



Department of Energy

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EXECUTIVE OFFICE

In reply refer to: A-7

Draft EIM Close-out Letter

The Bonneville Power Administration conducted an extensive assessment and public process over the last three years to determine whether it should participate in the Western Energy Imbalance Market, one of the agency's grid modernization opportunities.

Grid modernization is central to Bonneville's strategy for commercial success. By modernizing its systems and processes, Bonneville is improving reliability, maximizing the value of the region's federal power and transmission assets, and maintaining the agency's competitive edge in the evolving marketplace. New market opportunities such as the EIM have the potential to both reduce our costs through greater efficiencies and increase our revenues by providing a new way to market surplus power.

This letter lays out the cumulative results of Bonneville's assessment, including the evaluation of customer impacts and the assessment of Bonneville's six EIM participation principles. On this path to a decision, we held 47 public workshops since June 2018 when this EIM decision process began, gaining valuable input from customers and constituents. I am encouraged by the quality of our analysis and all that we have learned through each phase of the decision process.

At this point, I am proposing that Bonneville joins the EIM in March 2022 for the reasons summarized below and set forth in the Draft EIM Close-out Letter. I invite the public to comment on our findings and conclusions to inform my proposed decision to join the EIM. My final decision will be based on the evaluation of the results of our assessment and the consideration of public input and comments.

Participation in the EIM stands to deliver a range of benefits for both power and transmission operations. At a high level, it is consistent with Bonneville's 2018–2023 Strategic Plan objective of delivering on our public responsibilities through a commercially successful business. Bonneville's EIM participation is expected to contribute to the agency's financial strength, help it preserve its competitiveness in the evolving marketplace for power products and services, and enhance transmission reliability.

Today, Bonneville holds spinning reserves, which is capacity that is set aside in case of an unexpected generation shortfall. By participating in the EIM, Bonneville would have access to an intra-hour market that would allow it to monetize this unused capacity, optimizing the value of federal hydropower. The EIM would also allow Bonneville to purchase power from other entities in the intra-hour market when that is more economical. Bonneville's participation also gives customers the option to bid their non-federal resources into the EIM, meaning they could benefit by bidding and maximizing the value of their own resource flexibility.

The EIM allows for more efficient use of the transmission system by dispatching least-cost generating resources across a much broader footprint than Bonneville's single balancing authority area. The market also meets load within the security constraints of the transmission system, meaning it stays within transmission reliability constraints. By dispatching within these constraints on a 5-minute basis, the EIM automatically and precisely manages congestion.

Today, Bonneville's primary tool for congestion management is the curtailment of customers' transmission schedules. This theoretically results in a redispatch, where the customer must find a different source of generation to serve its load, but this approach is imprecise because Bonneville does not know the location of the new source or how much congestion relief the redispatch will provide. The EIM increases visibility on the transmission system and automatically determines the least-cost dispatches that result in generation increases and decreases to precisely address congestion, offering both economic and reliability benefits.

In the three years since Bonneville began assessing its participation in the EIM, discussions about other market opportunities have emerged. Bonneville's participation in the EIM would not exclude its participation in these future opportunities. In fact, Bonneville plans to take part in the development of other markets and opportunities and will make decisions about future market participation through public processes. We remain committed to participating in the development of market proposals and ensuring we take the best steps for our customers and the region. For example, we have been participating in initial development phases of the Northwest Power Pool's Resource Adequacy program, which is a first step at establishing common resource adequacy measurements and definitions. In addition, discussions are underway about forming an organized day-ahead market in the West. Both the California Independent System Operator and Southwest Power Pool have presented initial concepts on how these markets would form. Bonneville continues to monitor and engage in discussion on these efforts.

Joining the EIM, although independent of these other regional initiatives, will give us valuable experience and insights to inform new market discussions, benefitting Bonneville, our federal partners and our customers. Improving market design is an ongoing and evolving process. As we move toward a decarbonized grid and the needs of the system evolve rapidly, we will need to decide as a region how we build off of these efforts to determine the right approach for greater regional coordination going forward. Stakeholder processes and the governance that determines outcomes will be the key to wider participation in these markets and their continued development.

The proposed decision to join the EIM comes after a thorough analysis and robust public process three years in the making. I am very confident in the analysis and appreciate the hard work of Bonneville staff, our customers and constituents throughout this effort. I look forward to reading your comments and considering your input in this important decision.

Sincerely,

/s/ John L. Hairston

John Hairston

Administrator and Chief Executive Officer

Draft Energy Imbalance Market Close-out Letter

July 2021

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ATTACHMENT A: Analysis of Revenues and Costs of Selling Into California

1 Introduction

The Bonneville Power Administration (Bonneville) has been considering whether to join the Western Energy Imbalance Market (EIM) since 2018. Bonneville established a five-phase public decision process in consultation with its customers and constituents to assess all of the important aspects of joining the EIM. This Draft EIM Close-out Letter commences the fifth and final phase of the public decision process. After consideration of public input and evaluation of Bonneville's EIM Participation Principles, Bonneville hereby proposes to join the EIM and seeks public comment on this draft decision, as further detailed in this Draft EIM Close-out Letter. Public comment is due on **August 23, 2021**. See section 4, Bonneville's EIM Decision Process.

