

April 28, 2017

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 CAISO Rate Schedule No. 90  
Docket No. ER17-\_\_\_\_\_-000**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits for filing and acceptance an agreement between the CAISO and the United States of America, Department of Energy, acting by and through the Bonneville Power Administration (Bonneville).<sup>1</sup> The Coordinated Transmission Agreement (Agreement) sets forth the terms under which Bonneville and the CAISO will work cooperatively to manage energy imbalance market (EIM) flows on the Bonneville transmission system. The Agreement memorializes coordination that has been ongoing since the implementation of the EIM and represents the current state of collaboration between Bonneville and the CAISO. It will serve as a platform to foster additional opportunities for coordination.

Under the Agreement, the CAISO will provide certain data and information to Bonneville. Based on the data and information the CAISO provides, Bonneville will determine the transmission limits that it will enforce, and the CAISO will in return respect the Bonneville transmission limits. This coordination supports Bonneville's continued provision of reliable transmission service to EIM participants and all of its other transmission customers. The Agreement also establishes a coordinating committee to ensure continued coordination and an opportunity for input from impacted EIM participants and other Bonneville transmission customers. The CAISO requests that the Commission accept the Agreement effective July 1, 2017 so that the CAISO and Bonneville may implement its terms within the expected timeframes.

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<sup>1</sup> The CAISO submits the Coordinated Transmission Agreement pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d.

## I. Background

The CAISO and Bonneville operate adjacent balancing authority areas and provide transmission services to their customers, among other functional responsibilities. In addition, the CAISO is the market operator for the EIM. The EIM provides other balancing authority areas the opportunity to participate in the real-time market for imbalance energy that the CAISO operates in its own balancing authority area. The CAISO's market rules went into effect on October 24, 2014, for the first trading day November 1, 2014.<sup>2</sup> Bonneville's balancing authority area is not participating in the EIM.

In its initial tariff filing, the CAISO included a memorandum of understanding among Bonneville, the CAISO and PacifiCorp (MOU).<sup>3</sup> This MOU facilitated PacifiCorp joining the EIM and established the foundation upon which the Agreement was developed. The MOU established an implementation framework for PacifiCorp's use of the Bonneville transmission system in the EIM and guided the development of operating procedures to facilitate that implementation. This framework also formed the foundation of the relationship between Bonneville and the CAISO that supports the level of coordination and collaboration provided in the Agreement.

Puget Sound Energy subsequently announced its intention to join the EIM and its desire to utilize transmission rights on the Bonneville transmission system to facilitate EIM transfers with PacifiCorp.<sup>4</sup> In response to the Puget Sound Energy request, Bonneville engaged in a stakeholder process and confirmed the opportunity for its customers to make their transmission rights available for use in the EIM.<sup>5</sup> Going forward, Portland General Electric Company, the Idaho Power Company, and Seattle City Light intend to join the EIM and, similar to Puget Sound Energy, and make certain transmission rights they have on the Bonneville

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<sup>2</sup> See *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231 (2014) (conditionally accepting tariff revisions to implement energy imbalance market); *Cal. Indep. Sys. Operator Corp.*, 149 FERC ¶ 61,058 (2014) (order denying requests for rehearing, granting in part and denying in part requests for clarification, and conditionally accepting tariff revisions on compliance with regard to order listed above); Commission Letter Order, 149 FERC ¶ 61,005 (2014) (order granting CAISO request to extend effective date of energy imbalance market tariff revisions from September 23, 2014, to October 24, 2014, for trading day November 1, 2014) (EIM Order).

<sup>3</sup> See Memorandum of Understanding dated February 14, 2014, included as Attachment I to the CAISO transmittal letter filed in Docket No. ER14-1386-000; see also EIM Order at PP 259.

<sup>4</sup> See *Cal. Indep. Sys. Operator Corp.*, 151 FERC ¶ 61,158 (May 19, 2015).

<sup>5</sup> See <https://www.bpa.gov/transmission/CustomerInvolvement/Energy-Imbalance-Market/Pages/Meetings.aspx>.

transmission system available to facilitate EIM transfers.<sup>6</sup> The increasing number of Bonneville transmission customers participating in the EIM that will utilize certain transmission rights for the EIM highlights the need for increased CAISO and Bonneville coordination.

The Agreement represents a significant step forward from the level of coordination that was established under the MOU, and is another milestone for the West's efforts to improve efficient operations through enhanced regional coordination and collaboration. Currently, Bonneville and the CAISO exchange information to ensure that EIM operation remains within Bonneville's existing operating parameters. However, the CAISO and Bonneville have gone as far as they can with existing tools and procedures. The commitments embodied in the Agreement will provide Bonneville the assurance it needs to invest in the necessary systems and tools to support more coordinated operations.

Improved coordinated transmission operations that will support continued EIM expansion for the benefit of EIM participants and all other Bonneville transmission customers are established with the Agreement. Presently, Bonneville relies upon the best information it has to manage flows on its transmission system and to calculate curtailments when necessary. Enhanced coordination, improved visibility, and better management of EIM flows on the Bonneville transmission system will increase the accuracy and efficiency of Bonneville transmission curtailments. More accurate curtailments should reduce the total volume of curtailments for the benefit of all Bonneville transmission customers. The Agreement will also benefit the CAISO. Bonneville's curtailments of energy imported to the CAISO from the Northwest will be more precise, resulting in lower curtailments on the Bonneville transmission system and reduced redispatch of resources within the CAISO balancing authority area.

Under the Agreement more precise curtailments will occur because Bonneville has limited ability to direct generators to increase or decrease generation to alleviate a constraint through the curtailment of transmission schedules. Due to this limited ability, Bonneville is forced to make conservative assumptions about the effectiveness of a given transmission schedule curtailment. This, in turn, increases the amount of the curtailment to ensure reliable transmission service. The Agreement presents the CAISO and Bonneville with the opportunity to provide some of that relief using a dependable and efficient redispatch, which can lessen curtailments for all of Bonneville's customers.

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<sup>6</sup> See *Cal. Indep. Sys. Operator Corp.*, 154 FERC ¶ 61,020 (January 19, 2016); *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,311 (June 27, 2016); and Letter Order in Docket No. ER17-868-000 (March 14, 2017).

## **II. The Coordinated Transmission Agreement**

The Agreement details the contractual terms under which Bonneville and the CAISO will share certain data and information to enhance coordination and manage EIM flows on the Bonneville transmission system. The Agreement also establishes a coordinating committee and includes other provisions that round out the CAISO and Bonneville's commitments.

### **A. Data and Information Exchange**

The CAISO and Bonneville will share certain data and information so that Bonneville can enhance the monitoring of its transmission system. This exchange of certain data and information will better facilitate and support EIM operation for the benefit of EIM participants and all of Bonneville's other transmission customers. The sharing of certain data and information will also enhance the CAISO's operation of the EIM by improving the CAISO's understanding of actions that Bonneville will take on its transmission system in advance of real-time dispatch. The data and information to be exchanged is identified in Exhibit B of the Agreement and is provided without warranty. The data is not otherwise available under other data sharing agreements, such as Peak Reliability's universal data sharing arrangement, and includes information that is necessary to perform calculations associated with the flow impacts of the EIM on the Bonneville transmission system. The purpose of the data and information exchange is to define the rate of change constraints and other limits enforced on the Bonneville transmission system, to inform Bonneville of EIM actions the CAISO is taking in response to Bonneville actions, and to generally enhance operation of the EIM and improve coordinated transmission system operations. Use of the data and information is limited to these purposes and access to that data and information by Bonneville marketing function employees is prohibited.

### **B. Rate of Change Constraint Management**

Bonneville enforces constraints on its transmission system that limit the movement a resource can have within certain timeframes. These constraints are implemented by the CAISO as rate of change constraints. These rate of change constraints ensure the reliability of Bonneville's transmission system. Several EIM participating resources are subject to rate of change constraints and it is important for the EIM to model them accordingly. The CAISO and Bonneville have been coordinating under the MOU since the implementation of PacifiCorp to support the participation of such resources in the EIM. Now the CAISO and Bonneville desire to formalize this practice.

