



May 21, 2015

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

**Re: California Independent System Operator Corporation**

**Filing of Amended Adjacent Balancing Authority Operating Agreement (CAISO Rate Schedule No. 78)**

**Docket No. ER15-1765-001**

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits for Commission filing and acceptance an amendment to the Adjacent Balancing Authority Operating Agreement (“ABAOA”) between the CAISO and the Arizona Public Service Company (“APS”) (together, the “parties”),<sup>1</sup> which the CAISO separately filed for Commission acceptance in this proceeding on May 21, 2015.<sup>2</sup> The amendment to the ABAOA reflects the implementation of a new configuration (the “long-term configuration”) that will change APS’s balancing authority boundary and locate the Hassayampa-North Gila 500 kV line (“HANG2 line”) in the APS balancing authority area.

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<sup>1</sup> The CAISO submits this filing pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Part 35 of the Commission’s regulations, 18 C.F.R. Part 35.

<sup>2</sup> The CAISO separately filed the ABAOA (excluding the amendment contained in the instant filing) with a requested effective date of May 22, 2015, and designated the ABAOA as CAISO Rate Schedule No. 78. The CAISO’s separate May 21 filing also included a notice of termination of the existing Interconnected Control Area Operating Agreement (“ICAOA”) between the CAISO and APS effective as of May 22. To the extent necessary, the CAISO respectfully requests that the Commission consolidate the proceedings on the instant filing and the separate filing of the ABAOA and notice of termination of the ICAOA. The parties intend that the Commission consider the filings together and would have submitted the ABAOA, amendment to the ABAOA, and notice of termination of the ICAOA in a single filing but for technical issues the CAISO experienced in attempting to make such a single filing on May 20, 2015.

The CAISO requests that the Commission accept the amendment to the ABAOA effective as of July 23, 2015, *i.e.*, the planned implementation date of the long-term configuration.

## **I. The ABAOA**

The ABAOA sets forth the rates, terms, and conditions pursuant to which the CAISO and APS, as balancing authorities registered with NERC, operate the interconnection between their balancing authority areas and provide emergency assistance as required by the applicable NERC reliability standard.<sup>3</sup> The ABAOA also contains provisions that address the interim configuration of the HANG2 line and related matters regarding the scheduling and settlement of transactions that use the HANG2 line.

The HANG2 line was developed with the intent that it be located in the APS balancing authority area with an interconnection to the balancing authority area of the Salt River Project Agricultural Improvement and Power District at the Hassayampa switchyard and to the CAISO balancing authority area at the North Gila switchyard. APS and the Imperial Irrigation District (“IID”) are co-owners of the HANG2 line. APS is testing the HANG2 line and plans to put it in service as early as May 21, 2015 to support its summer operations.<sup>4</sup>

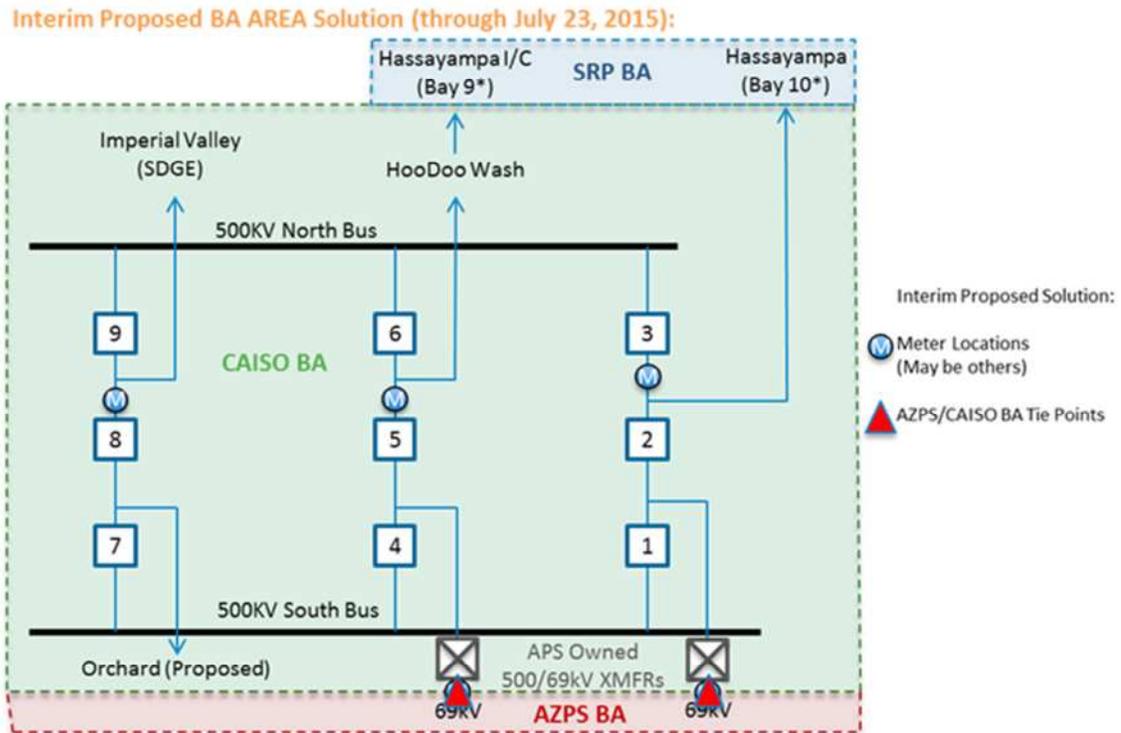
The CAISO was notified on March 12, 2015 that APS intended to locate these facilities in its balancing authority area and place them in service in late May. This did not allow sufficient time for the CAISO to make the necessary modeling and procedural changes to include the HANG2 line in APS’s balancing authority area at the time the line goes into service. Accordingly, the ABAOA reflects an interim configuration that places the HANG2 line in the CAISO’s balancing authority area and treats that line as a transmission ownership right for the approximately two-month period (May 22 to July 23, 2015) until the changes required for the long-term configuration can be implemented.<sup>5</sup> The interim configuration is illustrated below in a diagram depicting the North Gila switchyard and the various transmission lines that tie into that switchyard.

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<sup>3</sup> See NERC reliability standard EOP-001 (requiring an agreement for emergency assistance among neighboring balancing authorities).

<sup>4</sup> In the transmittal letter for the May 21, 2015 filing of the ABAOA, the CAISO explained that May 21 was the earliest expected in-service date of the HANG2 line. The CAISO also noted that the actual in-service date may be other than May 21. Consequently, the CAISO stated that it would submit a subsequent filing reflecting a revised effective date of the ABAOA and termination of the ICAOA if in fact the in-service date was other than expected.

<sup>5</sup> See *generally* CAISO Tariff section 17 and Schedule A to the ABAOA. This will provide the owners of the HANG2 line with much the same rights as if the HANG2 line were located in the APS balancing authority area, except that transactions using the HANG2 line must be scheduled with the CAISO and certain CAISO tariff charges will apply.

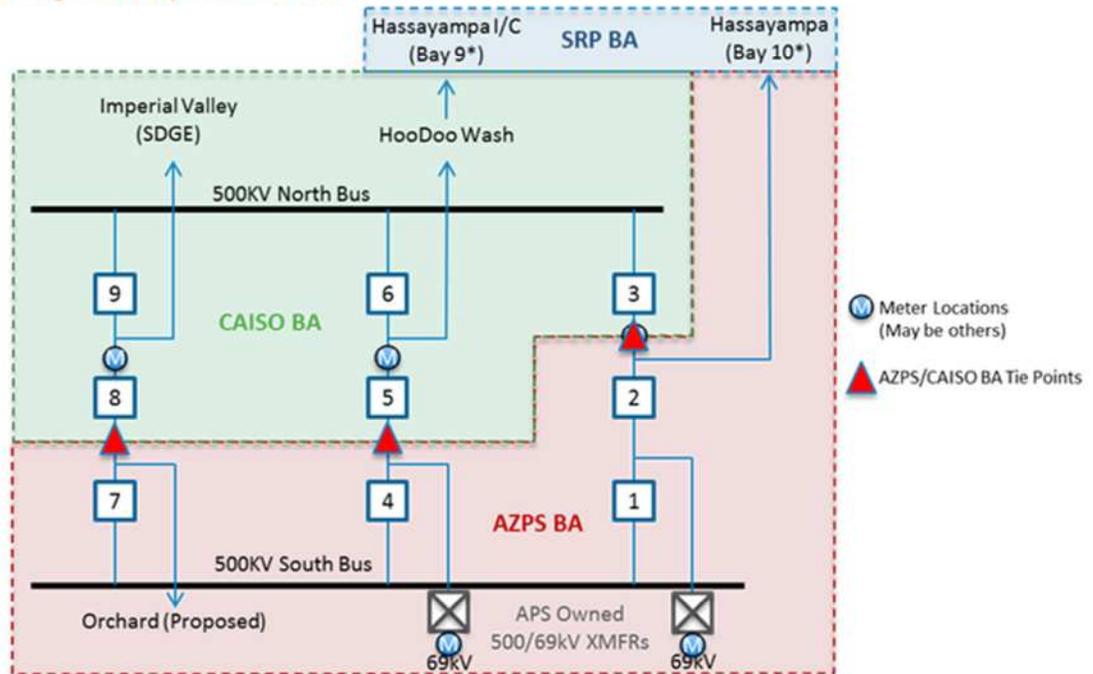


Also, Schedule A to the ABAOA reflects the parties' agreement that during the period that the interim configuration is in effect, APS will schedule transactions on the HANG2 line and the CAISO will not apply the grid management charge to schedules on the HANG2 line. In addition, Schedule A states that all other CAISO market charges applicable to transmission ownership rights scheduled in the CAISO systems, including losses, will apply to transactions on the HANG2 line during the period that the interim configuration is in place. The rationale for these provisions is explained in the CAISO's May 21 filing of the ABAOA.

