “Parties”.

Whereas:

- A.** The Parties named above operate Balancing Authority Areas.
- B.** The CAISO has determined that the pilot Pseudo-Tie program successfully

demonstrated the dynamic transfer of generating resources between adjacent Balancing Authority Areas and that this Agreement, and the associated CAISO Tariff revisions and additions, implement the features of the pilot pseudo-tie program.

- C.** The Parties wish to coordinate operation of dynamic transfers to satisfy North American Electric Reliability Corporation (“NERC”) and Western Electricity Coordinating Council (“WECC”) reliability standards and criteria and Good Utility Practice.
- D.** The Parties desire to implement an agreement to facilitate dynamic transfers from resources in their respective Balancing Authority Area.
- E.** The Parties wish to enter into this Agreement to establish the terms and conditions for the operation of the dynamic transfer functionality to include Dynamic Schedules and Pseudo-Tie arrangements between the Parties’ Balancing Authority Areas.
- F.** The Parties have certain statutory obligations under California law to maintain power system reliability.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, **THE PARTIES AGREE** as follows:

1. Term and Termination

1.1 Effective Date

This Agreement shall be effective as of the date set forth above, unless this Agreement is accepted for filing and made effective by the Federal Energy Regulatory Commission (“FERC”) on some other date, if FERC filing is required, and shall continue in effect until terminated.

1.2 Termination

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. For entities subject to FERC jurisdiction, termination will be effective upon acceptance by FERC of notice of termination, if this Agreement has been filed with FERC, or two (2) years after the date of the notice of termination by a Party, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC

orders. 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: (1) 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 (2) the CAISO files the notice of termination with FERC in accordance with the requirements of FERC Order No. 2001.

2. Definitions

2.1 NERC/WECC Definitions

Except as defined below, terms and expressions used in this Agreement shall have the same meanings as those contained in the NERC Glossary of Terms Used in NERC Reliability Standards and the WECC Glossary of WECC Terms and Acronyms.

2.2 Specific Definitions

2.2.1 Attaining Balancing Authority Area: The Balancing Authority Area where the output of a Pseudo-Tie generating unit is fully included for purposes of calculation of Area Control Error and meeting Balancing Authority Area load responsibilities.

2.2.2 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.

2.2.3 CAISO Tariff: CAISO Operating Agreement, Protocols, and Tariff as amended from time to time, together with any appendices or attachments thereto.

2.2.4 Good Utility Practice: Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry in the WECC region 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 practices, reliability, safety, and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

2.2.5 Native Balancing Authority Area: The Balancing Authority Area where a Pseudo-Tie generating unit is physically interconnected to the electric grid.

2.2.6 Point of Contact: A person or entity having the authority to receive and act upon scheduling or dispatch communications from the other Balancing Authority and available through a communications device mutually agreed upon on a 24-hour, 7-day basis.

2.2.7 Scheduling Coordinator: An entity certified by the CAISO for the purposes of undertaking the functions of: submitting bids or schedules for energy, generation, transmission losses, and ancillary services; coordinating generation; tracking, billing, and settling trades with other Scheduling Coordinators; submitting forecast information; paying the CAISO's charges; and ensuring compliance with CAISO protocols.

2.2.8 System Resource: "System Resource" is defined in the CAISO Tariff and, in the context of this Agreement, may include combinations of resources as described in the CAISO Dynamic Transfer Protocols.

3. General

3.1 Purpose

This Agreement sets forth the requirements that must be satisfied by the Parties to support Scheduling Coordinators' and generating unit owners' requests for implementation of dynamic transfer functionality and delivery of energy and energy associated with ancillary services to the respective Balancing Authority Area. The requirements encompass technical (energy management system ("EMS"), automatic generation control ("AGC"), and communications), interchange scheduling, telemetry, and aspects of Balancing Authority Area operations. Nothing in this Agreement is intended to interfere with the rights of an affected transmission owner or transmission operator in the BANC Balancing Authority Area to determine its own terms of service associated with the facilitation of dynamic transfer by BANC.

3.2 NERC/WECC Operating Standards Observed

Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by NERC and WECC reliability standards and policies and WECC criteria.

3.3 Applicable Standards

This Agreement incorporates, by reference, the CAISO Dynamic Transfer Protocols and Standards for Imports of Regulation. Where there is an

inconsistency between the CAISO's Dynamic Transfer Protocols and Standards for Imports of Regulation and this Agreement, this Agreement will prevail to the extent of the inconsistency.