2 Purpose and Scope of this Close-out Letter

The purpose of this Draft EIM Close-out Letter is to assess the status of the EIM and Bonneville's EIM-related decisions to date, and to determine whether a decision to join the EIM is consistent with the EIM Participation Principles that Bonneville adopted in Phase II. As Bonneville stated in its EIM Policy Record of Decision (ROD), "[i]f Bonneville decides to join the EIM, Bonneville will write a letter stating that proposed decision and setting out how that decision is consistent with Bonneville's principles for joining the EIM that were established in Phase II."¹

The public now has an opportunity to provide written comments on this Draft EIM Close-out Letter. After consideration of written comments, Bonneville will issue a Final EIM Close-out Letter that will ultimately decide whether Bonneville will join the EIM.

The primary focus of this Draft EIM Close-out Letter is on Bonneville's EIM Participation Principles and whether a decision to join the EIM meets the principles. The Principles are as follows:²

1. Bonneville's participation is consistent with its statutory, regulatory, and contractual obligations.
2. Bonneville will maintain reliable delivery of power and transmission to its customers.
3. Bonneville's participation is discretionary and Bonneville retains its ability to effectively exit the market in the event participation is no longer consistent with these principles.

¹ EIM Policy ROD at 33. The EIM Policy ROD can be accessed at: <https://www.bpa.gov/news/pubs/RecordsofDecision/rod-20190926-Energy-Imbalance-Market-Policy.pdf>.

² *Id.* at 53-54.

4. Bonneville's participation is consistent with a sound business rationale.
5. Bonneville's participation is consistent with the objectives of Bonneville's Strategic Plan.
6. Bonneville's evaluation of EIM participation includes transparent consideration of the commercial and operational impacts on its products and services.

As part of this assessment, Bonneville has considered whether there have been any significant changes to the structure of the EIM or underlying facts since the earlier phases of this decision process. The assessment of changes is contained in section 5 of this letter.

The scope of this letter and what Bonneville seeks comment on is limited to the assessment of the EIM Participation Principles and Bonneville's proposed decision to join the EIM. In Phases II, III, and IV, Bonneville made various decisions related to its potential participation in the EIM. Bonneville characterized many of those decisions as final, and Bonneville does not intend to revisit those decisions unless a significant underlying fact that impacts the decision has changed. Bonneville has not identified any basis to reconsider its past EIM-related decisions and this letter sets out a description of those past decisions for the sole purpose of consolidating Bonneville's EIM-related decisions into a single document.

3 Energy Imbalance Market

The EIM is an intra-hour (or real-time) centralized energy market used to economically dispatch Participating Resources to balance supply, transfers between balancing authority areas (interchange), and load across the market's footprint. It does so while simultaneously ensuring generation and transmission limitations are respected. For balancing authorities in the EIM (EIM Entities), the EIM is integrated into the Energy Imbalance and Generation Imbalance services provided under the EIM Entities' respective Open Access Transmission Tariffs. In joining the market, EIM Entities revise the imbalance service provisions of their respective tariffs. They also change the method for charging or paying for imbalance services. Instead of using an index or opportunity cost, the EIM uses Locational Marginal Pricing (LMP) and Load Aggregation Points (LAP). An LMP is the marginal cost (\$/megawatt-hour) of serving the next increment of demand at a particular point consistent with existing transmission constraints and the performance characteristics of the resource. An LAP is a weighted average of multiple locational marginal price nodes used for the settlement of non-participating load imbalance in an EIM Entity's balancing authority area. The EIM is operated by the California Independent System Operator (CAISO, also known as the Market Operator or MO), and is an extension of the CAISO's real-time market.

The EIM was introduced in the Pacific Northwest in 2014 through the joint efforts of PacifiCorp and the CAISO. Since then, many other regional balancing authorities have joined, including Idaho Power, Northwestern Energy, Portland General Electric, Puget Sound Energy, and Seattle City Light. A number of other regional utilities will be joining in the near future, including Avista Utilities (2022) and Tacoma Power (2022).

4 Bonneville's EIM Decision Process

In July of 2018, Bonneville embarked on a multi-year series of incremental decisions that would culminate in the ultimate decision whether to join the EIM with a projected go-live of March 2, 2022. This series of decisions was designed to determine how Bonneville would participate in the EIM and how that participation would affect other parties doing business with Bonneville.