## II. The Amended ABAOA

The CAISO and APS have agreed to the details of the long-term configuration of the HANG2 line, which will supersede and replace the interim configuration discussed above. The long-term configuration will change APS's balancing authority boundary at the North Gila switchyard in order to locate the HANG2 line in the APS balancing authority area. The long-term configuration is illustrated below. The parties intend that the long-term configuration become effective as of July 23, 2015, this being the date by which the CAISO will be able to make the necessary modeling and procedural changes to include the HANG2 line in APS's balancing authority area.

Long-Term Proposed BA AREA Solution:



The amendment to the ABAOA consists of a revised Schedule A and the removal of Recital D. These revisions reflect the implementation of the long-term configuration in place of the interim configuration, including the deletion of provisions regarding the scheduling and settlement of transactions that use the HANG2 line, which will no longer be relevant once the line is located in APS's balancing authority area. The amendment has been executed by the CAISO and APS and is also supported by the other co-owner of the HANG2 line, IID. To the best of the CAISO's knowledge, no entity objects to this arrangement.

### III. Effective Date

The CAISO requests that the Commission accept the amended ABAOA effective as of July 23, 2015, *i.e.*, the planned implementation date of the long-term configuration of the HANG2 line. If the Commission accepts the filing effective as requested, the long-term configuration will supersede the temporary interim-term configuration without a further filing by the CAISO.

#### **IV. Attachments**

In addition to this transmittal letter, the following attachments support the instant filing:

- |              |   |
|--------------|---|
| Attachment A | the amended ABAOA in clean copy (CAISO Rate Schedule No. 78 incorporating the first amendment thereto); |
| Attachment B | a document showing the amendment to the ABAOA in black-line format; and                                 |
| Attachment C | the agreement between the CAISO and APS to amend the ABAOA as shown in this filing.                     |

#### **V. Service**

The CAISO has served copies of this filing upon APS, IID, the Salt River Project Agricultural Improvement and Power District, San Diego Gas & Electric Company, Southern California Edison Company, the California Public Utilities Commission, and the California Energy Commission. In addition, the filing has been served upon all CAISO scheduling coordinators and has been posted on the CAISO website.

#### **VI. 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  
E-mail: [janders@caiso.com](mailto:janders@caiso.com)

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**VII. Conclusion**

The CAISO requests that the Commission accept the amended ABAOA contained in this filing effective as July 23, 2015. Please contact the undersigned with any questions.

Respectfully submitted,

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

Roger E. Collanton

General Counsel

Sidney L. Mannheim

Assistant General Counsel

John C. Anders

Lead Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

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[janders@caiso.com](mailto:janders@caiso.com)

Attorneys for the California Independent  
System Operator Corporation

**Attachment A – Amended Adjacent Balancing Authority Operating Agreement  
Amendment to Rate Schedule 78 – Arizona Public Service Company ABAOA  
California Independent System Operator Corporation**

California Independent System Operator Corporation  
Rate Schedule No. 78

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**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

**AND**

**ARIZONA PUBLIC SERVICE COMPANY**

**ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT**

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Proposed Effective Date: July 23, 2015  
Version Number: 1.0.0

**ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT****Executed by****ARIZONA PUBLIC SERVICE COMPANY****and****CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

This Adjacent Balancing Authority Operating Agreement, (“Agreement”) dated as of May 19, 2015, is between the Arizona Public Service Company having its registered and principal executive office at 400 North 5<sup>th</sup> Street, Phoenix, Arizona 85004-3902 (“APS”) and the California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom California 95630. Each is referred to herein as a “Party” and collectively as the “Parties.”

**Recitals**

A) Each Party is a member of the Western Electricity Coordinating Council (“WECC”), an organization whose members are located in the Western Interconnection as defined in the WECC Bylaws and is registered with WECC as a Balancing Authority pursuant to the North American Electric Reliability Corporation (“NERC”) Reliability Functional Model and Registry Criteria.

B) Federal Energy Regulatory Commission (“FERC”) approved mandatory NERC Reliability Standards for the Bulk-Power Systems of North America include Standard EOP-001 which provides that each Balancing Authority is required to develop, maintain, and implement a set of plans to mitigate operating emergencies, and to coordinate such plans with other Balancing Authorities. EOP-001, which may be revised from time to time, directs Balancing Authorities to have operating agreements in place with adjacent Balancing Authorities that, at a minimum, contain provisions for emergency assistance, including provisions to obtain emergency assistance from remote Balancing Authorities.

C) The Parties are adjacent Balancing Authorities by virtue of their transmission systems being interconnected at one or more points. The CAISO has responsibilities as a Balancing Authority and operates the CAISO Balancing Authority Area. APS has responsibilities as a Balancing Authority and operates the AZPS Balancing Authority Area.

D) [Not Used.]

E) The Parties intend by this Agreement to identify each Party's responsibility to the other under the Requirements of EOP-001 by recognizing the continuing commitment of each Party to the other to cooperate to mitigate operating emergencies.

Therefore, the Parties mutually agree as follows:

## **1. Definitions**

### **1.1 NERC Definitions**

1.1.1 Except as defined in Section 1.2 or as otherwise defined in this Agreement, terms and expressions used in this Agreement shall have the same meanings as those contained in the NERC Glossary of Terms Used in Reliability Standards.

### **1.2 Specific Definitions**

1.2.1 CAISO Tariff: CAISO operating agreement and tariff as amended from time to time.

1.2.2 Grid Management Charge: The CAISO monthly charge on all Scheduling Coordinators approved by FERC provides for the recovery of the CAISO's costs listed in Section 11.22.2 through the service charges described in Section 11.22.2.5 of the CAISO Tariff. The charges that comprise the Grid Management Charge consist of: 1) the Market Services Charge, 2) the System Operations Charge, 3) the CRR Services Charge, 4) the TOR Charge, 5) the Bid Segment Fee, 6) the CRR Transaction Fee, 7) the Inter-Scheduling Coordinator Trade Transaction Fee and 8) the Scheduling Coordinator ID Charge.

1.2.3 Scheduling Coordinator: An entity certified by the CAISO for the purposes of undertaking the functions of: submitting bids and self-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. Term and Termination**

2.1 This Agreement shall be effective as of the date of execution, provided that the provisions of Schedules A and B shall not be effective until the later of: (1) the date of execution, or (2) the date this Agreement is accepted for filing and made effective by FERC pursuant to a filing with FERC by the CAISO (the "Effective Date") without any material modification or condition that is unacceptable to either Party in that Party's sole discretion. If any material modification or condition is ordered by FERC that is

unacceptable to a Party, such Party shall communicate its lack of consent to such modification or condition to the other Party within ten (10) business days after the date on which FERC issues its order, and the Parties shall use best efforts to negotiate mutually acceptable revisions to this Agreement to address the modification or condition. Upon the occurrence of the Effective Date, this Agreement shall remain in effect until terminated by either Party upon thirty (30) days advance written notice to the other Party or upon written consent of both Parties. The CAISO shall file a notice of termination with FERC as soon as practicable but no later than thirty (30) days after its issuance or receipt of such advance written notice of termination or the date of the Parties' written consent. Termination will be effective upon acceptance of the notice of termination by FERC; provided, however, APS will cease both to provide and to take any service under this Agreement as of: (i) thirty (30) days after issuance or receipt of an advance written notice of termination, or (ii) the date of the Parties' written consent, regardless of any action or inaction by FERC with respect to any application by the CAISO to terminate this Agreement.

### **3. Responsibilities of the Parties**

3.1 The Parties agree to cooperate to mitigate any operating emergencies by adhering to: (1) the mandatory NERC Reliability Standards and WECC Regional Reliability Standards which relate to emergency operations, as may be amended from time to time, and (2) the directives of the applicable Reliability Coordinator ("Reliability Coordinator").

3.2 To the extent possible, and in accordance with NERC mandatory Reliability Standards, each Party ("Delivering Party") shall assist the other Party ("Receiving Party") in an operating emergency by delivering emergency assistance to the requesting Receiving Party, including emergency capacity or energy transfers from such Delivering Party's Balancing Authority Area or from other remote Balancing Authorities over available transmission capacity, in accordance with Schedule B to this Agreement. Arrangements for deliveries of emergency capacity or energy transfers shall be through normal operating channels in accordance with EOP-001. Such emergency assistance shall be provided at the sole discretion of the entity supplying it and shall be recallable without advance notice as required to meet reliability requirements.