3.4 Communication

The Parties shall each operate and maintain a 24-hour, 7-day control center with real-time scheduling and control functions. Appropriate control center staff will be provided by each Party who shall be responsible for operational communications and who shall have sufficient authority to commit and bind that Party. The Parties shall jointly develop communication procedures necessary to support scheduling and dispatch functions relative to dynamic transfers. The Parties agree to exchange operational contact information in a format to be provided by the CAISO and completed as of the effective date of this Agreement. Each Party shall provide the other Party ten (10) calendar days advance notice of updates to its operational contact information for known changes, and as soon as practical, for unplanned changes.

4. Dynamic Schedules of Imports and Exports

Should the Parties elect to support a Scheduling Coordinators' request to implement dynamic scheduling functionality, all applicable operating, technical and business requirements set forth in Appendix M of the CAISO Tariff shall be satisfied, including but not limited to the following:

4.1 Telecommunications Requirements

The Parties shall establish and maintain real-time, redundant, diversely routed, communications links between the CAISO EMS and the BANC EMS, with the primary link utilizing the standard inter-control center communications protocol ("ICCP") in accordance with the Applicable Standards for the for the dynamically scheduled resources listed in Schedule 1.

4.2 Telemetry

For each operating hour for which a dynamically scheduled resource is delivering energy, and/or energy associated with ancillary services to the receiving Balancing Authority Area, the Host Balancing Authority shall provide, via the ICCP communication links to the receiving Balancing Authority EMS, the data for each dynamically scheduled resource, as set forth in the Applicable Standards.

4.3. Interchange Scheduling Requirements

4.3.1 Dynamic Schedules

The Parties shall coordinate the arrangements for dynamic interchange schedules for the delivery of energy to the respective Balancing Authority Area reflecting the dynamically scheduled resource's instantaneous energy production or allocation level and taking into account available transmission capacity and, in the case of BANC, the impact of dynamic interchange schedules on transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area.

4.3.2 Treatment of Area Control Error (“ACE”)

For Dynamic Scheduling, the Host Balancing Authority shall instantaneously compensate its AGC for the dynamically scheduled resource's energy output that is generated or allocated for establishing the dynamic schedule to the receiving Balancing Authority such that the dynamically scheduled resource energy production or allocation changes have an equal in magnitude and opposite in sign effect on the Host Balancing Authority's ACE.

4.3.3 Integration of Dynamic Schedules

For each operating hour during which energy was dynamically scheduled for delivery to the receiving Balancing Authority Area, the Host Balancing Authority shall compute an integrated amount of interchange based on the dynamically scheduled resource's integrated energy production, by integrating the instantaneous dynamically scheduled resource production levels. Such integrated MWH value shall be agreed to hourly by the real-time schedulers.

4.3.4 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.

4.3.5 Access to Information

The Parties agree to exchange information related to telemetry sent and received with respect to the delivery of energy (i) at the request of the other Party for purposes of after-the-fact interchange accounting or (ii) on demand for any other purpose.

4.3.6. Other Balancing Authority Responsibilities

4.3.6.1 Operational Jurisdiction

The Host Balancing Authority will have, at a minimum, the level of operational jurisdiction over the dynamically scheduled resource and the associated dynamic schedule that NERC and WECC vest in Host Balancing Authorities. Such level of operational jurisdiction shall not exceed that necessary to meet applicable reliability standards.

4.3.6.2 E-Tagging

The Parties must support associated e-tagging as described in the CAISO Dynamic Transfer Protocols and deemed to be consistent with NERC and/or WECC requirements.

4.3.6.3 Real-Time Adjustments

The Host Balancing Authority Area for a dynamically transferred resource must have a means to manually override and/or otherwise adjust the dynamic signal for a dynamic schedule in real-time, if needed.

4.3.6.4 Coordination with Other Balancing Authorities

The Balancing Authority Area hosting a dynamic resource must provide in real-time the instantaneous value of each dynamic schedule to every intermediary Balancing Authority Area through whose systems such dynamic schedule may be implemented to the receiving Balancing Authority.

4.4. Other

4.4.1 Losses

The Parties shall not be responsible for transmission losses caused by transmitting energy dynamically within or across the other Parties Balancing Authority Area.

4.4.2 Certification

Only CAISO-certified System Resource/Host Balancing Authority arrangements will be allowed to bid or self provide ancillary services in the CAISO's ancillary services market through a CAISO-certified Scheduling Coordinator.

4.4.3 No Guarantee of Award

Certification of a System Resource/Host Balancing Authority arrangement allows for bidding of energy and/or certain ancillary services into the CAISO market; it does not, however, guarantee selection of such bid.

4.4.4 Performance Assessment

The CAISO will monitor and measure dynamically imported ancillary services, whether bid or self-provided, against the performance benchmarks described in the CAISO Dynamic Scheduling Protocol.