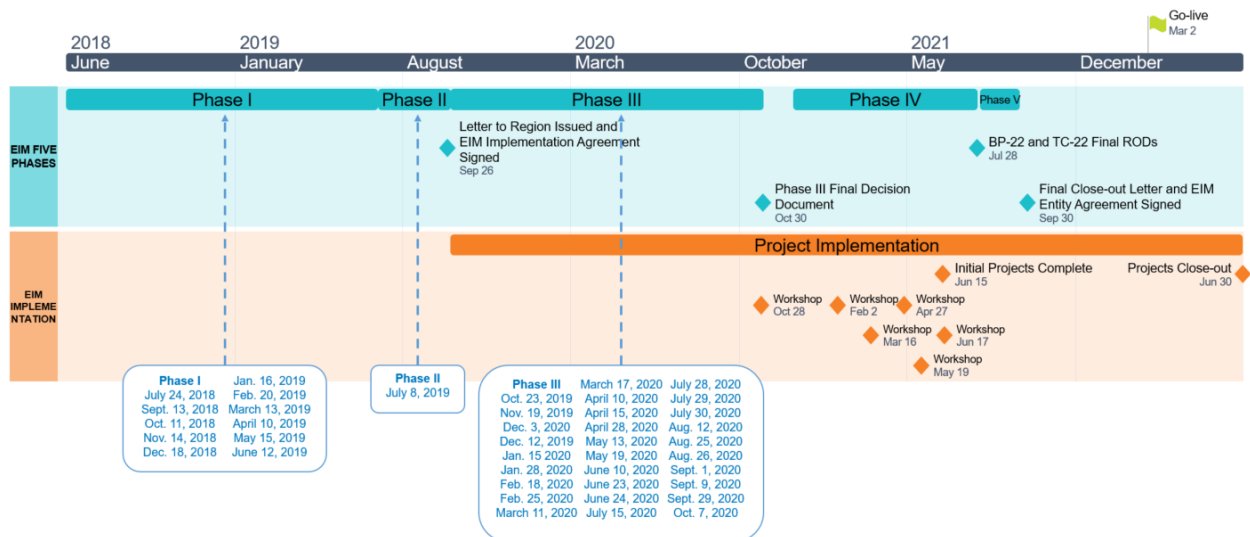
Bonneville developed a five-phase approach to making the incremental decisions. Through these phases, Bonneville has decided many details about how it would participate in the EIM and how to implement its participation in the EIM with regard to Bonneville's customers. The five phases of Bonneville's decision process are:

1. Phase I – Exploration from July 2018 through June 2019;
2. Phase II – Implementation Agreement, EIM principles, and some policy decisions from June 2019 through September 2019;
3. Phase III – Additional policy decisions from October 2019 through October 2020;
4. Phase IV – Rate and Tariff Proceeding from December 2020 through July 2021;
5. Phase V – Close-out Letter from July 2021 through September 2021.

Bonneville has engaged in a robust public process. During each phase of the process, Bonneville held workshops to discuss how it would operate and participate in the EIM. This included issues such as which federal hydro projects it planned to bid the output of into the EIM to how to allocate charges among Bonneville transmission customers. After each workshop, public comment was encouraged on the policy proposals to help shape Bonneville's policies for participating in the EIM. When possible, Bonneville made final decisions on these policy issues at the end of each phase, adopted in final decision documents and the final rates and tariff records of decision.

Bonneville held 41 workshops over the first three phases of its EIM decision process. In addition to these workshops, Bonneville ran an additional process to discuss how policies and decisions from Phases III and IV would be implemented. The EIM implementation process included an additional six workshops.

The blue segment in the figure below shows the timeline of the five-phase EIM decision process and lists the dates of Bonneville’s public workshops to discuss various EIM-related topics. The orange segment shows Bonneville’s EIM project implementation timeline and public workshops in that process, which is related to but separate from the five-phase EIM decision process.



The following subsections describe each phase and list all of the decisions made in Phases II–IV of Bonneville’s decision process.³ As noted above, these decisions have already been made and are restated here for the purpose of consolidating Bonneville’s decisions in a single location. Bonneville is not revisiting decisions made in earlier phases.

4.1 Phase I – Exploration (July 2018 to June 2019)

Phase I was EIM exploration for Bonneville and its customers and constituents. During this phase, Bonneville and its customers and constituents were learning about the mechanics of the EIM and exploring details and nuances related to joining and participating in the EIM. During the exploration phase, from July 2018 through June 2019, Bonneville held monthly public meetings on particular topics related to the EIM. Bonneville sought informal comment from the public, and those comments were addressed verbally at subsequent public meetings or one-on-one with the commenter.

The topics discussed in the meetings during the exploration phase included the following:

1. Treatment of Transmission;
2. Generation Participation Model (Federal Columbia River Power System);

³ Note that Phase I was an exploratory phase and no decisions were made in Phase I.

3. EIM Governance;
4. Cost-Benefit Analysis;
5. Balancing Authority Area Resource Sufficiency;
6. EIM Settlements;
7. Use of Reliability Tools such as Operational Controls for Balancing Reserves (OCBR) and Oversupply Management Protocol (OMP);
8. Load Zone;
9. Market Power and Default Energy Bid (DEB);
10. Carbon Obligation in the EIM;
11. Relationship of the EIM to other Emerging Markets.

The materials presented at those meetings and comments received are posted at www.bpa.gov/goto/eim. In addition to the monthly public meetings, Bonneville staff met frequently with customers and constituents who requested meetings to discuss specific issues of interest to them during the exploration phase. No decisions were made during Phase I; however, valuable learning and discussion occurred to prepare Bonneville and its customers and constituents for Phase II.