### **4. Coordination and Communication**

4.1 In the event of an operating emergency that affects or may affect the reliable operation of interconnected transmission facilities, each Party shall coordinate its actions with the other Party, as such Party deems necessary or as directed by the appropriate Reliability Coordinator(s), to preserve or restore the interconnected transmission system to stable operations and to preserve or restore reliable, safe, and efficient service as quickly as practicable. The Parties shall, without delay, individually notify the appropriate Reliability Coordinator(s) as to the nature and extent of the operating emergency.

4.2 Each Party operates and maintains, or provides for operation and maintenance of a 24-hour, 7-day control center with real-time scheduling and control functions. The appropriate control center staff shall be responsible for operational communications and shall have sufficient authority to commit and bind that Party on decisions relating to emergency operations. The Parties agree to exchange operational contact information for insuring reliable communication in a format to be agreed to by the Parties and completed as of the effective date of this Agreement.

## **5. Interconnection Points**

5.1 The Parties are adjacent Balancing Authorities, and are interconnected at the points specified in Schedule A to this Agreement. In the event that new interconnection points are added, or existing points are modified or eliminated, Schedule A will be amended as necessary, to reflect any such changes that are mutually agreed upon by both Parties in a written agreement.

5.2 Schedule A is included for the sole purpose of identifying those interconnection points that result in the Parties being adjacent Balancing Authorities. This Agreement is not intended to act as an interconnection agreement between the Parties.

## **6. Miscellaneous Provisions**

6.1 Exchange of Information and Confidentiality: When a Party (“Providing Party”) provides information to the other Party (“Receiving Party”) under this Agreement and marks such information as privileged or confidential commercial or financial information, critical energy infrastructure information, or trade secret information, the Receiving Party shall treat such information as confidential and protected from disclosure to the extent permitted by law. The Receiving Party shall promptly notify the Providing Party in writing of any request to release such information. The Parties agree to use such information only for purposes of performing each Party’s obligations under this Agreement. The provisions of this Section 6.1 shall survive the termination of this Agreement.

6.2 Amendment: The Parties may amend or modify this Agreement only by written agreement. In the event the mandatory NERC Reliability Standards including EOP-001 are revised or replaced, the Parties agree to abide by any such revisions and shall meet to discuss and determine whether such change will affect the terms and conditions of this Agreement and whether a modification or replacement of the Agreement is needed. An amendment that is subject to FERC approval shall not take effect until FERC has accepted such amendment for filing and has made it effective without any material modification or condition that is unacceptable to either Party in that Party's sole discretion. If any material modification or condition is ordered by FERC that is unacceptable to a Party, such Party shall communicate its lack of consent to such modification or condition to the other Party within ten (10) business days after the date on which FERC issues its order, and the Parties shall use best efforts to negotiate mutually acceptable revisions to this Agreement to address the modification or condition. Revisions to Schedules other than with regard to the contact information in Schedule C shall be processed as an amendment to this Agreement.

6.3 Assignment and Successors: Neither this Agreement nor any rights or responsibilities under this Agreement may be assigned by either Party to a third party without the written consent of the other Party, and such consent will not be unreasonably delayed, conditioned, or withheld. Subject to the preceding sentence, this Agreement is binding upon and will inure to the benefit of the Parties and their successors in interest.

6.4 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 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 C of this Agreement relating to its address as that information changes. Such updates to Schedule C shall not constitute an amendment to this Agreement.

6.5 Governing Law and Forum: 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, except that if a dispute concerns the operation of transmission lines or facilities, the law of the state where the transmission lines or facilities are located will control. 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.

6.6 No Warranties or Representations; Disclaimer: All information, including confidential information, provided by the Providing Party under this Agreement carries no warranty or representation of any kind, either express or implied. The Receiving Party receives the information “as is” and with all faults, errors, defects, inaccuracies, and omissions. The Providing Party makes no representations or warranties whatsoever with respect to the availability, timeliness, accuracy, reliability, or suitability of any information. The Receiving Party disclaims and waives all rights and remedies that it may otherwise have with respect to all warranties and liabilities of the Providing Party, expressed or implied, arising by law or otherwise, with respect to any faults, errors, defects, inaccuracies or omissions in, or availability, timeliness, reliability, or suitability of the information. Each Party assumes any and all risk and responsibility for selection and use of, and reliance on, any information provided under this Agreement.

6.7 Liability: 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, nor 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 subject to applicable law. 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 either Party.

6.8 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.

6.9 Authority: Each individual signing this Agreement certifies that the Party represented has duly authorized such individual to sign, bind, and obligate such Party.

Accepted and agreed to by:

**California Independent System  
Operator Corporation**

**Arizona Public Service Company**

By:

By:

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Name:

Name: Ted Geisler

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Title:

Title: Director, Transmission Operations &  
Maintenance

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Date:

Date:

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**Schedule A****ADJACENT BALANCING AUTHORITY INTERCONNECTION POINTS  
[Sections 5.1, 5.2 and 6.4]**

The Interconnection between CAISO and APS is made up of two Interconnection points. These Interconnection points run normally closed.

- **Eldorado - Moenkopi 500 kV Line**

This Interconnection is comprised of one 500 kV line that connects the APS Moenkopi Substation north of Flagstaff in central northern Arizona, with the SCE attended Eldorado Substation near Boulder City, Nevada.

**Transmission Operator Point of Interconnection:** Middle of the Colorado River

**Transmission Owner (TO):** Southern California Edison Company (SCE) and APS

**TOs Point of Change of Ownership:** Middle of the Colorado River

**CAISO & APS Balancing Authority Area Point of Interconnect** Middle of the Colorado River

**Roles and Responsibilities:** The CAISO is the Balancing Authority West of the Balancing Authority Point of Interconnection.

Under the NERC Coordinated Functional Registration between CAISO and SCE, CAISO and SCE are the TOP of the line West of the Transmission Operator Point of Interconnection.

APS is the TOP of the line East of the Transmission Operator Point of Interconnection.

APS is the Balancing Authority East of the Balancing Authority Point of Interconnection.

**Metering Point:** Eldorado – Moenkopi 500 kV line termination at the Eldorado Switchyard

- **North Gila Switchyard Interconnection**

This Interconnection is comprised of three points within the North Gila Switchyard that connect the CAISO and APS Balancing Authority Areas.

**Transmission Operator Point of Interconnection:** First tower East of the Colorado River on the Imperial Valley-North Gila 500 kV.

**CAISO & APS Balancing Authority Area Points of Interconnect** As depicted on the one-line diagram below:  
1. South of Bay/Breaker #8  
2. South of Bay/Breaker #5  
3. South of Bay/Breaker #3

**Transmission Owners:**

1. APS, SDGE, & IID share ownership in the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1) and a portion of the North Gila 500 kV Switchyard.
2. APS & IID share ownership rights in the Hassayampa-North Gila 500kV line (HANG2) and a portion of the North Gila Switchyard.
3. SDGE & IID share ownership rights in the North Gila-Imperial Valley 500kV line.

**Roles and Responsibilities:** As depicted on the one-line diagram below, the CAISO is the Balancing Authority for the North Bus and Bays/Breakers #3, #5, #6, #8, and #9 at the North Gila Switchyard and the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1).

As depicted on the one-line diagram below, AZPS is the Balancing Authority for the South Bus and Bays/Breakers #1, #2, #4, and #7 at the North Gila Switchyard and the Hassayampa-North Gila 500 kV line (HANG2).

Under the NERC Coordinated Functional Registration between CAISO and SDGE, CAISO and SDGE are the TOP for all facilities West of the Transmission Operator Point of Interconnection.

APS is the TOP for all facilities East of the Transmission Operator Point of Interconnection to the Hassayampa switchyard. APS as Transmission Operator shall abide by those certain NERC operating standards.