Bonneville will set the upper rate of change limit and the lower rate of change limit and notify the CAISO of such limits for each impacted facility before each fifteen-minute and five-minute market interval. The CAISO will dispatch the specific EIM participating resources impacted by the constraint to manage EIM flow on the Bonneville transmission system within the rate of change limits. If Bonneville fails to send or the CAISO fails to receive a limit before a market interval, the CAISO will use the limit that was last sent by Bonneville and received by the CAISO to ensure that EIM flows do not exceed that limit.

### **C. EIM Flow Management**

The Agreement provides for two types of EIM flow management. The first type occurs when Bonneville observes that a limit has or will be exceeded, but it has not yet begun to curtail transmission schedules. This type of EIM flow management represents an agreement that EIM flows should not exacerbate conditions on the Bonneville system. The second EIM flow management approach will only be initiated when Bonneville is curtailing transmission schedules. In this circumstance, the CAISO and Bonneville have agreed that EIM flows should be subject to their pro-rata share of the curtailment.

For EIM flows not to exacerbate conditions on the Bonneville transmission system, Bonneville will notify the CAISO of its flow limits before each fifteen-minute and five-minute market interval. When Bonneville determines that a limit is exceeded or will be exceeded as a result of the next market interval, Bonneville will take actions consistent with its tariff, operating procedures, and business practices to manage the circumstances. In parallel, Bonneville will send the CAISO a signal indicating that EIM flow should not be increased. The CAISO will then manage EIM flow so that it does not increase until Bonneville either notifies the CAISO that the circumstances giving rise to the condition have been relieved or notifies the CAISO that additional relief is required. This approach will only be used by Bonneville for a limited duration and frequency, solely in response to exigent real-time operational circumstances within an operating hour.

In order for Bonneville to more accurately determine curtailments, the CAISO will provide Bonneville with megawatt values that separately show EIM incremental flow, which is flow resulting from the CAISO's market optimization, and the EIM total flow on the Bonneville transmission system. EIM total flow includes EIM base schedules as well as EIM incremental flow. If Bonneville determines it needs to curtail transmission schedules, Bonneville will calculate a pro rata relief obligation using transmission schedules that are attributable to EIM incremental flow, and Bonneville will send the CAISO an EIM incremental flow pro rata relief obligation as a limit or as a reduction. The CAISO will then manage EIM incremental flow to fulfill the CAISO's pro-rata relief obligation in subsequent market intervals until Bonneville notifies the CAISO that it is no

longer curtailing transmission schedules. Bonneville will adjust its planned curtailments to account for the relief provided by CAISO and curtail transmission schedules or resources under its tariff for any remaining relief in excess of the EIM incremental flow relief provided by the CAISO.

In addition to the pro-rata relief obligation for EIM incremental flow, Bonneville will calculate a pro-rata relief obligation for any transmission schedules that are not attributable to EIM incremental flow. To calculate the pro-rata relief obligation for transmission schedules that are not attributable to EIM incremental flow, Bonneville will only use transmission schedules that: 1) source or sink in the EIM area and that are scheduled across the Bonneville transmission system; and 2) are specifically identified by EIM balancing authorities as being subject to the Agreement. If either the source or sink EIM balancing authority does not identify a transmission schedule as such, it will be excluded from Bonneville's calculation of the pro-rata relief obligation and instead subject to Bonneville's normal curtailment procedures under its tariff, operating procedures, and associated business practices.

Bonneville will send the CAISO an EIM total flow pro-rata relief obligation based on the information it receives from EIM balancing authorities. The CAISO will continue to manage EIM incremental flow as outlined above and advise any interested EIM entities of optimal adjustments to their EIM base schedules to assist in alleviating the constraint. Any adjustment to EIM base schedules is at the discretion of the EIM balancing authority; the CAISO is not responsible for ensuring that EIM entities adjust their EIM base schedules or otherwise managing EIM total flow on the Bonneville transmission system. Bonneville will adjust its planned curtailments to account for the relief provided by the CAISO and EIM entity actions. For any remaining relief, Bonneville will curtail transmission schedules or resources under its tariff and associated business practices.<sup>7</sup>

#### **D. Contingency Events on Bonneville's South of Allston Path**

Bonneville's South of Allston (SOA) path represents facilities that are critical to the reliable operation of the bulk electric system in the Pacific Northwest, as well as for delivering power to load centers in California and the Southwest. To mitigate the risk of excessive or inaccurate curtailments following a contingency event that impacts the SOA transmission path and that threatens the reliability of the interconnected transmission system, the CAISO will endeavor to dispatch all available generation in the EIM area electrically south of SOA to

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<sup>7</sup> The CAISO understands BPA's business practice for redispatch and curtailment procedures is available at the following link:  
[https://transmission.bpa.gov/ts\\_business\\_practices/Content/9\\_Redispatch\\_and\\_Curtailment/Redispatch\\_Curtailment.htm?SearchType=Stem](https://transmission.bpa.gov/ts_business_practices/Content/9_Redispatch_and_Curtailment/Redispatch_Curtailment.htm?SearchType=Stem)



replace generation that was lost or reduced as a result of the contingency. The dispatch of available EIM area generation only replaces generation an EIM balancing authority has not otherwise replaced through contingency reserves, including reserves provided through the Northwest Power Pool. The generation that the CAISO provides under this section shall not exceed any limits that Bonneville sets; provided, however, Bonneville understands that it may need to waive certain limits in order for the CAISO to provide effective relief. The CAISO will account for the adjustment of EIM area generation through e-Tags as provided in the CAISO's tariff, operating procedures, and business practices.

If the contingency persists after the CAISO has adjusted all available EIM area generation, it will advise any interested EIM balancing authorities of optimal adjustments to their EIM base schedules to assist in alleviating the contingency. If an EIM balancing authority is not interested in receiving these advisory optimal adjustments, the CAISO will not provide them. The CAISO is not responsible for ensuring that EIM balancing authorities adjust their EIM base schedules, nor will it be responsible for accounting for the change in EIM base schedules through the creation and submission of an e-Tag. Moreover, nothing in the Agreement in any way alters the functional responsibilities of Bonneville or the CAISO with respect to compliance with reliability standards.

#### **E. Coordinating Committee**

The Agreement establishes a coordinating committee that provides a forum for the CAISO and Bonneville to meet and discuss issues associated with the Agreement. The CAISO and Bonneville will each designate a lead representative and the committee is expected to meet quarterly. The committee has a range of responsibilities, including ensuring that the exhibits remain current, discussing issues that may arise under the Agreement, and generally facilitating the level of coordination contemplated by the Agreement. In addition, the CAISO and Bonneville have provided for a working group consisting of interested EIM entities located in the Northwest and other Bonneville transmission customers selected by Bonneville. The working group is intended to provide a broader but still non-public forum for discussion of actions taken under the Agreement and foster a more inclusive approach to its implementation.

#### **III. Bonneville Stakeholder Process**

Bonneville engaged in a formal stakeholder process with support from the CAISO, and the CAISO has kept its board informed of developments along the way. The draft agreement was posted on Bonneville's Open Access Same-time Information System for review and comment on November 28, 2016. On December 2, 2016, Bonneville hosted a stakeholder meeting and presented the draft agreement. Stakeholder comments were submitted by PacifiCorp, Portland General Electric, the Public Generating Pool, the Public Power Council, Puget

Sound Energy, Powerex, Seattle City Light, and TransAlta. Bonneville provided a response to stakeholder comments and a revised draft of the agreement on January 19, 2017 that incorporated suggested changes accepted by the CAISO and Bonneville and explained why certain suggestions were not adopted. On March 6, 2017, the final executed version of the Agreement was posted. The final version of the Agreement included some additional changes that the CAISO and Bonneville believe further addressed the comments received and further clarified their intent.

#### **IV. Next Steps and Expected Benefits**

Following Commission acceptance of this filing, Bonneville and the CAISO will proceed with development of the associated changes and procedures necessary to implement all provisions of the Agreement. Bonneville's system changes are relatively significant and will require approximately two years to develop and implement. The CAISO will support Bonneville during its development of these system changes and the CAISO and Bonneville will develop the associated procedures in parallel. Implementation of the Agreement is anticipated to proceed in three phases, with full implementation in late 2018 or a bit later depending on the circumstances.