4.2 Phase II – Implementation Agreement and High-Level Issue Analysis, Including Decisions on Overarching Principles for Joining the EIM, and Decisions on Several Policy and Legal Issues (June 2019 to October 2019)

4.2.1 Overview

Phase II was initiated with the publishing of the Phase II proposal on June 20, 2019. That proposal, along with public comments and Bonneville’s responses, were contained in the EIM Policy ROD issued on September 26, 2019. The EIM Policy ROD included an EIM Implementation Agreement, a discussion of Bonneville’s legal authority and business reasons for considering joining the EIM, principles that Bonneville would follow throughout the EIM decision-making process, and policy decisions on certain issues that had been discussed with customers and constituents during Phase I.

4.2.2 Phase II Decisions

Bonneville made the following decisions in Phase II.

4.2.2.1 Legal Authority

Bonneville set out its legal assessment and determined that joining the EIM is within the scope of its legal authority.⁴

4.2.2.2 Business Case

Bonneville assessed the benefits and costs of joining the EIM and determined that the business case supports joining the EIM.⁵

4.2.2.3 EIM Participation Principles

Bonneville adopted the six EIM Participation Principles listed above in section 2. Bonneville committed to ensuring it would only join the EIM if doing so would be consistent with these principles.⁶

4.2.2.4 Policy Decisions

Bonneville made policy decisions on the following topics:

1. Federal Generation Participation Model;
2. Transmission Usage – Interchange;
3. System Operations Tools;
4. Carbon Obligations and related considerations;
5. Market Power (LMPM and DEB);
6. Load Aggregation;
7. Resource Sufficiency – Balancing Authority Area Level.

4.2.2.4.1 Federal Generation Participation Model

Bonneville concluded that, if it joins the EIM, it will initially participate with the “Big-10” federal hydroelectric dams aggregated into three resource groups.⁷

4.2.2.4.2 Transmission Usage – Interchange

With respect to transmission usage in the EIM, Bonneville concluded that it will retain section 14(b) of the EIM Implementation Agreement, and will determine how to make transmission available for EIM Transfers.⁸ Bonneville will adopt the Interchange Rights Holder Methodology for making transmission available for EIM Transfers between balancing authority areas. Within Bonneville’s balancing authority area, transmission will continue to be available for balancing without advance reservation or donation.

⁴ EIM Policy ROD § 3.2.

⁵ *Id.* § 3.4.

⁶ *Id.* § 3.1.

⁷ *Id.* § 3.5.1.1.

⁸ *Id.* § 3.5.2.1.

4.2.2.4.3 System Operations Tools

Bonneville concluded it will maintain its current suite of operational tools used to manage the federal power and transmission systems if it becomes an EIM Entity.⁹

4.2.2.4.4 Carbon Obligations and Related Matters

Bonneville concluded that its policy on carbon in the EIM would be to opt out of selling directly into California via the EIM unless Congress grants Bonneville the authority to directly purchase allowances under California and other state carbon programs.¹⁰

Bonneville also stated that if Congress authorizes Bonneville to purchase allowances and Bonneville therefore is able to sell directly into California in the EIM, Bonneville would evaluate whether direct sales to California were cost effective based on current circumstances at that time.¹¹

An update on this issue is contained in section 5.2.3.

4.2.2.4.5 Local Market Power Participation/Default Energy Bid

Bonneville concluded that the enhancements to the CAISO's Local Market Power Mitigation (LMPM) procedures filed in the summer 2019 with the Federal Energy Regulatory Commission (FERC) for approval were sufficient to address Bonneville's concerns regarding the current LMPM procedures. Bonneville committed to continue to monitor the progress of the enhancements through FERC's approval process and CAISO's implementation process. Bonneville further noted that if the proposed enhancements were not approved or were substantially revised by FERC such that Bonneville's concerns were no longer addressed, Bonneville would seek to negotiate a Default Energy Bid (DEB) specific for Bonneville and would reconsider whether (or how) it would join the EIM if a negotiated DEB was unacceptable.¹²

An update on this issue is contained in section 5.2.5.

4.2.2.4.6 Load Aggregation

Bonneville concluded that it will initially have one Load Aggregation Point.¹³

4.2.2.4.7 Resource Sufficiency

Bonneville concluded that the CAISO's resource sufficiency requirements were not an impediment to Bonneville participating in the EIM.¹⁴ Modifying the CAISO's resource sufficiency rules, except as provided in section 14(h)(ii) of the EIM Implementation

⁹ *Id.* § 3.5.3.1.

¹⁰ *Id.* § 3.5.4.1.

¹¹ *Id.* § 3.5.4.2.

¹² *Id.* § 3.5.5.1.

¹³ *Id.* § 3.5.6.1.

¹⁴ *Id.* § 3.5.7.1.