4.4.5 Description of System Resources

Each dynamically scheduled System Resource permitted pursuant to this Agreement is described in Schedule 1.

4.4.6 Notifications

The Parties shall jointly develop methods for coordinating the notification of all affected scheduling entities within their respective Balancing Authority Areas regarding schedule changes in emergency or curtailment conditions.

5. Pseudo-Ties

Should the Parties elect to support a Pseudo-Tie generator's request to implement a Pseudo-Tie arrangement, the Parties shall comply with the applicable provisions of the Pseudo-Tie Protocol in Appendix N of the CAISO Tariff, including but not limited to the following:

- 5.1** Operation of Pseudo-Tie functionalities must comply with all applicable NERC and WECC reliability standards, policies, requirements, and guidelines regarding inter-Balancing Authority Area scheduling. A Pseudo-Tie must be registered as a "Point Of Delivery" (POD) on NERC's Transmission Service Information Network (TSIN). All (off-system) static scheduling associated with Pseudo-Tie functionality must be consistent with NERC Reliability Standards for interchange scheduling and coordination.
- 5.2** The Parties will establish the terms of any Pseudo-Tie between the two Balancing Authority Areas, will specify the location of that Pseudo-Tie point, and will register that location as a point of delivery to the Attaining Balancing Authority Area.
- 5.3** All Energy transfers associated with a Pseudo-Tie generating unit must be electronically tagged (E-tagged).

- 5.4** Unless a particular service is procured by the Pseudo-Tie generator from some other source, the Attaining Balancing Authority shall provide to a Pseudo-Tie generating unit all Balancing Authority services available to other generating units in the Attaining Balancing Authority Area, which may include the auxiliary load equipment needs of the Pseudo-Tie generating unit, provided firm transmission service is reserved across the transmission path from the CAISO Intertie to the Pseudo-Tie generating unit.
- 5.5** The Parties, in conjunction with the affected Participating Transmission Owner, or, in the case of BANC, affected transmission owner(s) and transmission operator(s) within the BANC Balancing Authority Area and the owner of the Pseudo-Tie generating unit will develop a coordinated operating procedure outlining the agreed upon framework among all parties for the operation of a Pseudo-Tie of the generating unit out of the CAISO Balancing Authority Area, and to facilitate the continued delivery of Energy and Ancillary Services from a Pseudo-Tie generating unit into the CAISO Balancing Authority Area to the desired delivery points in the event the primary contract path is unavailable or curtailed.
- 5.6** All applicable communication and telemetry requirements of the WECC, the CAISO, and a Pseudo-Tie generating unit's Native Balancing Authority Area regarding generating units and inter-Balancing Authority Area Interties must be satisfied. These requirements include the requirements of Appendix M applicable to Dynamic Schedules of imports and the requirements of the CAISO Tariff applicable to generating units in the CAISO Balancing Authority Area.
- 5.7** Proper incorporation of the dynamic signal into all involved Balancing Authority Areas' ACE equations will be required.
- 5.8** Should there be any need or requirement, whether operational or procedural, for the CAISO or the Balancing Authority for the Attaining Balancing Authority Area to make real-time adjustments to the CAISO's inter-Balancing Authority Area schedules at the pre-existing CAISO Intertie associated with the Pseudo-Tie generating unit (including curtailments), the dynamic transfer from the Pseudo-Tie generating unit shall be treated in the same manner as any CAISO Interchange Schedule at that pre-existing CAISO Intertie, and in accordance with any applicable operating instructions from any affected Participating Transmission Owner.
- 5.9** Each Pseudo-Tie generating unit permitted pursuant to this Agreement is described in Schedule 2.

6. Liability

6.1 Uncontrollable Forces

An Uncontrollable Force means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm, flood, earthquake, explosion, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond the reasonable control of a Balancing Authority which could not be avoided through the exercise of Good Utility Practice.

Neither Party will be considered in default of any obligation under this Agreement or liable to the other for direct, indirect, and consequential damages if prevented from fulfilling that obligation due to the occurrence of an Uncontrollable Force. Neither Party will be considered in default of any obligation under this Agreement to the extent caused by any act, or failure to act, of any intermediary Balancing Authority.

In the event of the occurrence of an Uncontrollable Force, which prevents either Party from performing any obligations under this Agreement, the affected entity shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Uncontrollable Force. The Parties shall each use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligations hereunder.

6.2 Liability To Third Parties

Except as otherwise expressly provided herein, nothing in this Agreement shall be construed or deemed to confer any right or benefit on, or to create any duty to, or standard of care with reference to any third party, or any liability or obligation, contractual or otherwise, on the part of the CAISO or the BANC.