The first phase will implement the flow management practices when Bonneville is not curtailing transmission, and the sharing of EIM flow information to support the second phase. The second phase will include EIM flow management when Bonneville is curtailing transmission. The final phase will include the provisions limited to mitigation of contingencies that impact the SOA path. Each of these phases will require Bonneville to implement system and procedural changes that take time and expense to complete. The CAISO and Bonneville will work cooperatively to undertake each implementation phase of the agreement. Having the complete Agreement accepted now will provide the certainty necessary to support Bonneville's allocation of resources for these tasks.

The CAISO and Bonneville anticipate that full execution of the Agreement will provide benefits to EIM participants, particularly those entities that have made their rights on the Bonneville transmission system available for use by the EIM, as well as other Bonneville transmission customers and the CAISO balancing authority area. Currently, Bonneville relies upon the best information it has to manage flows on the Bonneville transmission system and to calculate curtailments when necessary. Enhanced coordination, improved visibility, and better management of EIM flows on the Bonneville transmission system will increase the accuracy and efficiency of Bonneville transmission curtailments. More accurate curtailments will reduce the total volume of curtailments for the benefit of all Bonneville transmission customers. The Agreement will also benefit the CAISO. Bonneville curtailments of energy imported to the CAISO balancing



authority area from the Northwest will be more precise, resulting in lower curtailments on the Bonneville transmission system and reduced redispatch of resources within the CAISO balancing authority area. In addition to more precise curtailments, the Agreement benefits Bonneville by formalizing existing understandings regarding rate of change constraints and other limitations, and it also provides Bonneville with the certainty that the CAISO will continue to respect these limits in the future. The Agreement also provides a framework for increased coordination and data sharing, which should lead to more efficient operations in the future.

## **V. Communications**

Pursuant to Rule 203(b)(3) of the Commission's Rules of Practice and Procedure,<sup>8</sup> the CAISO requests that all correspondence, pleadings, and other communications concerning this filing be served upon the following:

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

## **VI. Effective Date**

The CAISO requests that the Agreement be made effective on July 1, 2017. As outlined above, not all provisions of the Agreement will be implemented on the effective date. Nonetheless, the CAISO requests acceptance at this time to support Bonneville's allocation of resources to complete the tasks necessary to fully implement the Agreement.

## **VII. Service**

The CAISO has served copies of this filing upon all scheduling coordinators that hold an agreement with the CAISO, Bonneville, the California Public Utilities Commission, and the California Energy Commission. In addition, the CAISO has posted the filing on the CAISO website.

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<sup>8</sup> 18 C.F.R. § 385.203(b)(3).

### **VIII. Contents of Filing**

Enclosed for filing is each of the following:

1. this transmittal letter; and
2. the executed Coordinated Transmission Agreement (Attachment A).

### **IX. Conclusion**

The CAISO respectfully requests that the Commission accept this filing and permit the Agreement, CAISO Rate Schedule No. 90, to be effective July 1, 2017, 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

Burton A. Gross

Deputy General Counsel

John C. Anders

Assistant General Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Tel: (916) 608-7287

Fax: (916) 608-7222

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

Attorneys for the California Independent  
System Operator Corporation

**Attachment A – Coordinated Transmission Agreement  
Between Bonneville Power Administration and  
California Independent System Operator Corporation**

**COORDINATED TRANSMISSION AGREEMENT**

**executed by the**

**UNITED STATES OF AMERICA**

**DEPARTMENT OF ENERGY**

**acting by and through the**

**BONNEVILLE POWER ADMINISTRATION**

**and**

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

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

**RECITALS**

**WHEREAS**, the Parties operate interconnected Balancing Authority Areas.

**WHEREAS**, the CAISO operates an Energy Imbalance Market ("EIM"), which includes participation by Balancing Authorities that are electrically adjacent to the Bonneville Balancing Authority Area.

**WHEREAS**, these adjacent Balancing Authorities and other EIM participants utilize Bonneville transmission service to participate in the EIM.

**WHEREAS**, both Parties are committed to providing open and comparable transmission access to EIM participants and all of their other transmission customers in accordance with the terms of each Party's respective transmission tariff.

**WHEREAS**, this Agreement establishes a Coordinating Committee that provides a forum for the Parties to meet to discuss seams issues associated with the EIM and transmission service across Bonneville's transmission system.

**WHEREAS**, the Parties wish to share certain data and information so that Bonneville can enhance the monitoring of its transmission system and better facilitate and support EIM operation for the benefit of EIM participants and all of its other transmission customers and so that the CAISO can enhance operation of the EIM.

**WHEREAS**, the Parties will manage EIM Incremental Flow according to certain Upper and Lower Rate of Change Limits on Bonneville Managed Facilities so that Bonneville can continue to provide reliable transmission service to EIM participants and all of its other transmission customers.

**WHEREAS**, the Parties will manage EIM Area Incremental Flow according to certain Managed Limits on Bonneville Managed Facilities when Bonneville is not Curtailing transmission service so that Bonneville can provide reliable transmission service to EIM participants and all of its other transmission customers.

**WHEREAS**, the Parties will manage EIM Area Total Flow on Bonneville Managed Facilities when Bonneville is Curtailing transmission service to reduce Bonneville Curtailments to EIM participants, CAISO market participants, and all of Bonneville's other transmission customers.

**WHEREAS**, the Parties will coordinate dispatch of EIM Area generation under contingency conditions impacting specified Bonneville Managed Facilities to reduce Bonneville Curtailments to EIM participants, CAISO market participants, and all of Bonneville's other transmission customers.

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

**1. TERM AND SCOPE OF RESPONSIBILITIES**

**1.1 Term and Termination**

This Agreement shall be effective upon the later of: 1) execution; or 2) the date this Agreement is accepted for filing and made effective by the Federal Energy Regulatory Commission (FERC), and shall remain in effect until terminated by either Party upon 3 years advance written notice to the other Party or upon consent of both Parties. The CAISO shall file a notice of termination with FERC as soon as practicable but no later than thirty (30) calendar days after the termination date provided in such advance written notice of termination or the date of the Parties' consent to terminate. Termination will be effective upon acceptance of the notice of termination by FERC; provided, however, that except as provided in section 4.3, Bonneville's rights and obligations under this Agreement will terminate as of the termination date provided in the advance written notice of termination or the date of the Parties' consent to terminate, whichever comes first, regardless of any action or inaction by FERC with respect to any application by the CAISO to terminate this Agreement.

## **1.2 Modification**

In the event FERC requires the CAISO to make any modification to this Agreement or imposes any other modification or condition upon its acceptance or approval of this Agreement or approves a Party's application pursuant to section 6.1 to modify the terms and conditions of this Agreement, each Party shall have ten (10) business days to notify the other Party that any such modification or condition is unacceptable to that Party as determined in that Party's sole discretion. If no Party provides such notice, then this Agreement, as modified or conditioned by FERC, shall take effect as of the date determined under section 1.1. If either Party provides such notice to the other Party, the Parties shall take any one or more of the following actions: (i) meet and confer and agree to accept any modifications or conditions imposed by such FERC order; (ii) jointly seek further administrative or legal remedies with respect to such FERC order, including a request for rehearing or clarification in which case all further FERC orders on rehearing, clarification, or similar orders will be subject to the same rights of the Parties under this section as the original FERC order; or (iii) enter into negotiations with respect to accommodation of such FERC order, provided however, if the Parties have not agreed to accept or accommodate any modifications or conditions imposed by such FERC order under clauses (i)-(iii) of this section within thirty (30) days after the date on which such FERC order becomes a final and non-appealable order, such order shall be deemed an adverse order and this Agreement will immediately terminate without further action of the Parties and the Parties shall have no further rights and obligations under the Agreement.