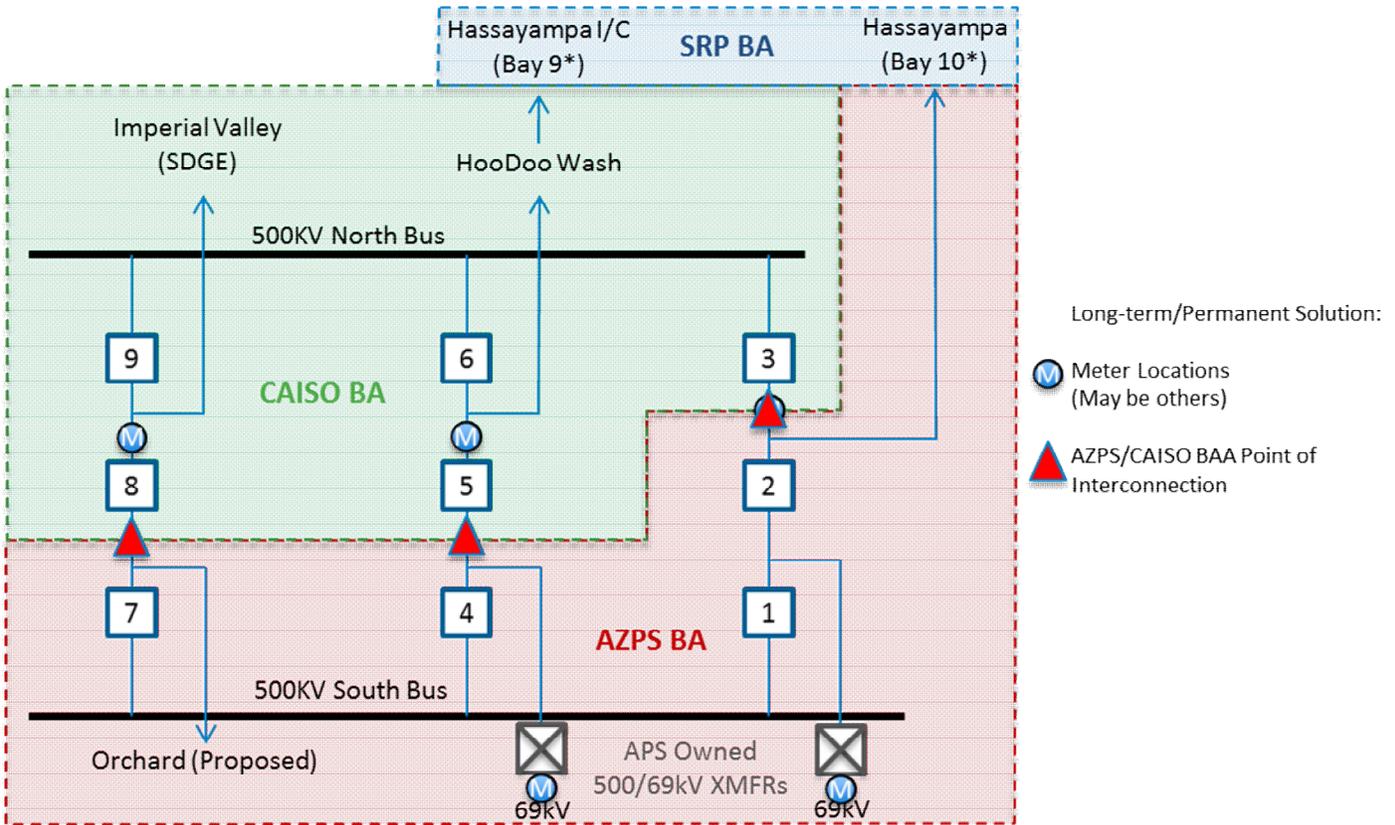
**Metering Points:**

As depicted on the one-line diagram below:

1. North of Bay/Breaker #8
2. North of Bay/Breaker #5
3. South of Bay/Breaker #3

**One-Line Diagram for North Gila Switchyard:**

**Long-Term/Permanent Proposed BA AREA Solution:**



## **REVENUE METERING AND TELEMETRY AT INTERCONNECTION POINTS**

APS and CAISO metering shall meet any metering standards mutually agreed upon by the Parties for the purpose of operating their adjacent Balancing Authority Areas. APS and the CAISO shall be entitled to witness testing of the involved interconnection metering. Any change or modification to such metering equipment by APS, the CAISO or any other entity shall be coordinated between the Parties. APS shall allow daily, once a day, read-only access by the CAISO to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. The CAISO shall allow daily, once a day, read-only access by the APS to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. APS and the CAISO shall maintain arrangements that ensure that both Parties shall have access to the same real-time data from the points identified in this Schedule A between their Balancing Authority Area interconnections for the purpose of complying with NERC reliability standards. The Parties understand that each Party wants to obtain MW and MVAR data from interconnection metering, which may include RTUs, at the points identified in this Schedule A between their Balancing Authority Area interconnections. The Parties agree to allow each other to directly poll real-time data from metering at the interconnection substations under the other Party's Balancing Authority Area. In the event that a second communication port of the RTU is not available for direct polling by a Party, the Party shall have the option to provide a RTU to the substation owner for the purpose of establishing a communication port available for direct polling by such Party.

**Schedule B****EMERGENCY CAPACITY AND ENERGY  
[Sections 3.2 and 6.2]**

In accordance with EOP-001 the Parties will, to the extent possible, assist each other in an emergency by scheduling energy and/or capacity. Such emergency assistance will be available at the sole discretion of the Party supplying it and will be recallable without advance notice as required to meet reliability requirements. The Parties will agree upon and log MW values, start, and end times, ramp rates and times, and integrated values for any emergency assistance provided.

The emergency assistance will be provided by a Party will be for system reliability. Such emergency assistance may be estimated prior to delivery and finalized in the settlement process.

The price paid for CAISO emergency assistance will be at the CAISO market price for the energy and/or capacity sold, plus all applicable charges, as specified in the CAISO Tariff provisions for emergency assistance. Such price may be estimated prior to delivery and finalized in the settlement process. Payment to the CAISO for emergency assistance provided by CAISO will be made by the Scheduling Coordinator representing APS, in accordance with the settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff.

The price paid for APS emergency assistance will be at the price specified by APS. In the event APS does not specify the price for energy or capacity at the time of the request for emergency assistance and no other settlement price is established prior to the delivery of the emergency assistance, the default settlement price shall be the CAISO market price, plus all other applicable charges, as specified or as otherwise established in the CAISO Tariff for emergency assistance. If the default settlement price does not compensate APS for the value of the emergency assistance delivered to the CAISO, APS shall have the opportunity to justify a higher settlement price in accordance with the CAISO Tariff provisions for emergency assistance. Payment to APS for emergency assistance provided by APS will be made to the Scheduling Coordinator representing APS, in accordance with the settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff.

Nothing in this Agreement shall obligate APS to be bound by CAISO Tariff provisions unless expressly provided for.

**Schedule C****CONTACTS FOR NOTICES  
[Sections 6.2 and 6.4]****CAISO:**

Name of Primary Representative: Regulatory Contracts  
Title: N/A  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email Address: Regulatorycontracts@caiso.com  
Phone: (916) 608-7027  
Fax No.: (916) 608-7292

Name of Alternate Representative: Christopher J. Sibley  
Title: Manager, Regulatory Contracts  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email Address: csibley@caiso.com  
Phone: (916) 608-7030  
Fax No.: (916) 608-7292

**APS:**

Name of Primary Representative: Interconnect Development  
Title: N/A  
Address: 400 North 5<sup>th</sup> Street  
City/State/Zip Code: Phoenix, Arizona 85004  
Email Address: N/A  
Phone: N/A  
Fax No.: N/A

Name of Alternate Representative: Joseph Wilhelm  
Title: Leader, Interconnect Development  
Address: 400 North 5<sup>th</sup> Street  
City/State/Zip Code: Phoenix, Arizona 85004  
Email Address: joseph.wilhelm@aps.com  
Phone: (602) 371-5735  
Fax No.: N/A

**Attachment B – Marked Agreement Text Showing Revisions Made By Amendment No. 1**

**Amendment to Rate Schedule 78 – Arizona Public Service Company ABAOA**

**California Independent System Operator Corporation**

# ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

Executed by

**ARIZONA PUBLIC SERVICE COMPANY**

and

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

This Adjacent Balancing Authority Operating Agreement, (“Agreement”) dated as of May 19, 2015, is between the Arizona Public Service Company having its registered and principal executive office at 400 North 5<sup>th</sup> Street, Phoenix, Arizona 85004-3902 (“APS”) and the California Independent System Operator Corporation (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom California 95630. Each is referred to herein as a “Party” and collectively as the “Parties.”

## Recitals

A) Each Party is a member of the Western Electricity Coordinating Council (“WECC”), an organization whose members are located in the Western Interconnection as defined in the WECC Bylaws and is registered with WECC as a Balancing Authority pursuant to the North American Electric Reliability Corporation (“NERC”) Reliability Functional Model and Registry Criteria.

B) Federal Energy Regulatory Commission (“FERC”) approved mandatory NERC Reliability Standards for the Bulk-Power Systems of North America include Standard EOP-001 which provides that each Balancing Authority is required to develop, maintain, and implement a set of plans to mitigate operating emergencies, and to coordinate such plans with other Balancing Authorities. EOP-001, which may be revised from time to time, directs Balancing Authorities to have operating agreements in place with adjacent Balancing Authorities that, at a minimum, contain provisions for emergency assistance, including provisions to obtain emergency assistance from remote Balancing Authorities.

C) The Parties are adjacent Balancing Authorities by virtue of their transmission systems being interconnected at one or more points. The CAISO has responsibilities as a Balancing Authority and operates the CAISO Balancing Authority Area. APS has responsibilities as a Balancing Authority and operates the AZPS Balancing Authority Area.

D) ~~[Not Used.]The Hassayampa-North Gila 500 kV line (HANG2) was developed by APS and the Imperial Irrigation District (“IID”) with the intent that it be located in the APS Balancing Authority Area. The HANG2 line is intended to energize on May 21, 2015 and there is not sufficient time to implement all necessary changes to locate the HANG2~~

~~line in the AZPS Balancing Authority Area. Accordingly, the Parties desire to establish a temporary arrangement with the HANG2 line located in the CAISO's Balancing Authority Area, which would include waiver of Grid Management Charges for schedules on the HANG2 line until the HANG2 line can be transferred to the AZPS Balancing Authority Area. The transfer of the HANG2 line will include a change to the Balancing Authority Area boundary among APS, CAISO, and Salt River Project Agricultural Improvement and Power District ("SRP"), which is the subject of an amendment concurrently executed with this Agreement (the "First Amendment"). The Parties agree that the First Amendment to this Agreement be made effective on July 23, 2015.~~

E) The Parties intend by this Agreement to identify each Party's responsibility to the other under the Requirements of EOP-001 by recognizing the continuing commitment of each Party to the other to cooperate to mitigate operating emergencies.