Agreement, is not an appropriate approach to ensure Bonneville is compensated for capacity.¹⁵

4.2.3 EIM Implementation Agreement

An EIM Implementation Agreement is the first in a series of agreements necessary for EIM participation. The EIM Implementation Agreement sets forth a high-level project plan and schedule that includes the steps that a balancing authority and the CAISO must take in order for a balancing authority to participate in the EIM. Execution of an EIM Implementation Agreement does not obligate a balancing authority to participate in the EIM.

As part of the EIM Policy ROD, Bonneville made a decision to sign an EIM Implementation Agreement concurrent with execution of the ROD.¹⁶ As summarized below, since execution of the EIM Implementation Agreement, Bonneville and the CAISO have been working on the technical systems and processes necessary for Bonneville to participate in the EIM.

The EIM Implementation Agreement included a section (section 14) of principles and commitments specific to Bonneville. These are also discussed below in section 4.2.3.2.

4.2.3.1 Summary of EIM Integration Efforts

As of the publication of this Draft EIM Close-out letter, Bonneville and the CAISO have completed the work necessary to identify and configure the data associated with the Federal power and transmission systems that will be modeled and used for EIM participation. Moreover, the software, systems, and processes necessary for bidding, base scheduling, operations, and settlements have been developed and are being tested. Metering setup, EIM Transfer design, and interchange configuration for EIM operation and settlements has also been completed. Bonneville has also scoped post go-live actions and organizational responsibilities to provide ongoing support and enhancement of EIM participation.

Presently, Bonneville is implementing a comprehensive internal training program and targeted external training for its customers. Bonneville also continues to test its systems and processes for market preparedness. This testing includes connectivity, integration, and functional testing of systems and processes for EIM participation.

Future work will focus on putting all these systems together in various comprehensive testing phases. The CAISO and Bonneville have scheduled “Day-in-the-Life” testing during the month of September 2021. This will assure Bonneville’s ability to perform sequentially all the functions and processes necessary to participate in the EIM. In October and November of 2021, assuming Bonneville makes a decision to join the EIM, Bonneville and

¹⁵ *Id.*

¹⁶ *Id.* § 4.2.1.

the CAISO will then progress into “Market Simulation” testing using structured and unstructured scenarios to test the robustness and integration of the systems and processes necessary for market participation. In December of 2021, Bonneville and the CAISO will transition to “Parallel Operations” testing where Bonneville will be testing its systems using duplicated live production data feeds into the test environment, which will culminate in the CAISO certifying Bonneville’s market readiness to FERC.

4.2.3.2 Bonneville-Specific Provisions in the EIM Implementation Agreement

Section 14 of the EIM Implementation Agreement contains several provisions specific to Bonneville in terms of principles or commitments. Each of these principles or commitments, and the resolution of the commitments where applicable, are addressed below.

1. *Statutory, Regulatory, and Contractual Requirements.* This provision provides that Bonneville’s EIM implementation and participation is consistent with its statutory, regulatory, and contractual requirements. As discussed in section 7.1, Bonneville has determined that it can participate in the EIM in a manner consistent with its statutory, regulatory, and contractual commitments.
2. *Voluntary Market Participation.* This provision provides that Bonneville’s EIM participation will be predicated on rules allowing voluntary market entry and exit; voluntary submission of bids, offer volumes, and pricing; voluntary donation of transmission for EIM Transfers; and the ability to voluntarily forego EIM Transfers in one or more operating intervals consistent with the CAISO and Bonneville tariffs.

While loads and resources in an EIM Entity balancing authority area are subject to imbalance charges and other market adjustments, participation in the EIM is still voluntary as set forth in the CAISO’s tariff and its agreements with EIM Entities and Participating Resources. First, participants with Participating Resources are under no obligation to submit bids into the market or submit bids at a certain price, and can unilaterally choose to no longer be a Participating Resource with no fee or penalty. Second, transmission customers are under no obligation to donate transmission. Finally, an EIM Entity can unilaterally choose to forego EIM Transfers for a specified period of time, or stop participating in the EIM altogether and withdraw with no exit fee or penalty.

3. *Reliability and Operation of the Federal Power and Transmission Systems.* This provision affirms Bonneville’s authority over matters relating to reliability and operation of the Federal Columbia River Power System and Federal Columbia River Transmission System. EIM participation will not change Bonneville’s responsibility to operate the Federal power and transmission systems in a

reliable manner. Moreover, as set forth in the EIM Policy ROD, Bonneville will retain its existing reliability tools during market participation.¹⁷