## **1.3 Scope of Responsibilities**

The Parties are individually responsible for the efficient use and reliable operation of their Balancing Authority Areas consistent with the reliability standards established by the Western Electricity Coordinating Council ("WECC") and the North American Electric Reliability Corporation ("NERC"), and in accordance with their respective transmission tariffs, business practices, and Good Utility Practice. Nothing in this Agreement is intended to change, supersede, or alter either Party's obligations to abide by the NERC and WECC reliability standards, directives, or operating instructions issued by the Reliability Coordinator pursuant to the NERC and WECC reliability standards, or to provide open and non-discriminatory transmission access in accordance with the terms of their respective transmission tariffs. If Bonneville or the CAISO, each in its sole discretion, determines that the actions required by this Agreement will harm the reliability of their transmission system, Bonneville and the CAISO, as the Transmission Operators and Balancing Authorities, each retain the right to take any appropriate action consistent with their tariffs, operating procedures, operating plans, dispatch directives, or business practices to maintain reliability. Similarly, nothing in this Agreement is intended to change, supersede, or alter any EIM Entity's obligations to abide by the NERC and WECC reliability standards or to provide transmission service in accordance with the terms of their respective transmission tariffs.



- 1.4 Relationship with Reliability Standards and Operating Orders**  
This Agreement does not supersede any existing agreement and is intended to remain consistent with applicable NERC and WECC reliability standards. To the extent a new or amended NERC and WECC reliability standard conflicts with this Agreement, the NERC and WECC reliability standard, once effective, will take precedence and the Parties commit to modify the Agreement to be consistent with all applicable NERC and WECC reliability standards should any inconsistency arise. Further, nothing in this Agreement is intended to be a substitute for Bonneville's dispatch standing orders, CAISO operating procedures, emergency operating plans, or restoration plans.

## **2. DEFINITIONS**

Unless defined below, capitalized terms shall have the meanings assigned to them in the Glossary of Terms Used in NERC Reliability Standards, as it may be amended from time to time.

- 2.1 Bonneville Managed Facilities:** The transmission paths or transmission facilities that: 1) Bonneville establishes on its transmission system or any other transmission facilities for which Bonneville is the Transmission Operator; 2) Bonneville determines are impacted by the EIM and could reasonably affect Bonneville's ability to provide reliable transmission service to EIM participants or any of its other transmission customers; and 3) are listed in section 1 of Exhibit C.
- 2.2 Curtail:** A reduction in firm or non-firm transmission service in response to a transfer capability shortage as a result of system reliability conditions.
- 2.3 Day-Ahead Schedules:** The term as it is defined in the CAISO tariff.
- 2.4 EIM:** The imbalance energy market operated by the CAISO in accordance with section 29 of the CAISO tariff.
- 2.5 EIM Area:** The combined CAISO Balancing Authority Area and all EIM Entity Balancing Authority Areas.
- 2.6 EIM Area Generation:** Energy Supply Bids in the Real-Time Market, including the Energy Imbalance Market and excluding EIM Base Schedules. The term "Energy Supply Bids" is defined in the CAISO tariff.
- 2.7 EIM Area Incremental Flow:** The aggregate power flow contribution of flows resulting from the operation of the Real-Time Market, including the EIM, and deviations from EIM Base Schedules.
- 2.8 EIM Incremental Flow:** The aggregate power flow contribution from the dispatch of EIM Participating Resources.

- 2.9 EIM Area Total Flow:** The aggregate power flow contribution of flows resulting from EIM Base Schedules, Day-Ahead Schedules, and EIM Area Incremental Flows.
- 2.10 EIM Area Total Flow Limit:** The limit on EIM Area Total Flow that Bonneville determines pursuant to section 5.3.
- 2.11 EIM Base Schedule:** The term as it is defined in the CAISO tariff.
- 2.12 EIM Entity:** A Balancing Authority that represents one or more EIM Transmission Service Providers and that enters into an EIM Entity Agreement with the CAISO to enable the operation of the Real-Time Market in its Balancing Authority Area.
- 2.13 EIM Entity Agreement:** The term as it is defined in the CAISO tariff.
- 2.14 EIM Participating Resource:** The term as it is defined in the CAISO tariff.
- 2.15 EIM Transfer:** The transfer of energy in real-time between an EIM Entity Balancing Authority Area and the CAISO Balancing Authority Area, or between EIM Entity Balancing Authority Areas, using transmission capacity made available to the EIM.
- 2.16 EIM Transmission Provider:** The term as it is defined in the CAISO tariff.
- 2.17 Energy Transfer System Resources:** The term as it is defined in the CAISO Business Practice Manual for the Energy Imbalance Market.
- 2.18 Good Utility Practice:** Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to 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, including those practices required by Federal Power Act section 215(a)(4).
- 2.19 Interrupt:** A reduction in non-firm transmission service due to economic reasons pursuant to section 14.7 of Bonneville's Open Access Transmission Tariff.

- 2.20 Lower Rate of Change Limit:** The maximum MW amount by which CAISO may decrease EIM Incremental Flow on Bonneville Managed Facilities using EIM Participating Resources listed in Exhibit C over the next five minute Market Interval.
- 2.21 Managed Limit:** An operational flow limit in a particular direction on a Bonneville Managed Facility that ensures the safe and reliable operation of the Bonneville transmission system. Managed Limit does not include Lower or Upper Rate of Change Limits.
- 2.22 Market Interval:** The 15 minute and 5 minute market intervals used in the operation of the Real-Time Market, including the EIM.
- 2.23 Pacific Northwest:** The geographic area defined in section 3(14) of the Pacific Northwest Electric Power Planning and Conservation Act.
- 2.24 Real-Time Market:** The term as it is defined in the CAISO tariff.
- 2.25 Redispatch:** Bonneville, as a transmission provider, ordering or requesting its transmission customers to increase or decrease generation to alleviate system reliability conditions pursuant to its Open Access Transmission Tariff.
- 2.26 Upper Rate of Change Limit:** The maximum MW amount by which CAISO may increase EIM Incremental Flow on Bonneville Managed Facilities using EIM Participating Resources listed in Exhibit C over the next five minute Market Interval.

### **3. COORDINATING COMMITTEE AND WORKING GROUP**

- 3.1 Establishment and Functions of Coordinating Committee.** The Parties shall establish a Coordinating Committee to, among other things, identify and resolve any issues associated with this Agreement and to discuss potential additions or revisions to this Agreement. The Coordinating Committee shall solely consist of the Parties.

#### **Coordinating Committee Representatives**

- 3.1.1** Bonneville and the CAISO shall each designate a lead representative from their respective organizations as set forth in Exhibit A. The lead representatives shall serve as the primary points of contact on matters related to this Agreement and will coordinate the location, time, and agenda of Coordinating Committee meetings.
- 3.1.2** A Party may change its designated lead representative at any time by providing notice to the other Party pursuant to Exhibit A.

- 3.1.3 The Coordinating Committee shall meet in person at least once every quarter, unless the lead representatives mutually agree to cancel the meeting for that quarter or to meet telephonically. Coordinating Committee meetings may be held on a more frequent basis if both Parties determine that such meetings are necessary. A Coordinating Committee meeting may consist of the lead representatives only.
- 3.1.4 Bonneville and the CAISO may invite other representatives from their respective organizations to attend Coordinating Committee meetings when their participation is necessary for the particular issues being discussed at the meeting.
- 3.1.5 The costs and expenses associated with each Party's designated representative(s) shall be the sole responsibility of the designating Party.

### **3.2 Scope of the Coordinating Committee**

The scope of the Coordinating Committee shall include:

- 3.2.1 Maintaining the currency and accuracy of the exhibits to this Agreement;
- 3.2.2 Reviewing Bonneville's designation of Bonneville Managed Facilities that are determined by Bonneville and listed in section 1 of Exhibit C;
- 3.2.3 Considering what if any additional Bonneville or CAISO paths would benefit from flowgate management pursuant to this Agreement or other arrangements;
- 3.2.4 Identifying and evaluating any issues associated with this Agreement;
- 3.2.5 Discussing potential revisions or additions to this Agreement;
- 3.2.6 Taking other actions, including the establishment of subcommittees and/or task forces, to address any issues that the Coordinating Committee deems necessary in the implementation of this Agreement;
- 3.2.7 Discussing changes or proposed changes to tariffs, business practices, etc., that may affect the Agreement and how the Agreement may have to be modified to account for such changes;
- 3.2.8 Attempting to informally resolve disputes between Bonneville and the CAISO related to this Agreement that may arise;
- 3.2.9 Addressing other operational issues that may arise that the parties wish to address through this Agreement; and

3.2.10 Discussing the addition of Bonneville Managed Facilities that are subject to section 5.4. Any additional Bonneville Managed Facilities subject to section 5.4 would be reflected in section 1 of Exhibit C upon the agreement of the Coordinating Committee.