Therefore, the Parties mutually agree as follows:

## 1. Definitions

### 1.1 NERC Definitions

1.1.1 Except as defined in Section 1.2 or as otherwise defined in this Agreement, terms and expressions used in this Agreement shall have the same meanings as those contained in the NERC Glossary of Terms Used in Reliability Standards.

### 1.2 Specific Definitions

1.2.1 CAISO Tariff: CAISO operating agreement and tariff as amended from time to time.

1.2.2 Grid Management Charge: The CAISO monthly charge on all Scheduling Coordinators approved by FERC provides for the recovery of the CAISO's costs listed in Section 11.22.2 through the service charges described in Section 11.22.2.5 of the CAISO Tariff. The charges that comprise the Grid Management Charge consist of: 1) the Market Services Charge, 2) the System Operations Charge, 3) the CRR Services Charge, 4) the TOR Charge, 5) the Bid Segment Fee, 6) the CRR Transaction Fee, 7) the Inter-Scheduling Coordinator Trade Transaction Fee and 8) the Scheduling Coordinator ID Charge.

1.2.3 Scheduling Coordinator: An entity certified by the CAISO for the purposes of undertaking the functions of: submitting bids and self-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. Term and Termination**

2.1 This Agreement shall be effective as of the date of execution, provided that the provisions of Schedules A and B shall not be effective until the later of: (1) the date of execution, or (2) the date this Agreement is accepted for filing and made effective by FERC pursuant to a filing with FERC by the CAISO (the "Effective Date") without any material modification or condition that is unacceptable to either Party in that Party's sole discretion. If any material modification or condition is ordered by FERC that is unacceptable to a Party, such Party shall communicate its lack of consent to such modification or condition to the other Party within ten (10) business days after the date on which FERC issues its order, and the Parties shall use best efforts to negotiate mutually acceptable revisions to this Agreement to address the modification or condition. Upon the occurrence of the Effective Date, this Agreement shall remain in effect until terminated by either Party upon thirty (30) days advance written notice to the other Party or upon written consent of both Parties. The CAISO shall file a notice of termination with FERC as soon as practicable but no later than thirty (30) days after its issuance or receipt of such advance written notice of termination or the date of the Parties' written consent. Termination will be effective upon acceptance of the notice of termination by FERC; provided, however, APS will cease both to provide and to take any service under this Agreement as of: (i) thirty (30) days after issuance or receipt of an advance written notice of termination, or (ii) the date of the Parties' written consent, regardless of any action or inaction by FERC with respect to any application by the CAISO to terminate this Agreement.

## **3. Responsibilities of the Parties**

3.1 The Parties agree to cooperate to mitigate any operating emergencies by adhering to: (1) the mandatory NERC Reliability Standards and WECC Regional Reliability Standards which relate to emergency operations, as may be amended from time to time, and (2) the directives of the applicable Reliability Coordinator ("Reliability Coordinator").

3.2 To the extent possible, and in accordance with NERC mandatory Reliability Standards, each Party ("Delivering Party") shall assist the other Party ("Receiving Party") in an operating emergency by delivering emergency assistance to the requesting Receiving Party, including emergency capacity or energy transfers from such Delivering Party's Balancing Authority Area or from other remote Balancing Authorities over available transmission capacity, in accordance with Schedule B to this Agreement. Arrangements for deliveries of emergency capacity or energy transfers shall be through normal operating channels in accordance with EOP-001. Such emergency assistance shall be provided at the sole discretion of the entity supplying it and shall be recallable without advance notice as required to meet reliability requirements.

## **4. Coordination and Communication**

4.1 In the event of an operating emergency that affects or may affect the reliable operation of interconnected transmission facilities, each Party shall coordinate its actions with the other Party, as such Party deems necessary or as directed by the appropriate Reliability Coordinator(s), to preserve or restore the interconnected transmission system to stable operations and to preserve or restore reliable, safe, and efficient service as quickly as practicable. The Parties shall, without delay, individually notify the appropriate Reliability Coordinator(s) as to the nature and extent of the operating emergency.

4.2 Each Party operates and maintains, or provides for operation and maintenance of a 24-hour, 7-day control center with real-time scheduling and control functions. The appropriate control center staff shall be responsible for operational communications and shall have sufficient authority to commit and bind that Party on decisions relating to emergency operations. The Parties agree to exchange operational contact information for insuring reliable communication in a format to be agreed to by the Parties and completed as of the effective date of this Agreement.

## **5. Interconnection Points**

5.1 The Parties are adjacent Balancing Authorities, and are interconnected at the points specified in Schedule A to this Agreement. In the event that new interconnection points are added, or existing points are modified or eliminated, Schedule A will be amended as necessary, to reflect any such changes that are mutually agreed upon by both Parties in a written agreement.

5.2 Schedule A is included for the sole purpose of identifying those interconnection points that result in the Parties being adjacent Balancing Authorities. This Agreement is not intended to act as an interconnection agreement between the Parties.

## **6. Miscellaneous Provisions**

6.1 Exchange of Information and Confidentiality: When a Party ("Providing Party") provides information to the other Party ("Receiving Party") under this Agreement and marks such information as privileged or confidential commercial or financial information, critical energy infrastructure information, or trade secret information, the Receiving Party shall treat such information as confidential and protected from disclosure to the extent permitted by law. The Receiving Party shall promptly notify the Providing Party in writing of any request to release such information. The Parties agree to use such information only for purposes of performing each Party's obligations under this Agreement. The provisions of this Section 6.1 shall survive the termination of this Agreement.

6.2 Amendment: The Parties may amend or modify this Agreement only by written agreement. In the event the mandatory NERC Reliability Standards including EOP-001 are revised or replaced, the Parties agree to abide by any such revisions and shall meet to discuss and determine whether such change will affect the terms and conditions of this Agreement and whether a modification or replacement of the Agreement is needed. An amendment that is subject to FERC approval shall not take effect until FERC has accepted such amendment for filing and has made it effective without any material modification or condition that is unacceptable to either Party in that Party's sole discretion. If any material modification or condition is ordered by FERC that is unacceptable to a Party, such Party shall communicate its lack of consent to such modification or condition to the other Party within ten (10) business days after the date on which FERC issues its order, and the Parties shall use best efforts to negotiate mutually acceptable revisions to this Agreement to address the modification or condition. Revisions to Schedules other than with regard to the contact information in Schedule C shall be processed as an amendment to this Agreement.

6.3 Assignment and Successors: Neither this Agreement nor any rights or responsibilities under this Agreement may be assigned by either Party to a third party without the written consent of the other Party, and such consent will not be unreasonably delayed, conditioned, or withheld. Subject to the preceding sentence, this Agreement is binding upon and will inure to the benefit of the Parties and their successors in interest.

6.4 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 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 C of this Agreement relating to its address as that information changes. Such updates to Schedule C shall not constitute an amendment to this Agreement.

6.5 Governing Law and Forum: 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, except that if a dispute concerns the operation of transmission lines or facilities, the law of the state where the transmission lines or facilities are located will control. 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.

6.6 No Warranties or Representations; Disclaimer: All information, including confidential information, provided by the Providing Party under this Agreement carries no warranty or representation of any kind, either express or implied. The Receiving Party receives the information “as is” and with all faults, errors, defects, inaccuracies, and omissions. The Providing Party makes no representations or warranties whatsoever with respect to the availability, timeliness, accuracy, reliability, or suitability of any information. The Receiving Party disclaims and waives all rights and remedies that it may otherwise have with respect to all warranties and liabilities of the Providing Party, expressed or implied, arising by law or otherwise, with respect to any faults, errors, defects, inaccuracies or omissions in, or availability, timeliness, reliability, or suitability of the information. Each Party assumes any and all risk and responsibility for selection and use of, and reliance on, any information provided under this Agreement.

6.7 Liability: 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, nor 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 subject to applicable law. 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 either Party.

6.8 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.

6.9 Authority: Each individual signing this Agreement certifies that the Party represented has duly authorized such individual to sign, bind, and obligate such Party.

Accepted and agreed to by:

**California Independent System  
Operator Corporation**

By:

---

Name:

---

Title:

---

Date:

---

**Arizona Public Service Company**

By:

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Name: Ted Geisler

Title: Director, Transmission Operations &  
Maintenance

Date:

---

## Schedule A

### ADJACENT BALANCING AUTHORITY INTERCONNECTION POINTS

[Sections 5.1, 5.2 and ~~6-26.4~~]

The Interconnection between CAISO and APS is made up of two Interconnection points. These Interconnection points run normally closed.

- **Eldorado - Moenkopi 500 kV Line**

This Interconnection is comprised of one 500 kV line that connects the APS Moenkopi Substation north of Flagstaff in central northern Arizona, with the SCE attended Eldorado Substation near Boulder City, Nevada.