4. *Federal Generation Participation.* This provision proposed to allow Bonneville to utilize the CAISO's resource aggregation models for EIM participation. In the EIM Policy ROD, Bonneville made a decision to aggregate its system into three aggregation zones (Lower Columbia, Upper Columbia, and Snake River) for EIM participation.¹⁸ Bonneville and the CAISO have set up their respective systems and processes to utilize these three aggregation zones for Bonneville's "Big-10" projects. Schedule 1 of the Participating Resource Agreement between Bonneville and the CAISO will specifically identify Bonneville's resource aggregation models.
5. *Automation Support.* This provision states that the CAISO will provide technical support as Bonneville works to automate many of the interactions with existing EIM interfaces during the implementation phase. Bonneville identified the following interactions for potential automation: declaring contingency events, manual dispatches, load biasing, and setting EIM transmission interface operating limits. Bonneville appreciates the CAISO's collaborative effort to develop and deliver new automation to address Bonneville's real-time integration needs. As described in section 5.2.9.3, this effort has resulted in four new interfaces to the CAISO's EIM operations portal that will benefit Bonneville and other market participants.
6. *Greenhouse Gas Attributes.* This provision provides that if Bonneville allows FCRPS energy to be delivered directly to California in the EIM, those deliveries would be consistent with California's Cap and Trade program and may include Bonneville's status as an Asset Controlling Supplier (ACS). The CAISO has continued to recognize Bonneville's ACS status, which Bonneville may utilize if it makes a decision to participate in the EIM.
7. *Base Schedule Submission Timeframes.* This section covers the CAISO's process to change the market closing timeline for financially binding hourly resource plans from T-40 to T-30, which the CAISO did by initiating a stakeholder process in September 2020.¹⁹ The CAISO Board of Governors adopted the policy proposal

¹⁷ *Id.* § 3.5.3.

¹⁸ *Id.* § 3.5.1.

¹⁹ For more information of the CAISO stakeholder process, see <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Western-EIM-base-schedule-submission-deadline>.

and authorized a FERC filing, which the CAISO made on January 27, 2021²⁰ and amended on March 25, 2021.²¹ FERC issued an order accepting the CAISO's proposed edits on April 30, 2021.²²

8. *Consideration of Other EIM Enhancements.* This section includes four potential enhancements that Bonneville has proposed in the CAISO policy-making process. While Bonneville stated that its participation was not expressly contingent upon these enhancements, it believes they are important enhancements to the EIM that should be considered by the CAISO. These enhancements include:

a. *Improving the accuracy of hourly resource plans.* This section's focus is on certain market design enhancements that would improve the accuracy of hourly resource plans and, in turn, help EIM Entities meet their respective resource sufficiency obligations.

As part of the Market Enhancements for Summer 2021 Readiness Initiative, the CAISO has proposed, adopted, and filed with FERC certain enhancements to improve the accuracy of the resource sufficiency evaluation.²³ Additionally, the CAISO has committed to undertake a policy initiative to comprehensively review and enhance the resource sufficiency evaluation in 2021 for implementation before the summer of 2022.²⁴ The CAISO initiated this process, the "EIM Resource Sufficiency Evaluation Enhancements Initiative," in June of 2021.

b. *Permit resource sufficiency obligation transfers, e.g., bid range transfers.* This section focuses on allowing an EIM Entity to bilaterally negotiate a transfer of capacity to another EIM Entity to help the latter Entity meet its resource sufficiency obligations.

²⁰ CAISO, FERC Docket No. ER21-955-000, Transmittal Letter (Jan. 27, 2021), available at <http://www.caiso.com/Documents/Jan27-2021-TariffAmendment-EIM-Enhancements-Real-Time-Settlements-and-BaseScheduleTimelines-ER21-955.pdf>.

²¹ CAISO, FERC Docket No. ER21-955-001, Transmittal Letter (Mar. 25, 2021), available at <http://www.caiso.com/Documents/Mar25-2021-Amendment-TariffChanges-EIM-Enhancements-Real-TimeSettlements-BaseScheduleEnhancements-ER21-955.pdf>.

²² CAISO, 175 FERC ¶ 61,096, at P 27 (2021).

²³ For more information regarding the CAISO's summer readiness initiative, see <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Market-enhancements-for-summer-2021-readiness>.

²⁴ See CAISO, FERC Docket No. ER21-1536, Transmittal Letter at 3-4 (Mar. 26, 2021), available at <http://www.caiso.com/Documents/Mar26-2021-Tariff-Amendment-2021SummerReadiness-ER21-1536.pdf>. The CAISO commits to a further, more comprehensive process on resource sufficiency later in 2021 in its FERC filing.

This policy enhancement has been deferred, allowing the CAISO to focus on reliability matters for the summer of 2021. Prior to deferment, the CAISO had recognized this as a potential future market enhancement.

- c. *Improve the flexible ramping sufficiency test.* This section focuses on enhancements improving the flexible ramping sufficiency test, such as the incorporation of variable energy resource forecasts into the flexible ramping requirement computation.

An enhancement to improve the flexible ramping sufficiency test is in the implementation stage and will be included in one of the CAISO's future software releases. Additionally, as discussed above, the CAISO has committed to undertake a policy initiative to comprehensively review and enhance resource sufficiency. As stated above, CAISO initiated its EIM Resource Sufficiency Evaluation Enhancements Initiative in June of 2021 to further address this item.

- d. *Increase transparency of data required for validation of EIM settlement statements.* This section focuses on exploration of appropriate methods for the CAISO to share additional market data with EIM Entities to allow them to fully validate the EIM settlement statements they receive from the CAISO.