### **3.3 Working Group**

The Parties will form a working group consisting of: 1) the Coordinating Committee, 2) any interested EIM Entities located wholly or partially in the Pacific Northwest, and 3) Bonneville transmission customers that Bonneville selects; provided, however, that the number of transmission customers that Bonneville selects shall not exceed the number of EIM Entities located wholly or partially in the Pacific Northwest. The working group will discuss the actions that the Parties are taking under this Agreement, including implementation, data and information exchange, and transmission operations. The working group will meet at the same frequency and location as regularly scheduled quarterly Coordinating Committee meetings.

## **4. DATA AND INFORMATION EXCHANGE**

### **4.1 Purpose of Data and Information Exchange**

Data and information is exchanged under this Agreement to: (a) define the Upper and Lower Rate of Change Limits and other constraints and limits enforced on the Bonneville transmission system; (b) inform Bonneville of actions that the CAISO is taking on behalf of EIM Entities and other EIM participants that may affect operation of Bonneville's transmission system; (c) enhance the operation of the EIM; and (d) improve the coordinated operation of the Parties' transmission systems.

### **4.2 Scope of Data and Information Exchange**

Data and information exchanged under this Agreement is set forth in Exhibit B. At a minimum, Exhibit B shall identify the data and information to be shared and the granularity and frequency with which it will be shared. The Parties shall consider what, if any, adjustments to Exhibit B may be necessary to provide Bonneville full and transparent visibility of impacts on Bonneville's transmission associated with participation in the EIM. Except as provided in section 5.7, the data and information exchanged under this Agreement does not include aggregate market results or other after-the-fact data. The data and information exchanged under this Agreement also does not include data or information that the parties share pursuant to NERC and WECC reliability standards or other regulations, through Peak Reliability's Universal Data Sharing Agreement or its successor, other applicable Peak Reliability policies or methodologies, or through other agreements between the Parties.

### **4.3 Limitations on Data and Information Exchange**

- 4.3.1 The Parties may disclose the data and information only to their respective employees, agents, and contractors who have a need to know the data and information and for the sole purpose of the permitted use described in section 4.1. Access to the data and information is prohibited as to Bonneville's respective employees, agents, and contractors engaged in a marketing function as defined under the FERC Standards of Conduct. Except as provided in section 4.3.2, nothing in this Agreement shall be understood to authorize the release of the other Party's non-public data or information disclosed under this Agreement. Any data or information that includes third party confidential information protected by an agreement or tariff shall not be shared unless: 1) the Party has been authorized in writing to do so by the other Party; or 2) the Party follows the procedures in section 4.3.2 and is required by law, regulation, subpoena or other lawful process of a court or other governmental authority of competent jurisdiction to disclose such data or information.
- 4.3.2 If a Party ("Receiving Party") receives a request to disclose non-public data or information that it has received from the other Party ("Providing Party") under this Agreement, it shall not disclose such information or data without first promptly notifying the Providing Party of the request for disclosure to facilitate that Party's efforts to prevent disclosure or otherwise preserve the confidentiality of the data or information. The Providing Party may either seek a protective order, at its own expense, to maintain the confidentiality of such information or data or may notify the Receiving Party in writing that it will take no action to maintain such confidentiality. After the Providing Party either has sought to maintain the confidentiality of such information or data or has notified the Receiving Party in writing that it will take no action to maintain such confidentiality, the Receiving Party shall not be in violation of this Agreement if it discloses such information or data in order to comply with applicable laws or regulations or an order, subpoena, or other lawful process of a court or other governmental authority of competent jurisdiction to disclose such data or information.
- 4.3.3 The Receiving Party shall immediately notify the Providing Party of any breach of this Agreement, including any instance of disclosure of non-public data or information to a third party.
- 4.3.4 The provisions of this section 4.3 shall survive the termination of this Agreement for a period of two years.



**4.4 No Warranties or Representations; Disclaimers**

All data or information exchanged 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, unless the Providing Party knowingly and deliberately provides false or inaccurate information. Each Party assumes any and all risk and responsibility for selection and use of, and reliance on, any information provided under this Agreement.

**4.5 Data and Information Exchange Procedures**

The Parties will use reasonable efforts to exchange the data and information in a manner that is compatible with their respective information systems and operations and shall exchange the data and information described in Exhibit B.

**4.6 Notifications and Other Information**

The CAISO will provide Bonneville with general market outage notifications in the same manner that it provides such market outage notifications to EIM Entities. The Parties will also consider additional notifications and information sharing that may support coordinated transmission system operations.

**5. MANAGING EIM FLOWS ON BONNEVILLE'S TRANSMISSION SYSTEM**

**5.1 Upper and Lower Rate of Change Limits**

Bonneville will set the Upper Rate of Change Limit and the Lower Rate of Change Limit at its discretion and notify the CAISO of such limits for each Bonneville Managed Facility before each Market Interval. The CAISO will use EIM Participating Resources listed in Exhibit C to manage EIM Incremental Flow on Bonneville's transmission system within the Upper Rate of Change Limits and the Lower Rate of Change Limits on each Bonneville Managed Facility. If Bonneville fails to send the CAISO Upper Rate of Change Limits or Lower Rate of Change Limits before a Market Interval or the CAISO fails to receive the Upper Rate of Change Limits or Lower Rate of Change Limits before a Market Interval, the CAISO will use the Upper Rate of Change Limits and Lower Rate of Change Limits that were last sent by Bonneville and received by the CAISO, and the CAISO will ensure that EIM Incremental Flow does not exceed those limits.

## **5.2 Managing EIM Area Incremental Flows When Bonneville is not Curtailing Transmission Schedules**

Bonneville will set the Managed Limits at its discretion and notify the CAISO of the Managed Limits before each Market Interval. If Bonneville fails to notify the CAISO of the Managed Limits before a Market Interval or the CAISO fails to receive Managed Limits from Bonneville, the CAISO will use the Managed Limits that Bonneville last sent to the CAISO.

If Bonneville determines that a Managed Limit is exceeded or will be exceeded as a result of the next binding real-time dispatch Market Interval, Bonneville shall:

- (1) Take actions consistent with its operating procedures, business practices, and its Open Access Transmission Tariff; and
- (2) Send to the CAISO a signal indicating that EIM Area Incremental Flow shall not increase from the previously calculated EIM Area Incremental Flow megawatt value received by Bonneville.

After receiving the signal from Bonneville, the CAISO shall manage EIM Area Incremental Flow so that it does not increase until Bonneville either notifies the CAISO that the circumstances giving rise to the condition have been relieved or notifies the CAISO that additional relief is required under section 5.3 of the Agreement. Bonneville will endeavor to use this section 5.2 for a limited duration and frequency solely in response to exigent real-time operational circumstances that occur within an operating hour, and, if conditions require, transition into actions associated with section 5.3. Section 5.2 is not a replacement for actions that Bonneville normally takes under its operating procedures, business practices, and its Open Access Transmission Tariff when a Managed Limit is exceeded or will be exceeded as a result of the next binding real-time dispatch Market Interval.

## **5.3 Managing EIM Area Flows When Bonneville is Curtailing Transmission Schedules**

### **5.3.1 EIM Area Incremental Flow and EIM Area Total Flow**

For each Market Interval that the CAISO calculates binding or advisory market results, the CAISO will provide Bonneville with megawatt values that separately show the EIM Area Incremental Flow and the EIM Area Total Flow for each Bonneville Managed Facility and for facilities listed in section 3 of Exhibit C. Facilities listed in section 3 of Exhibit C are not subject to the provisions in sections 5.1 through 5.4 of the Agreement.