**Transmission Operator Point of Interconnection:** Middle of the Colorado River

**Transmission Owner (TO):** Southern California Edison Company (SCE) and APS

**TOs Point of Change of Ownership:** Middle of the Colorado River

**CAISO & APS Balancing Authority Area Point of Interconnect:** Middle of the Colorado River

**Roles and Responsibilities:** The CAISO is the Balancing Authority West of the Balancing Authority Point of Interconnection.

Under the NERC Coordinated Functional Registration between CAISO and SCE, CAISO and SCE are the ~~Transmission Operator (TOP)~~ of the line West of the Transmission Operator Point of Interconnection.

APS is the ~~Transmission Operator (TOP)~~ of the line East of the Transmission Operator Point of Interconnection.

APS is the Balancing Authority East of the Balancing Authority Point of Interconnection.

**Metering Point:** Eldorado – Moenkopi 500 kV line termination at the Eldorado Switchyard

- **North Gila ~~500 kV/69 kV~~ Switchyard Interconnection**

This Interconnection is comprised of ~~two 500 kV/69 kV transformer banks~~ three points within the North Gila Switchyard that connect the CAISO and APS Balancing Authority Areas.

**Transmission Operator Point of Interconnection:** First tower East of the Colorado River on the Imperial Valley-North Gila 500 kV ~~line~~.

**CAISO & APS Balancing Authority Area Points of Interconnect** ~~1. North Gila #1 500/69 kV transformer bank.~~  
~~2. North Gila #4 500/69 kV transformer bank~~  
As depicted on the one-line diagram below:  
1. South of Bay/Breaker #8  
2. South of Bay/Breaker #5  
3. South of Bay/Breaker #3

**Transmission Owners:**

1. APS, SDGE, & IID share ownership in the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1) and a portion of the North Gila 500 kV Switchyard.
2. APS & IID share ownership rights in the Hassayampa-North Gila 500kV line (HANG2) and a portion of the North Gila Switchyard.
3. SDGE & IID share ownership rights in the North Gila-Imperial Valley 500kV line.

**Roles and Responsibilities:** ~~The CAISO is the Balancing Authority for the North Gila Switchyard, ATS/HANG1 line, and the HANG2 line.~~  
As depicted on the one-line diagram below, the CAISO is the Balancing Authority for the North Bus and Bays/Breakers #3, #5, #6, #8, and #9 at the North Gila Switchyard and the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1).

As depicted on the one-line diagram below, AZPS is the Balancing Authority for the South Bus and Bays/Breakers #1, #2, #4, and #7 at the North Gila Switchyard and the Hassayampa-North Gila 500 kV line (HANG2).

Under the NERC Coordinated Functional

Registration between CAISO and SDGE, CAISO and SDGE are the ~~Transmission Operator (TOP)~~ Transmission Operator ~~for all facilities~~ West of the Transmission Operator Point of Interconnection.

APS is the ~~Transmission Operator (TOP)~~ Transmission Operator ~~for all facilities~~ East of the Transmission Operator Point of Interconnection to the Hassayampa switchyard. APS as Transmission Operator shall abide by those certain NERC operating standards.

**~~Metering Points:~~**

~~1. Low side of the #1 and #4 500/69kV transformers at North Gila Switchyard compensated for transformer losses to the High Side of the 500kV/69kV transformers.~~

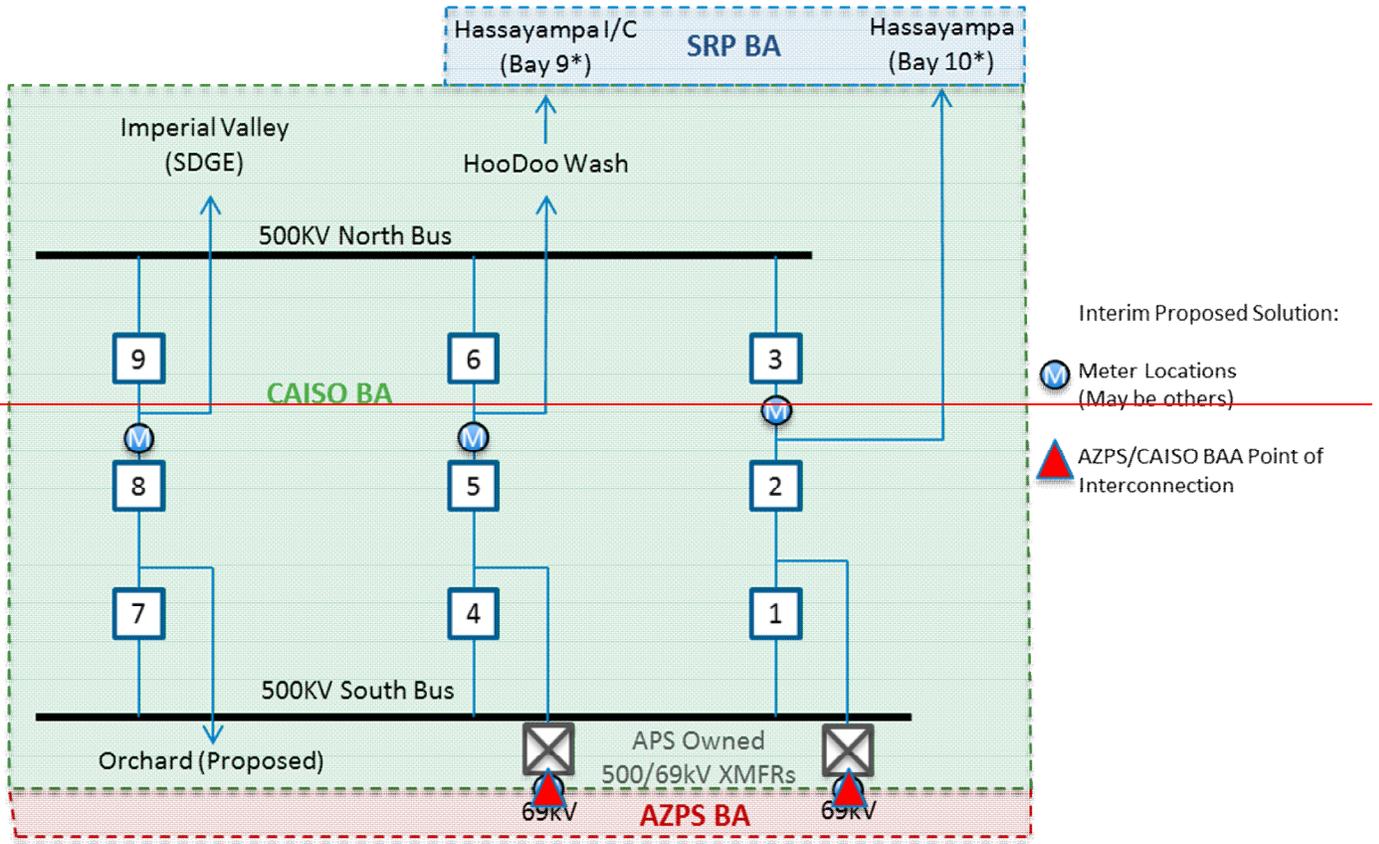
**Metering Points:**

As depicted on the one-line diagram below:

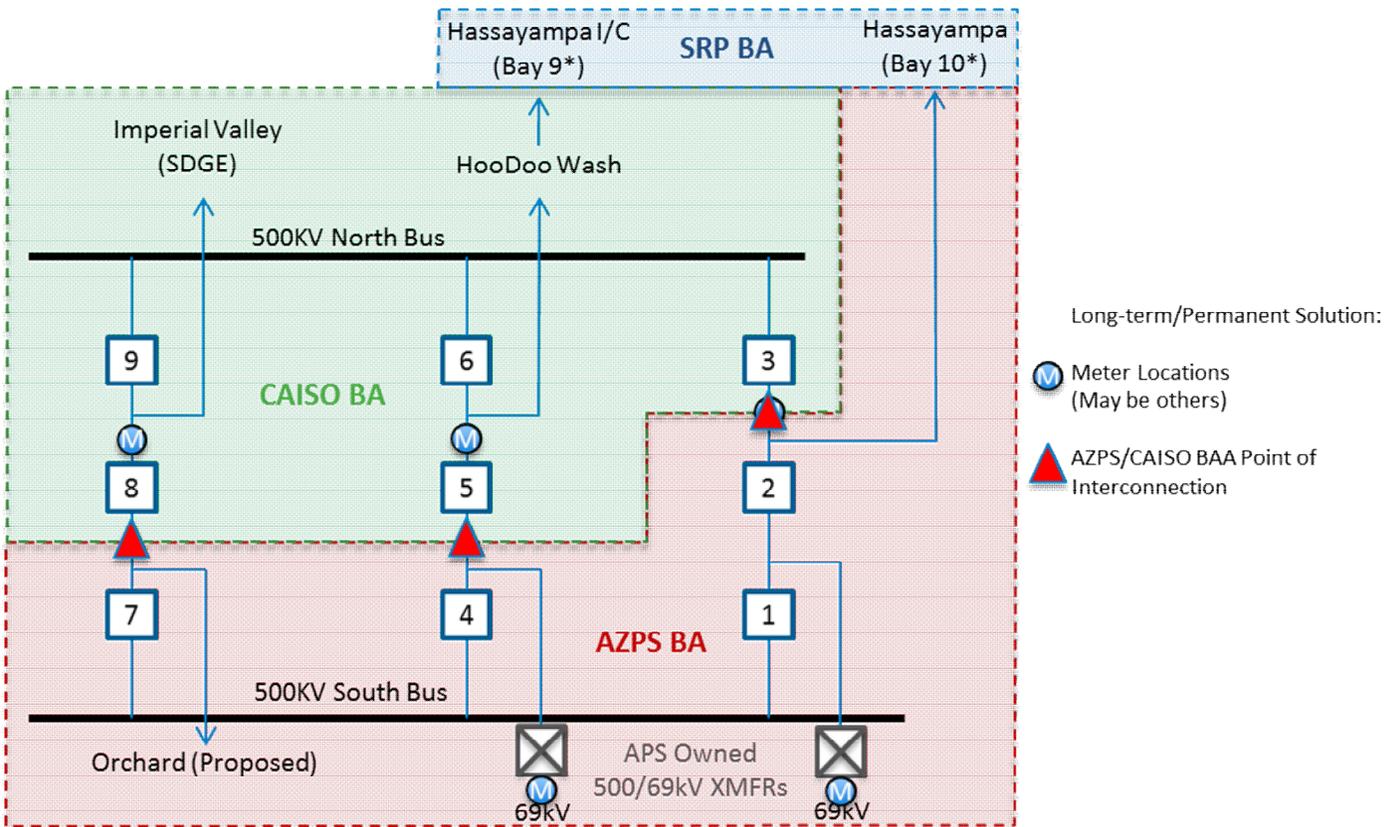
1. North of Bay/Breaker #8
2. North of Bay/Breaker #5
3. South of Bay/Breaker #3