6.3 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, its directors, officers, employees, or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge, or expense, whether direct, indirect, or consequential, arising from the Party's performance or nonperformance under this Agreement, except for a Party's gross negligence, or willful misconduct.

7. Miscellaneous

7.1 Assignments

Either Party to this Agreement may assign its obligations under this Agreement, with the other Party's prior written consent. Such consent shall not be unreasonably withheld.

Obligations and liabilities under this Agreement shall be binding on the successors and assigns of the Parties. No assignment of this Agreement shall relieve the assigning Party from any obligation or liability under this Agreement arising or accruing prior to the date of assignment.

7.2 Notices

Any notice, demand, or request which may be given to or made upon either Party regarding this Agreement shall be made in writing and unless otherwise stated or agreed shall be made to the representative of the other Party indicated in Schedule 3 and shall be deemed properly served, given, or made: (a) upon delivery if delivered in person, (b) five (5) days after deposit in the mail if sent by first class United States mail, postage prepaid, (c) upon receipt of confirmation by return facsimile if sent by facsimile, or (d) upon delivery if delivered by prepaid commercial courier service. A Party must update the information in Schedule 3 relating to its address as that information changes. Such changes shall not constitute an amendment to this Agreement.

7.3 Waivers

Any waiver at any time by either Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or matter arising in connection with this Agreement. Any delay short of the statutory period of limitations, in asserting or enforcing any right under this Agreement, shall not constitute or be deemed a waiver of such right.

7.4 Governing Law and Forum

Subject to Section 7.4, this Agreement shall be deemed to be a contract made under and for all purposes shall be governed by and construed in accordance with the laws of the State of California. The Parties irrevocably consent that any legal action or proceeding arising under or relating to this Agreement shall be brought in any of the following forums, as appropriate: a court of the State of California or any federal court of the United States of America located in the State of California or, where subject to its jurisdiction, before the Federal Energy Regulatory Commission. No provision of this Agreement shall be deemed to waive the right of any Party to protest, or challenge in any manner, whether this Agreement, or any action or proceeding arising under or relating to this Agreement, is subject to the jurisdiction of the Federal Energy Regulatory Commission.

7.5 Consistency with Federal Laws and Regulations

(a) Nothing in this Agreement shall compel any person or federal entity to: (1) violate federal statutes or regulations; or (2) in the case of a federal agency, to exceed its statutory authority, as defined by any applicable federal statutes, regulations, or orders lawfully promulgated thereunder. If any provision of this Agreement is inconsistent with any obligation imposed on any person or federal entity by federal law or regulation to that extent, it shall be inapplicable to that person or federal entity. No person or federal entity shall incur any liability by failing to comply with any provision of this Agreement that is inapplicable to it by reason of being inconsistent with any federal statutes, regulations, or orders lawfully promulgated thereunder; provided, however, that such person or federal entity shall use its best efforts to comply with the CAISO Tariff to the extent that applicable federal laws, regulations, and orders lawfully promulgated thereunder permit it to do so.

(b) If any provision of this Agreement requiring any person or federal entity to give an indemnity or impose a sanction on any person is unenforceable against a federal entity, the CAISO shall submit to the Secretary of Energy or other

appropriate Departmental Secretary a report of any circumstances that would, but for this provision, have rendered a federal entity liable to indemnify any person or incur a sanction and may request the Secretary of Energy or other appropriate Departmental Secretary to take such steps as are necessary to give effect to any provisions of this Agreement that are not enforceable against the federal entity.

7.6 Severability

If any term, covenant, or condition of this Agreement or the application or effect of any such term, covenant, or condition is held invalid as to any person, entity, or circumstance, or is determined to be unjust, unreasonable, unlawful, imprudent, or otherwise not in the public interest by any court or government agency of competent jurisdiction, then such term, covenant, or condition shall remain in force and effect to the maximum extent permitted by law, and all other terms, covenants, and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect and the parties shall be relieved of their obligations only to the extent necessary to eliminate such regulatory or other determination unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions of this Agreement.

7.7 Section Headings

Section headings provided in this Agreement are for ease of reading and are not meant to interpret the text in each Section.

7.8 Amendments

7.8.1 This Agreement may be amended from time to time by the mutual agreement of the Parties in writing. Amendments that are subject to FERC approval shall not take effect until FERC has accepted such amendments for filing and has made them effective. Notwithstanding the forgoing, Schedules 1 and 2 may be amended from time to time solely by the mutual agreement of the Parties in writing and such changes shall not require the approval of FERC to become effective.