### **5.3.2 EIM Area Incremental Flow Obligation When Bonneville is Curtailing Transmission Schedules**

If Bonneville determines it needs to curtail transmission schedules, Bonneville will calculate a pro-rata relief obligation using transmission schedules that are attributable to EIM Area Incremental

Flow. Notwithstanding the previous sentence, Bonneville has the right to exclude transmission schedules from the pro-rata relief calculation if it determines that it lacks the technical ability to include them or if Bonneville reasonably believes that the CAISO cannot meet all or part of its pro-rata relief obligation under this section. Any transmission schedules that Bonneville excludes from the pro-rata relief obligation is subject to Bonneville's curtailment procedures under its Open Access Transmission Tariff and associated business practices.

Bonneville will send the CAISO an EIM Area Incremental Flow pro-rata relief obligation that Bonneville reasonably expects the CAISO to provide under this section. Bonneville may send the EIM Area Incremental Flow pro-rata relief obligation to the CAISO as a limit or as a reduction. The CAISO shall manage EIM Area Incremental Flow to fulfill the CAISO's pro-rata relief obligation in subsequent Market Intervals as soon as possible until Bonneville notifies the CAISO that it is no longer curtailing transmission schedules.

Bonneville will adjust its planned Curtailments and Redispatch to account for the relief provided by CAISO and EIM Entity actions. For any remaining relief, Bonneville shall Curtail or Redispatch transmission schedules or resources under its Open Access Transmission Tariff. To obtain the remaining relief, Bonneville may Curtail or Redispatch transmission schedules in excess of the relief obligation stated above.

### **5.3.3 Additional Flow Obligation for Transmission Schedules Not Attributable to EIM Area Incremental Flow**

In addition to the pro-rata relief obligation for EIM Area Incremental Flow under section 5.3.2, Bonneville will calculate a pro-rata relief obligation for transmission schedules, if any, that are not attributable to EIM Area Incremental Flow and that are identified by Balancing Authorities in the EIM Area. To calculate the pro-rata relief obligation under this section 5.3.3 for transmission schedules that are not attributable to EIM Area Incremental Flow, Bonneville will only use transmission schedules that: 1) source or sink in the EIM Area and that are scheduled across the Bonneville transmission system, and 2) are specifically identified by the Balancing Authorities in the EIM Area where the transmission schedules sources or sinks as being subject to section 5.3 and are accepted by Bonneville. If either the source or sink Balancing Authority in the EIM Area does not identify a transmission schedule as being subject to this section 5.3, it will be excluded from Bonneville's calculation of the pro-rata relief obligation and is subject to Bonneville's curtailment procedures under its Open Access Transmission Tariff and associated business practices.

Bonneville will send the CAISO an EIM Area Total Flow pro-rata relief obligation that: 1) reflects the transmission schedules, if any,

that are not attributable to EIM Area Incremental Flow and that are identified by Balancing Authorities in the EIM Area under this section 5.3.3, and 2) Bonneville reasonably expects the CAISO to provide under this section. Bonneville may send the EIM Area Total Flow pro-rata relief obligation to the CAISO as a limit or as a reduction. The EIM Area Total Flow pro-rata relief obligation shall include the EIM Area Incremental Flow pro rata flow relief obligation established under section 5.3.2.

The CAISO shall manage EIM Area Incremental Flow to fulfill the CAISO's pro-rata relief obligations under sections 5.3.2 and 5.3.3 in subsequent Market Intervals as soon as possible until Bonneville notifies the CAISO that it is no longer curtailing transmission schedules. The CAISO will also advise any interested EIM Entities that are also Bonneville transmission customers of optimal adjustments to EIM Base Schedules to assist in alleviating the constraint. If an EIM Entity is not interested in receiving these advisory optimal adjustments to EIM Base Schedules, the CAISO shall be under no obligation to provide them to that EIM Entity. The CAISO is not responsible for ensuring that EIM Entities adjust EIM Base Schedules, or otherwise managing EIM Area Total Flow.

Bonneville will adjust its planned Curtailments and Redispatch to account for the relief provided by CAISO and EIM Entity actions. For any remaining relief, Bonneville shall Curtail or Redispatch transmission schedules or resources under its Open Access Transmission Tariff. To obtain the remaining relief, Bonneville may Curtail or Redispatch transmission schedules in excess of the relief obligation stated above.

#### **5.4 Adjustment of Generation**

To mitigate the risk of excessive or inaccurate Curtailments following a contingency event that impacts Bonneville's South of Allston ("SOA") transmission path and that threatens the reliability of the interconnected transmission system, the CAISO will endeavor to dispatch available EIM Area Generation electrically south of SOA to replace generation that was lost or reduced as a result of the contingency. The dispatch of available EIM Area Generation only replaces generation an EIM Entity has not replaced through contingency reserves provided by the EIM Entity or the Northwest Power Pool or its successor. The generation that the CAISO provides under this section shall not exceed any limits that Bonneville sets pursuant to this section 5; provided, however, that Bonneville may have to waive certain limits pursuant to section 5.7 in order for the CAISO to provide effective relief under this section. The CAISO will account for the adjustments of EIM Area Generation through E-Tags as provided in its operating procedures and business practices.

If the CAISO cannot meet its obligation under this section by adjusting all available EIM Area Generation, it will advise any interested EIM Entities of

optimal adjustments to EIM Base Schedules to assist in alleviating the constraint. If an EIM Entity is not interested in receiving these advisory optimal adjustments to EIM Base Schedules, the CAISO shall be under no obligation to provide them to that EIM Entity. The CAISO is not responsible for ensuring that EIM Entities adjust EIM Base Schedules, nor will it be responsible for accounting for the change in EIM Base Schedules through the creation and submission of an E-Tag as provided in the EIM Entities' operating procedures and business practices.

**5.5 Scheduling Capability**

The CAISO will ensure that all instantaneous EIM Transfers across interties and interchanges managed by Bonneville do not exceed the scheduling limits identified on the Energy Transfer System Resources ("ETSRs") or any transmission schedules associated with those ETSRs.

**5.6 Operation of the Bonneville Transmission System and the EIM Curtailments**

Bonneville has the right to operate and provide transmission service over its transmission system in accordance with its tariff and business practices, which Bonneville may, in its sole discretion, amend or revise, and the CAISO has the right to operate the EIM in accordance with its tariff and business practices, as the CAISO may, in its sole discretion, amend or revise.

**5.7 Waiver of Limits**

Notwithstanding section 5.1 through section 5.5 above, Bonneville may allow the CAISO to: (1) manage EIM Incremental Flows in a manner that exceeds Bonneville's Upper Rate of Change Limit or Lower Rate of Change Limit; (2) operate the EIM in a manner that exceeds Managed Limits; or (3) exceed scheduling limits identified on the ETSR or any transmission schedules associated with the ETSR. Bonneville will notify CAISO of such waivers in writing or through a recorded phone line. Such waivers will be of limited duration or will only apply when certain transmission system conditions exist, and Bonneville shall not grant such waivers for commercial or market efficiency purposes. The CAISO and Bonneville shall develop procedures to waive limits that Bonneville establishes under this Agreement in order to ensure that the CAISO can meet its obligations.

**5.8 Modeling**

The CAISO and Bonneville will update, improve, and maintain the modeling of generation and transmission topology to adequately reflect the expected real-time system impacts on Bonneville's transmission system and the EIM Area based on the data and information shared pursuant to this Agreement and data and information shared through NERC and WECC reliability standards or other regulations, Peak Reliability's Universal Data Sharing Agreement or its successor, other applicable Peak Reliability policies or methodologies, and other agreements between the Parties.

**5.9 Bonneville and CAISO Rates**

Nothing in this Agreement precludes Bonneville or the CAISO from establishing rates or requirements for its transmission customers to otherwise enforce the limits on Bonneville Managed Facilities identified in this Agreement. Upon Bonneville's request, the CAISO shall provide Bonneville with available data or information associated with historical flows managed under this Agreement that reasonably assists Bonneville in assessing such rates to Bonneville's transmission customers.