The CAISO initiated a Real-Time Settlement Review stakeholder initiative in August of 2020.²⁵ A component of that initiative focused on improving the quality and transparency of the CAISO's settlement process through the publication of metrics such as 1) Imbalance Energy and Financial Value Settlement; 2) Real-Time Congestion Comparison; and, 3) Real-Time Offset Comparison.²⁶ The CAISO provides these metrics today in its Market Performance and Planning Forum.²⁷

²⁵ See <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Real-time-settlement-review>.

²⁶ *Draft Final Proposal, Real-Time Settlement Review*, at 5-8, available at <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-Real-TimeSettlementReview.pdf>.

²⁷ For example, see <http://www.caiso.com/Documents/Presentation-MarketPerformance-PlanningForum-Mar4-2021.pdf>, slide 62. While Bonneville is pleased with the CAISO's effort to provide better quality and transparent market settlement information, this is an area where Bonneville encourages the CAISO to continue improving. For example, Bonneville believes that the CAISO should provide more information regarding the Imbalance Energy and Financial Value Settlement metric.

4.3 Phase III – Additional Policy Decisions (October 2019 to October 2020)

4.3.1 Overview

Phase III encompassed the policy development that occurred between October 2019 and the beginning of the BP-22 and TC-22 proceedings. This involved multiple workshops in which Bonneville discussed EIM policy details with customers and constituents, and used the feedback from those workshops to develop policy decisions and proposals on details of how Bonneville will participate in the EIM, if it ultimately decides to join the EIM. Many of these policies required rate changes or tariff language and were thus further developed in the BP-22 or TC-22 processes (Phase IV).

Bonneville identified four discrete policy issues that did not implicate rate or tariff changes, and proposed its decisions on these issues in a Phase III Draft Decision Document. Bonneville received public comments on those proposed decisions and issued a Phase III Final Decision Document addressing comments and providing Bonneville’s final decisions on the four Phase III issues.²⁸

4.3.2 Phase III Decisions

Bonneville made the following policy decisions in Phase III.

4.3.2.1 Sub-Allocation of Balancing Authority Area Resource Sufficiency Requirements

Bonneville determined that it will not adopt any sub-balancing authority area allocation of resource sufficiency requirements for the start of EIM participation.²⁹

4.3.2.2 Non-Federal Resource Participation

Bonneville determined that it will not include in its Tariff language a delay of the application process for non-Federal Participating Resources.³⁰

4.3.2.3 Metering Requirements

Bonneville determined that no further action is necessary for generators or loads in Bonneville’s balancing authority area to comply with the CAISO’s metering requirements if Bonneville decides to participate in the EIM.³¹

²⁸ Phase III Final Decision Document, available at <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/EIM%20Phase%20III%20Final%20Decision%20Document.pdf>.

²⁹ *Id.* § A.

³⁰ *Id.* § B.

³¹ *Id.* § C.

4.3.2.4 EIM Losses

Bonneville stated that it will determine the loss factor/percentage used for EIM participation as an internal implementation issue if Bonneville decides to join the EIM.³² Bonneville worked with the CAISO to establish the option to not settle Unaccounted for Energy (UFE),³³ which is included in the CAISO's Real-Time Settlements Initiative scheduled for late 2021 or early 2022 implementation. By not settling UFE, the effective loss factor/percentage is 0%. This is an appropriate path forward and allows Bonneville to avoid the UFE charge code entirely. Thus, Bonneville's EIM settlement would more closely align with its commercial and operational practices.

4.3.2.5 Phase V Timeline

In the Phase III Final Decision Document, Bonneville identified and explained a necessary adjustment to the timing of Phase V of the EIM decision process. When Bonneville originally set out the decision process timeline in Phase II, Bonneville had identified the timeframe for Phase V would be October 2021 to December 2021. However, after discussion with the CAISO about the timing necessary to begin operation in the EIM by March of 2022, Bonneville learned that it would need to complete its EIM decision process and sign its EIM Entity agreement two months sooner than originally expected, by October 1, 2021. Accordingly, Bonneville adjusted its Phase V timeline to July of 2021 through September 30, 2021.

4.4 Phase IV – Rate and Tariff Proceeding (December 2020 to July 2021)

4.4.1 Overview

The goal of Phase IV was to implement the policy decisions made in Phases II and III through the TC-22 Tariff Terms and Conditions proceeding and the BP-22 Rate Case proceeding. The TC-22 proceeding established EIM-related terms and conditions that are now part of Bonneville's Tariff and will apply to Bonneville's customers. The BP-22 rate proceeding established the EIM-related rates and cost allocations that will apply to Bonneville's customers. The EIM terms and conditions and the applicable rates associated with EIM participation will not become effective until after Bonneville decides to join the EIM.

4.4.2 Tariff Terms and Conditions Case (TC-22)

4.4.2.1 Overview

In the TC-22 proceeding, Bonneville established the EIM-related terms and conditions in the event that it ultimately decides to join the EIM. In large part, Bonneville proposed to adopt the same EIM-related terms and conditions that other EIM Entities have employed.