**One-Line Diagram for North Gila Switchyard:**

Interim Proposed BA AREA Solution (through July 23, 2015):



**Long-Term/Permanent Proposed BA AREA Solution:**



### **Scheduling on HANG2:**

~~The HANG2 line owners or its designated Scheduling Coordinator shall schedule with the CAISO all transactions on the HANG2 line in accordance with the scheduling provisions of the CAISO Tariff, applicable Business Practice Manual, CAISO scheduling process, CAISO procedures and CAISO time lines. The HANG2 line owners' Scheduling Coordinator shall meet all requirements with respect to Scheduling Coordinators in the CAISO Tariff. All schedules submitted on the HANG2 line shall be submitted into the CAISO market transmission reservation system and shall be submitted by the HANG2 line owners' Scheduling Coordinator.~~

### **CAISO Grid Management Charges:**

~~The CAISO shall treat HANG2 as a transmission ownership right in accordance with section 17.3 of the CAISO Tariff, except that the CAISO shall waive Grid Management Charges applicable to schedules on HANG2 during the temporary arrangement.~~

### **REVENUE METERING AND TELEMETRY AT INTERCONNECTION POINTS**

APS and CAISO metering shall meet any metering standards mutually agreed upon by the Parties for the purpose of operating their adjacent Balancing Authority Areas. APS and the CAISO shall be entitled to witness testing of the involved interconnection metering. Any change or modification to such metering equipment by APS, the CAISO or any other entity shall be coordinated between the Parties. APS shall allow daily, once a day, read-only access by the CAISO to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. The CAISO shall allow daily, once a day, read-only access by the APS to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. APS and the CAISO shall maintain arrangements that ensure that both Parties shall have access to the same real-time data from the points identified in this Schedule A between their Balancing Authority Area interconnections for the purpose of complying with NERC reliability standards. The Parties understand that each Party wants to obtain MW and MVAR data from interconnection metering, which may include RTUs, at the points identified in this Schedule A between their Balancing Authority Area interconnections. The Parties agree to allow each other to directly poll real-time data from metering at the interconnection substations under the other Party's Balancing Authority Area ~~or, in the case of HANG2 under the other Party's Transmission Operation (TOP)~~. In the event that a second communication port of the RTU is not available for direct polling by a Party, the Party shall have the option to provide a RTU to the substation owner for the purpose of establishing a communication port available for direct polling by such Party.

## **Schedule B**

### **EMERGENCY CAPACITY AND ENERGY [Sections 3.2 and 6.2]**

In accordance with EOP-001 the Parties will, to the extent possible, assist each other in an emergency by scheduling energy and/or capacity. Such emergency assistance will be available at the sole discretion of the Party supplying it and will be recallable without advance notice as required to meet reliability requirements. The Parties will agree upon and log MW values, start, and end times, ramp rates and times, and integrated values for any emergency assistance provided.

The emergency assistance will be provided by a Party will be for system reliability. Such emergency assistance may be estimated prior to delivery and finalized in the settlement process.

The price paid for CAISO emergency assistance will be at the CAISO market price for the energy and/or capacity sold, plus all applicable charges, as specified in the CAISO Tariff provisions for emergency assistance. Such price may be estimated prior to delivery and finalized in the settlement process. Payment to the CAISO for emergency assistance provided by CAISO will be made by the Scheduling Coordinator representing APS, in accordance with the settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff.

The price paid for APS emergency assistance will be at the price specified by APS. In the event APS does not specify the price for energy or capacity at the time of the request for emergency assistance and no other settlement price is established prior to the delivery of the emergency assistance, the default settlement price shall be the CAISO market price, plus all other applicable charges, as specified or as otherwise established in the CAISO Tariff for emergency assistance. If the default settlement price does not compensate APS for the value of the emergency assistance delivered to the CAISO, APS shall have the opportunity to justify a higher settlement price in accordance with the CAISO Tariff provisions for emergency assistance. Payment to APS for emergency assistance provided by APS will be made to the Scheduling Coordinator representing APS, in accordance with the settlement process, billing cycle, and payment timeline set forth in the CAISO Tariff.

Nothing in this Agreement shall obligate APS to be bound by CAISO Tariff provisions unless expressly provided for.

## Schedule C

### CONTACTS FOR NOTICES [Sections 6.2 and 6.4]

#### **CAISO:**

Name of Primary Representative: Regulatory Contracts  
Title: N/A  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email Address: Regulatorycontracts@caiso.com  
Phone: (916) 608-7027  
Fax No.: (916) 608-7292

Name of Alternate Representative: Christopher J. Sibley  
Title: Manager, Regulatory Contracts  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email Address: csibley@caiso.com  
Phone: (916) 608-7030  
Fax No.: (916) 608-7292

#### **APS:**

Name of Primary Representative: Interconnect Development  
Title: N/A  
Address: 400 North 5<sup>th</sup> Street  
City/State/Zip Code: Phoenix, Arizona 85004  
Email Address: N/A  
Phone: N/A  
Fax No.: N/A

Name of Alternate Representative: Joseph Wilhelm  
Title: Leader, Interconnect Development  
Address: 400 North 5<sup>th</sup> Street  
City/State/Zip Code: Phoenix, Arizona 85004  
Email Address: joseph.wilhelm@aps.com  
Phone: (602) 371-5735  
Fax No.: N/A

**Attachment C – Amendment No. 1 Agreement**

**Amended Rate Schedule 78 – Arizona Public Service Company ABAOA**

**California Independent System Operator Corporation**



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION  
AND  
ARIZONA PUBLIC SERVICE COMPANY  
FIRST AMENDMENT  
TO THE  
ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT**

**This First Amendment** is dated this 19<sup>th</sup> day of May, 2015, and is entered into, by and between:

(1) **Arizona Public Service Company** having its registered and principal executive office at 400 North 5th Street, Phoenix, Arizona 85004-3902 (“APS”),

and

(2) **California Independent System Operator Corporation** (“CAISO”), a California nonprofit public benefit corporation having a principal executive office located at 250 Outcropping Way, Folsom, California 95630.

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

**Whereas:**

- A.** The Parties are signatories to an Adjacent Balancing Authority Area Operating Agreement dated May 19, ~~2015~~ (the “Agreement”), which was filed with Federal Energy Regulatory Commission (“FERC”) dated May    , 2015, concurrent with this First Amendment.
- B.** The Parties desire to amend the Agreement to reflect the transfer of the HANG2 line and a change to the Balancing Authority Area boundary among APS, CAISO, and Salt River Project Agricultural Improvement and Power District (“SRP”), which is the subject of this First Amendment concurrently executed with the Agreement. The Parties request this First Amendment be made effective on July 23, 2015.
- C.** In all other respects, the Parties intend that the Agreement remain in full force and effect in accordance with its terms.

NOW THEREFORE, **THE PARTIES AGREE** as follows:

- 1. Effective Date.** This First Amendment shall be effective on the date made effective by FERC.



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

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2. **Termination.** This First Amendment shall remain in full force and effect until the termination of the Agreement.
3. **First Amendment to the Agreement.** The Agreement shall be amended as follows:
  - 3.1 Whereas clause D of the Recitals is deleted in its entirety:
  - 3.2 Schedule A specifying the "Adjacent Balancing Authority Interconnection Points" is deleted in its entirety and the Schedule A attached to this First Amendment is substituted in its place.
4. This First Amendment constitutes the complete and final agreement of the Parties with respect to the purpose of this First Amendment 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 First Amendment, the Agreement shall remain in full force and effect in accordance with its terms, and the unmodified provisions of the Agreement shall apply to any new rights and/or obligations established by this First Amendment.
6. This First Amendment 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.