**5.10 Directives or Operating Instructions**

Bonneville, as the Balancing Authority and Transmission Operator of Bonneville's transmission system, has the right to issue directives or operating instructions to the CAISO to remedy the exceedance of any limits set forth in this section 5 to ensure the reliability of the Bonneville transmission system or any other transmission facilities for which Bonneville is the Transmission Operator or to respond to a disruption of communications between Bonneville and the CAISO. The CAISO shall determine what EIM-related actions it must take to comply with Bonneville's directives or operating instructions and shall perform such actions. For any EIM disruption precipitated by a Bonneville directive or operating instruction, the Parties shall coordinate to ensure the reinstatement of EIM operations without compromising the reliability of the transmission system. The CAISO may not reinstate normal operation of the EIM on the Bonneville transmission system unless Bonneville agrees that such operation can be resumed without jeopardizing reliability.

**5.11 Implementation**

The Parties will develop operating procedures and business practices to implement the provisions of this Agreement as soon as practicable and will coordinate with EIM Entities and other impacted parties during this development process. To implement sections 5.2 through 5.4, the Parties shall hold technical discussions with EIM Entities and other impacted parties to obtain comments on the necessary procedures. The Parties shall oversee the initial development and the ongoing review of the associated operating procedures and implementation schedules, phased or otherwise.

**6. STANDARD PROVISIONS**

**6.1 Amendment**

The Parties may amend or modify this Agreement only by mutual written agreement. 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. A change in the information provided in Exhibits A, B, and C shall not constitute an amendment to this Agreement. Nothing contained herein shall be construed as affecting in any way the right of either Party to unilaterally make applications to FERC for a change in the terms and conditions of this Agreement under Section 205 or 206 of the Federal Power Act ("FPA") and pursuant to FERC's rules and regulations promulgated



thereunder, if applicable. Any change to this Agreement by amendment or application to FERC shall be subject to the procedures in section 1.2.

## **6.2 Liability**

### **6.2.1 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 the Parties that could not be avoided through compliance with mandatory NERC and WECC reliability standards. Neither Party will be considered in breach 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 requiring the Party to suspend performance of its obligations. Each Party shall each use its best efforts to mitigate the effects of an Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligations hereunder in a timely manner.

### **6.2.2 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 in this Agreement. Neither Party, its directors, officers, employees, contractors, 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 subject to applicable law.

### **6.2.3 Liability for Electric Disturbance and Interruptions**

The Parties shall plan, operate, and maintain their respective systems, consistent with mandatory NERC and WECC reliability standards, and Good Utility Practice, to minimize or avoid electric disturbances that may interfere with the system of the other Party. Each of the Parties shall protect its respective system from possible damage by reason of electric disturbance or faults caused by the operation, faulty operation, or non-operation of the other Party's facilities. Neither Party shall be liable to the other Party for any claim, demand, liability, loss, or damage, whether direct, indirect, or consequential, incurred by the Parties or their respective customers, which results from the separation of the systems in an emergency or interruption.

## **6.3 Governing Law**

This Agreement shall be deemed to be a contract made under and for all purposes shall be governed by and construed in accordance with Federal law. 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 FERC.

**6.4 Waivers**

Except as provided in section 5.7, no waiver of any provision or breach of this Agreement shall be effective unless such waiver is in writing and signed by the waiving Party. A waiver shall not be deemed a waiver of any other provision of this Agreement or any other breach of this Agreement. Non-action by the Party who has the right to make such waiver shall not be deemed a waiver.

**6.5 Notices**

Except as provided in section 5.7, all notices, requests, demands, and other communications required or permitted under this Agreement shall be in writing, unless otherwise agreed by the Parties, and shall be delivered in person or sent by certified mail, postage prepaid, by overnight delivery, or by electronic facsimile transmission with an original sent immediately thereafter by postage prepaid mail, and properly addressed to the lead representatives identified in Exhibit A. If delivered by mail, such notices shall be effective five business days following deposit in the United States mail, postage prepaid.

**6.6 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.

**6.7 Severability, Savings Clause, and Interpretation**

If any provision of this Agreement is held to be void, voidable, contrary to public policy, or unenforceable by any court or governmental agency of competent jurisdiction, that provision shall remain in force and effect to the maximum extent not prohibited by law, and all other terms of this Agreement shall not be affected thereby but shall remain in force and effect unless a court or governmental agency of competent jurisdiction holds that such provisions are not separable from all other provisions in this Agreement. The Parties agree that each Party has comparably participated in the preparation and negotiation of this Agreement such that no Party will be deemed the drafter of any term that may subsequently be found to be ambiguous or vague. Ambiguities or uncertainties in the wording of this Agreement shall be construed in a manner that most accurately reflects the purpose of this Agreement and the nature of the rights and obligations of the Parties with respect to the matter being construed.

**6.8 Section Headings**

Section headings and subheadings appearing in this Agreement are inserted for convenience only and shall not be construed as interpretations of text.

**6.9 Third Party Beneficiaries**

This Agreement is made and entered into for the sole protection and legal benefit of the Parties, and no other person or entity shall be a direct or indirect legal beneficiary of or have any direct or indirect cause of action or claim in connection with this Agreement or of any duty, obligation, or undertaking established herein.

**6.10 Entire Agreement**

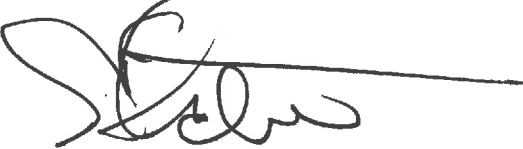
This Agreement (including any exhibits, which are part of this Agreement and are incorporated by this reference) constitutes the complete agreement between the Parties and supersedes all previous communications, negotiation, and agreements, whether oral or written, with respect to this Agreement.


**6.11 Counterparts and Signature Authority**

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. Each person signing below warrants that he or she has been duly authorized by the Party for whom he or she signs to execute this Agreement on behalf of that Party.

CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR CORPORATION

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: 

By: 

Name: Eric J. Schmitt

Name: Michelle M. Cathcart

Title: Vice President, Operations

Title: Vice President, Transmission System Operations

Date: 3/1/17

Date: 2/28/17

**EXHIBIT A  
LEAD REPRESENTATIVES**

Lead representatives for the Coordinating Committee are listed below.

**Lead CAISO Representative:**

California Independent System Operator  
Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Attention: Operations Account Executive for  
Bonneville  
Phone: (916) 351-4400

**Secondary Point of Contact:**

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

**Lead Bonneville Representative:**

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

**First Class Mail:**

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

**Overnight Delivery Service:**

Bonneville Power Administration  
905 NE 11<sup>th</sup> Avenue  
Portland, OR 97232

**EXHIBIT B  
DATA AND INFORMATION EXCHANGE**

REF #	DATA ITEM	SENDER	RECEIVER	MARKET	MARKET INTERVAL	METHOD	WHEN & HOW OFTEN	NOTES
1	Real-time Managed Limits and Actual Flows on Bonneville Managed Facilities	Bonneville	CAISO	N/A	N/A	ICCP	Real-Time	Bonneville calculates and sends these to Peak Reliability in real-time via ICCP; CAISO may retrieve these from Peak Reliability or directly from Bonneville.
2	Upper/Lower Rate of Change Limits on Bonneville Managed Facilities	Bonneville	CAISO	RTD	Advisory/Binding	EIDE	On change, at least once an hour.	If Bonneville does not send a value or CAISO does not receive it, the last value that is sent by Bonneville and received by the CAISO should be persisted.
3	Rate of Change Market Flows on Bonneville Managed Facilities	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE	every 5 and 15 minutes respectively	EIM Incremental market flows due to scheduling and dispatching of specific EIM Participating Resources compared to their corresponding submitted Base Schedules or hourly resource plan

REF #	DATA ITEM	SENDER	RECEIVER	MARKET	MARKET INTERVAL	METHOD	WHEN & HOW OFTEN	NOTES
4	Total Market Dispatch for EIM Participating Resources	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE	every 5 and 15 minutes respectively	For resources identified in section 5 of Exhibit C or other resources identified by the Coordinating Committee for reliability needs.
5	Load Forecast for each EIM Area BAA	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE	every 5 and 15 minutes respectively	
6	Adjusted Net Scheduled Interchange for each EIM Area BAA	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE	every 5 and 15 minutes respectively	
7	Resource Status for EIM Participating Resources	CAISO	Bonneville	RTD	Advisory/Binding	EIDE	every 5 minutes	For resources identified in section 5 of Exhibit C or other resources identified by the Coordinating Committee for reliability needs.
8	Generation Shift Factor for EIM Participating Resources for each Bonneville Managed Facility	CAISO	Bonneville	RTD	Binding	EIDE	every 5 minutes	For resources identified in section 5 of Exhibit C or other resources identified by the Coordinating Committee for reliability needs.