7.8.2 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 of the FPA 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 FPA and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

7.9 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.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date first written above.

California Independent System Operator Corporation

By: _____

Name: Eric J. Schmitt_____

Title: Vice President, Operations_____

Date: April 9, 2012_____

Balancing Authority of Northern California

By: _____

Name: James C. Feider_____

Title: General Manager_____

Date: 4-5-12_____

SCHEDULE 1**DESCRIPTION OF DYNAMIC SCHEDULING RESOURCES****[Section 4.4.5]****A. Dynamic Scheduling System Resources Into the CAISO Balancing Authority Area**

System Resource ID:	RANCHO_2_SMUDSYSDYN
Description of System Resource(s):	System Resource as used in this Agreement means all of the supply resources identified in Schedule 1 of the Market Efficiency Enhancement Agreement between Sacramento Municipal Utility District ("SMUD") and the CAISO ("MEEA") and the supply resource's respective distribution factors as determined pursuant to Schedule 2 of the MEEA, as these schedules may be amended from time to time.
Regulation Up PMax Values:	125 MW
CAISO Inertia:	Rancho Seco 230-kV interconnection at the Rancho Seco Substation
Host Balancing Authority Area:	Balancing Authority Area of Northern California
Intermediary Balancing Authority Areas:	N/A

SCHEDULE 2**PSEUDO-TIE GENERATING UNIT, PSEUDO TIE Technical Information
NATIVE and ATTAINING BALANCING AUTHORITY AREA Information****[Section 5.9]****A. Pseudo-Tie Out of CAISO Balancing Authority Area**

Pseudo Tie Location	Registered TNAME: NML230 Location: New Melones Substation, 230 kV
Pseudo Generating Unit	Generator Name: New Melones Power Plant Capacity: 384 MW at 1.00 pf Pmax: 384 MW
Attaining Balancing Authority Area	BANC Balancing Authority Area
Native Balancing Authority Area	CAISO Balancing Authority Area
Existing Contract	United States Department of Energy Western Area Power Administration Central Valley Project, California Contract with Pacific Gas and Electric Company For Transmission Service For New Melones, Western Contract No. 8-07-20-P0004, PG&E First Revised Rate Schedule FERC No. 60.

Pseudo-Tie Into the CAISO Balancing Authority Area

Pseudo Tie Location	Registered TNAME: OBN230 Location: Sutter Substation 230kV
Pseudo-Tie Generating Unit	Generator Name: Sutter Energy Center Combined Cycle Capacity: 572 MW, Pmax: 525 MW Resource ID: Sutter_2_PL1X3
Attaining Balancing Authority Area	CAISO Balancing Authority Area
Native Balancing Authority Area	BANC Balancing Authority Area
Intertie	TRCYPP_2_TESLA

SCHEDULE 3

NOTICES

[Section 7.2]

Balancing Authority of Northern California

Name of Primary

Representative: James Feider

Title: General Manager

Company: Balancing Authority of Northern California

Address: 6201 S Street, M.S. B408

City/State/Zip Code Sacramento, CA 95817

Email Address: jimcfeider@gmail.com

Phone: (916) 732-6346

Fax No: N/A

Name of Primary

Representative: Vicken Kasarjian

Title: Director, Grid Planning and Operations

Company: Sacramento Municipal Utility District (BANC Operator)

Address: 6001 S Street, M.S. D109

City/State/Zip Code: Sacramento, CA 95817

Email Address: vkasarj@smud.org

Phone: (916) 732-5727

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Name of Primary

Representative: C. Anthony Braun
Title: General Counsel
Company: Braun Blaising McLaughlin, P.C
Address: 915 L Street, Suite 1270
City/State/Zip Code: Sacramento, CA 95814
Email Address: braun@braunlegal.com
Phone: (916) 326-4449
Fax No: (916) 441-4068

Name of Alternative

Representative: Richard Buckingham
Title: Principal Power Contracts Specialist
Company: SMUD (BANC Operator)
Address: 6001 S Street, M.S. D105
City/State/Zip Code: Sacramento, CA 95817
Email Address: rbuckin@smud.org
Phone: (916) 732-7027
Fax No: (916) 732-7026

Name of Alternative

Representative: Mark Willis
Title: Supervisor, Power Operations Engineering.
Company: SMUD (BANC Operator)
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571-e1b53e09-480b-4334-96ad-47f14f3dfe1c.PDF.....5-10

571-e896efb8-accd-4b77-8a66-4403a5be977e.PDF.....11-33

571-d0b7ad81-0fa9-48df-a8a5-dd639502afd7.PDF.....34-56

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