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

**IN WITNESS WHEREOF**, the Parties have caused this First Amendment 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  
0971A84CB55B4B6...

Name: Eric Schmitt

Title: VP, Operations

Date: 5/19/2015

**Arizona Public Service Company**

By: \_\_\_\_\_

Name: Ted Geisler

Title: Director, Transmission Operations & Maintenance

Date: \_\_\_\_\_



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

**IN WITNESS WHEREOF**, the Parties have caused this First Amendment to be duly executed by and through their respective authorized representatives as of the date hereinabove written.

**California Independent System Operator Corporation**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Arizona Public Service Company**

By:  \_\_\_\_\_

Name: Ted Geisler

Title: Director, Transmission Operations & Maintenance

Date: 5/19/15



## Schedule A

### ADJACENT BALANCING AUTHORITY INTERCONNECTION POINTS [Sections 5.1, 5.2 and 6.4]

The Interconnection between CAISO and APS is made up of two Interconnection points. These Interconnection points run normally closed.

- **Eldorado - Moenkopi 500 kV Line**

This Interconnection is comprised of one 500 kV line that connects the APS Moenkopi Substation north of Flagstaff in central northern Arizona, with the SCE attended Eldorado Substation near Boulder City, Nevada.

**Transmission Operator Point of Interconnection:** Middle of the Colorado River

**Transmission Owner (TO):** Southern California Edison Company (SCE) and APS

**TOs Point of Change of Ownership:** Middle of the Colorado River

**CAISO & APS Balancing Authority Area Point of Interconnect** Middle of the Colorado River

**Roles and Responsibilities:** The CAISO is the Balancing Authority West of the Balancing Authority Point of Interconnection.

Under the NERC Coordinated Functional Registration between CAISO and SCE, CAISO and SCE are the TOP of the line West of the Transmission Operator Point of Interconnection.

APS is the TOP of the line East of the Transmission Operator Point of Interconnection.

APS is the Balancing Authority East of the Balancing Authority Point of Interconnection.

**Metering Point:** Eldorado – Moenkopi 500 kV line termination at the Eldorado Switchyard



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

• **North Gila Switchyard Interconnection**

This Interconnection is comprised of three points within the North Gila Switchyard that connect the CAISO and APS Balancing Authority Areas.

**Transmission Operator Point of Interconnection:** First tower East of the Colorado River on the Imperial Valley-North Gila 500 kV.

**CAISO & APS Balancing Authority Area Points of Interconnect** As depicted on the one-line diagram below:  
1. South of Bay/Breaker #8  
2. South of Bay/Breaker #5  
3. South of Bay/Breaker #3

**Transmission Owners:**  
1. APS, SDGE, & IID share ownership in the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1) and a portion of the North Gila 500 kV Switchyard.  
2. APS & IID share ownership rights in the Hassayampa-North Gila 500kV line (HANG2) and a portion of the North Gila Switchyard.  
3. SDGE & IID share ownership rights in the North Gila-Imperial Valley 500kV line.

**Roles and Responsibilities:** As depicted on the one-line diagram below, the CAISO is the Balancing Authority for the North Bus and Bays/Breakers #3, #5, #6, #8, and #9 at the North Gila Switchyard and the Hassayampa-Hoodoo Wash-North Gila 500kV line (ATS/HANG1).

As depicted on the one-line diagram below, AZPS is the Balancing Authority for the South Bus and Bays/Breakers #1, #2, #4, and #7 at the North Gila Switchyard and the Hassayampa-North Gila 500 kV line (HANG2).

Under the NERC Coordinated Functional Registration between CAISO and SDGE, CAISO and SDGE are the TOP for all facilities West of the Transmission Operator Point of Interconnection.



FIRST AMENDMENT TO THE ADJACENT BALANCING AUTHORITY OPERATING AGREEMENT

APS is the TOP for all facilities East of the Transmission Operator Point of Interconnection to the Hassayampa switchyard. APS as Transmission Operator shall abide by those certain NERC operating standards.

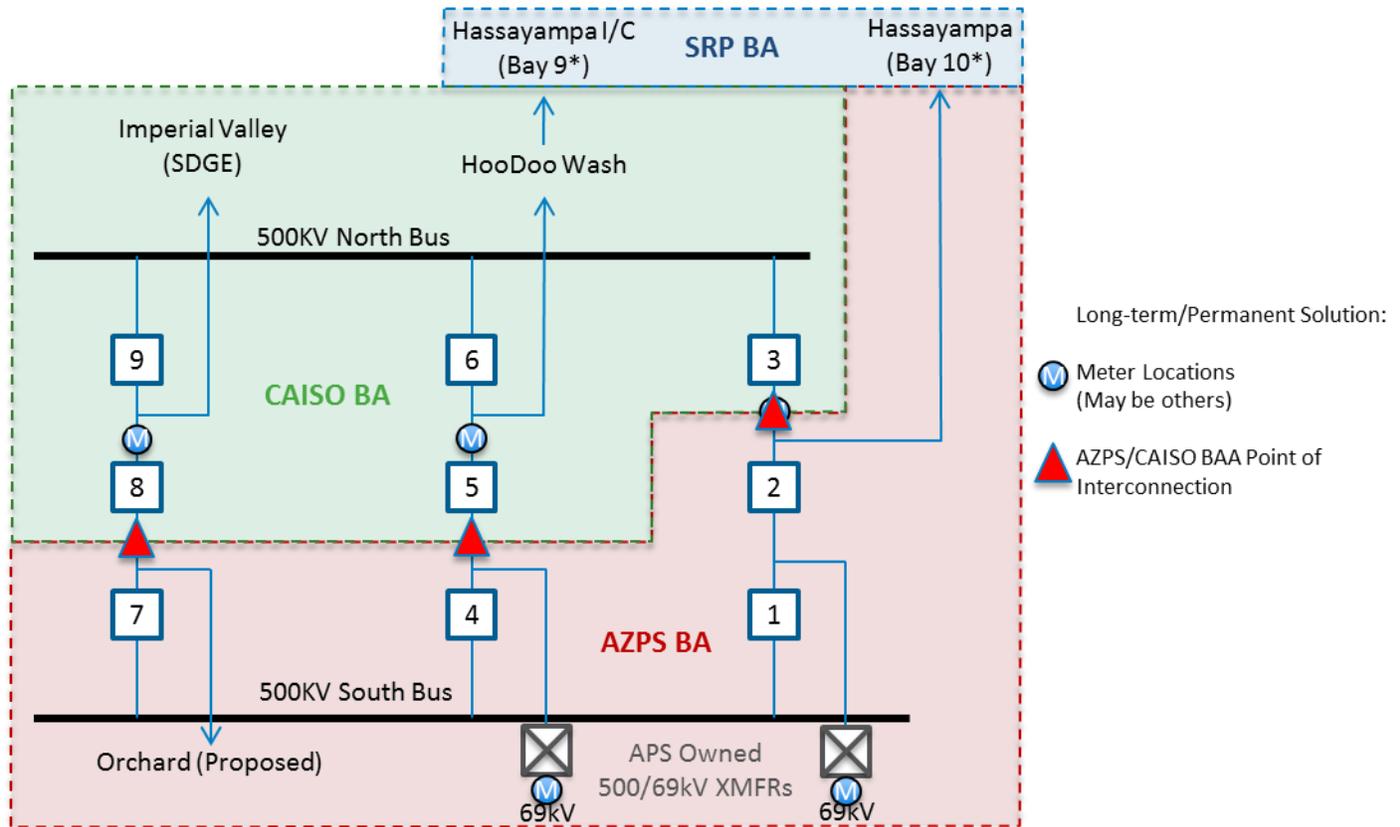
**Metering Points:**

As depicted on the one-line diagram below:

1. North of Bay/Breaker #8
2. North of Bay/Breaker #5
3. South of Bay/Breaker #3

**One-Line Diagram for North Gila Switchyard:**

**Long-Term/Permanent Proposed BA AREA Solution:**





## **REVENUE METERING AND TELEMETRY AT INTERCONNECTION POINTS**

APS and CAISO metering shall meet any metering standards mutually agreed upon by the Parties for the purpose of operating their adjacent Balancing Authority Areas. APS and the CAISO shall be entitled to witness testing of the involved interconnection metering. Any change or modification to such metering equipment by APS, the CAISO or any other entity shall be coordinated between the Parties. APS shall allow daily, once a day, read-only access by the CAISO to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. The CAISO shall allow daily, once a day, read-only access by the APS to direct poll revenue data from the interconnection revenue metering in five (5) minute intervals at the metering points identified in this Schedule A. APS and the CAISO shall maintain arrangements that ensure that both Parties shall have access to the same real-time data from the points identified in this Schedule A between their Balancing Authority Area interconnections for the purpose of complying with NERC reliability standards. The Parties understand that each Party wants to obtain MW and MVAR data from interconnection metering, which may include RTUs, at the points identified in this Schedule A between their Balancing Authority Area interconnections. The Parties agree to allow each other to directly poll real-time data from metering at the interconnection substations under the other Party's Balancing Authority Area. In the event that a second communication port of the RTU is not available for direct polling by a Party, the Party shall have the option to provide a RTU to the substation owner for the purpose of establishing a communication port available for direct polling by such Party.