REF #	DATA ITEM	SENDER	RECEIVER	MARKET	MARKET INTERVAL	METHOD	WHEN & HOW OFTEN	NOTES
9	Upper/Lower Rate of Change Limits that CAISO is enforcing in RTD	CAISO	Bonneville	RTD	Advisory/Binding	EIDE	every 5 minutes	Allows Bonneville to verify that CAISO has received the Upper/Lower Rate of Change Limits that are actively being enforced.
10	EIM Transfers between EIM Area BAAs	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE	every 5 and 15 minutes respectively	
11	EIM Incremental Flow for each Bonneville Managed Facility and facilities listed in section 3 of Exhibit C	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE or other standard communication protocol	every 5 and 15 minutes respectively	Per section 5.1 of this Agreement
12	EIM Area Incremental Flow for each Bonneville Managed Facility and facilities listed in section 3 of Exhibit C	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE or other standard communication protocol	every 5 and 15 minutes respectively	Per section 5.3 of this Agreement
13	EIM Area Total Flow for each Bonneville Managed Facility and facilities listed in section 3 of Exhibit C.	CAISO	Bonneville	RTD/FMM	Advisory/Binding	EIDE or other standard communication protocol	every 5 and 15 minutes respectively	Per section 5.3 of this Agreement

REF #	DATA ITEM	SENDER	RECEIVER	MARKET	MARKET INTERVAL	METHOD	WHEN & HOW OFTEN	NOTES
14	EIM Area Do Not Exacerbate (DNE) Signal	Bonneville	CAISO	RTD	Advisory/Binding	EIDE or other standard communication protocol	Per the conditions listed in section 5.2 of the Agreement.	For each Bonneville Managed Facility, subject to section 5.2 of this Agreement
15	EIM Area DNE active Signal	CAISO	Bonneville	RTD	Advisory/Binding	EIDE or other standard communication protocol	every 5 and 15 minutes respectively	For each Bonneville Managed Facility, subject to section 5.2 of this Agreement. This allows Bonneville to verify that CAISO has received the EIM Area DNE signal and is actively being enforced.
16	EIM Area Total Flow Limit	Bonneville	CAISO	RTD	Advisory/Binding	EIDE or other standard communication protocol	Per the conditions listed in sections 5.3 and 5.4 of the Agreement.	For each Bonneville Managed Facility, subject to section 5.3 of this Agreement.
17	EIM Area Total Flow Limit active in RTD	CAISO	Bonneville	RTD	Advisory/Binding	EIDE or other standard communication protocol	Per the conditions listed in sections 5.3 and 5.4 of the Agreement.	For each Bonneville Managed Facility. This allows Bonneville to verify that CAISO has received the EIM Area Total Flow-Limit and is actively being enforced.



REF #	DATA ITEM	SENDER	RECEIVER	MARKET	MARKET INTERVAL	METHOD	WHEN & HOW OFTEN	NOTES
18	General Market Status	CAISO	Bonneville	RTD/FMM	N/A	EIDE or other standard communication protocol	every 5 and 15 minutes respectively	An indication that the respective market is operational, per section 4.6 of this Agreement.

The terms Real-Time Dispatch (RTD) and Fifteen Minute Market (FMM) are defined in the CAISO tariff. The Coordinating Committee may agree to add or remove data items listed in this Exhibit B. Per section 6.1 of the Agreement, such additions or removals shall not be considered an amendment to the Agreement.

**EXHIBIT C  
BONNEVILLE MANAGED FACILITIES AND OTHER FACILITIES**

**1. LIST OF BONNEVILLE MANAGED FACILITIES**

<b>BONNEVILLE MANAGED FACILITY</b>	<b>ACRONYM</b>	<b>STATE ESTIMATOR NAME</b>	<b>DSO</b>
Columbia Injection	COLINJ	COLINJ	336
North of John Day	NJD	PATH73	306
North of Echo Lake	NOEL	INTNEL	348
North of Hanford	NOH	INTNH	340
Paul - Allston	P-A	INTPA	313
Raver - Paul	R-P	INTRP	307
South of Allston*	SOA	PATH71	309
South of Custer	SOC	INTSOC	349
South of Raver	SOR	INTSOR	307
Wanapum Injection	WANINJ	WANINJ	342
Cross Cascades North	WOCN	PATH04	322
Cross Cascades South	WOCN	PATH05	324
West of John Day	WOJD	INTWJD	347
West of McNary	WOM	INTWM	316
West of Slatt	WOS	INTWS	334

Each Bonneville Managed Facility is defined in the corresponding Bonneville Dispatch Standing Order (“DSO”) or its successor. South of Allston is the only Bonneville Managed Facility subject to section 5.4 of the Agreement.

**2. ADDING OR REMOVING BONNEVILLE MANAGED FACILITIES**

Bonneville may add or remove Bonneville Managed Facilities to section 1 of this Exhibit C by providing the CAISO’s lead representative on the Coordinating Committee with at least 120 days’ written notice. Per section 6.1 of the Agreement, such additions or removals shall not be considered an amendment to the Agreement.

**3. OTHER FACILITIES WHERE CAISO WILL PROVIDE BONNEVILLE WITH EIM IMPACTS PER SECTION 5.3 OF THE AGREEMENT.**

<b>PATH/FACILITY</b>	<b>ACRONYM</b>	<b>STATE ESTIMATOR NAME</b>
California Oregon Intertie	COI	PATH66

Each path or facility listed in this section 3 of Exhibit C is defined in the WECC Path Rating Catalogue.

**4. ADDING OR REMOVING FACILITIES WHERE CAISO WILL PROVIDE BONNEVILLE WITH EIM IMPACTS PER SECTION 5.3 OF THE AGREEMENT.**

The Coordinating Committee may agree to add or remove facilities listed in section 3 of Exhibit C. These facilities may include facilities where Bonneville is not the Transmission Operator or the Transmission Provider. Per section 6.1 of the Agreement, such additions or removals shall not be considered an amendment to the Agreement.

**5. LIST OF EIM PARTICIPATING RESOURCES SUBJECT TO UPPER AND LOWER RATE OF CHANGE LIMITS<sup>1</sup>**

The following EIM Participating Resources located in the PacifiCorp-West (PACW) Balancing Authority are subject to the Upper Rate of Change Limits and the Lower Rate of Change Limits: Jim Bridger, Chehalis, Goodnoe Hills, Hermiston, Leaning Juniper, Swift, and Yale.

The following EIM Participating Resources located in the Puget Sound Energy (PSE) Balancing Authority are subject to the Upper Rate of Change Limits and the Lower Rate of Change Limits: Encogen, Ferndale, Frederickson 1 and 2, Fredonia 1 and 2, Fredonia 3 and 4, Goldendale, Mid-C (PSE share), Mint Farm, Sumas, Upper Baker 1 and 2, and Whitehorn 2 and 3.

**6. ADDING OR REMOVING EIM PARTICIPATING RESOURCES THAT ARE SUBJECT TO UPPER AND LOWER RATE OF CHANGE LIMITS.**

Bonneville may determine that certain other EIM Participating Resources not listed in section 5 of Exhibit C have a non-de minimus impact on the Bonneville transmission system. Upon such a determination, Bonneville may add those EIM Participating Resources to section 5 of Exhibit C upon 120 days' notice to CAISO. If Bonneville determines that certain EIM Participating Resources listed in section 5 of Exhibit C no longer have an impact on the Bonneville transmission system, those EIM Participating Resources will be removed from section 5 of Exhibit C. Per section 6.1 of the Agreement, such additions or removals shall not be considered an amendment to the Agreement.

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<sup>1</sup> The resources listed in this section may be part of two BAAs. Only the portion of the resource that is in the BAA specifically listed in section 5 above is subject to the Upper and Lower Rate of Change Limits. The portion of the resource that is in another BAA is not subject to the Upper and Lower Rate of Change Limits unless otherwise listed in section 5.