³² *Id.* § D.

³³ The Unaccounted For Energy option is discussed further below in section 5.2.9.1.

Bonneville substantively diverged from the terms and conditions of other EIM Entities in the following key ways:

- Allow entities to participate with aggregated resources that they market, but do not own or operate;
- Identify the Bonneville Variable Energy Resource Forecast as the baseline from which to measure imbalance for variable energy resources;
- Allow Transmission Customers to donate non-firm point-to-point transmission to the EIM;
- Modify the process for donations of transmission to accommodate Bonneville handling the downstream processes of managing the associated limits and EIM Transfer schedules;
- Clarify that, in the event of a contingency, Bonneville retains all corrective actions available to it today as well as the ability to request the Market Operator prevent EIM Transfers and suspend EIM Settlements during the contingency;
- Adjust outage-related provisions to refer to Bonneville’s current outage planning and coordination policy.

4.4.2.2 Tariff Case Decision

In the TC-22 Administrator’s Record of Decision (TC-22 Final Tariff ROD), the Administrator adopted staff’s proposal for the EIM-related terms and conditions to be added to the Tariff.³⁴

4.4.3 Rate Case (BP-22)

4.4.3.1 Overview

Bonneville’s decision to join the EIM affects rates in two ways. First, Bonneville, through Transmission Services, will become an EIM Entity Scheduling Coordinator (EESC). The EESC is the entity that interacts with the CAISO and is financially responsible for the imbalance caused by all non-participating loads, non-participating resources, and interchange in its balancing authority area. The CAISO will charge or pay Transmission Services for EIM activities relating to loads, resources, or interchanges in the Bonneville balancing authority area through a series of EIM “charge codes.” In the BP-22 rate proceeding, Bonneville developed rate proposals and rate schedule language to settle with its customers (including Power Services) for relevant EIM-related activity.

³⁴ Administrator’s Final Record of Decision, TC-22-A-03.

Second, Bonneville, through Power Services, will become a “Participating Resource Scheduling Coordinator” (PRSC). Power Services (as the PRSC) will be offering Federal generation to the EIM as a Participating Resource. Like an EESC, a PRSC contracts directly with the CAISO. The CAISO will economically dispatch Power Services’ Participating Resources in the EIM consistent with the price curves and dispatch limits included in Power Services’ bids. These dispatches result in EIM charges or credits from the CAISO. The allocation of these charges and credits among Bonneville’s power rate cost pools and a forecast of the estimate of the net benefit to power rates for EIM participation for the FY 2022–2023 period are addressed in the BP-22 Rate Case.

4.4.3.2 Rate Case Decisions

In the BP-22 Administrator’s Record of Decision (BP-22 Final ROD), the Administrator adopted staff’s proposal for the allocation of EIM charge codes among customers.³⁵

In addition, the Administrator adopted in the BP-22 Final ROD, staff’s proposed allocation of EIM costs and benefits among Slice and Non-Slice cost pools.³⁶ The Administrator also adopted staff’s proposal to set EIM benefits equal to the EIM Start-up/Implementation costs functionalized to Power Services for the first 19 months of EIM participation.³⁷

4.5 Phase V – Close-out Letter (July 2021 through September 2021)

For Phase V, Bonneville assessed whether joining the EIM meets the EIM Participation Principles and whether any significant underlying facts or structure of the EIM have changed that require revisiting prior decisions. This Draft EIM Close-out Letter sets out Bonneville’s assessment and its proposed decision to join the EIM. The public has through **August 23, 2021**, to comment on this proposed decision. Bonneville will respond to the comments it receives and set out its decision whether it will join the EIM in the Final EIM Close-out Letter. Bonneville expects to publish the Final EIM Close-out Letter at the end of September 2021.

5 Assess Changes

5.1 Overview

Throughout the EIM Policy ROD, Bonneville committed to consider updated information and changes in policies, rules, and structure of the EIM for consistency with its EIM Participation Principles.³⁸ The commitment to review new and updated information

³⁵ Administrator’s Final Record of Decision, BP-22-A-02, at 8, 11.

³⁶ *Id.* at 8.

³⁷ *Id.*

³⁸ See EIM Policy ROD at 38 (“If that information materially changes by Phase V of this decision-process, due to decisions Bonneville makes or other aspects outside of Bonneville’s control, Bonneville will consider that

ensures that as Bonneville prepares to make its final decision to join the EIM it has flexibility to “modify” any of its prior decisions “to address new facts and circumstances.”³⁹ Bonneville also decided that it would “review the legal and business implications of any significant changes in underlying facts or in the way the EIM operates during Phase V, when it assesses whether all decisions are consistent with the legal and business principles, as well as the other principles discussed in [the EIM Policy ROD].”⁴⁰

This section of the Draft EIM Close-out Letter identifies the major or notable “new facts” or “circumstances” that have occurred since the EIM Policy ROD was developed. A brief description of each event or fact is provided along with Bonneville’s assessment of whether the noted change requires additional evaluation in light of Bonneville’s principles. To the extent any of these changes relate to those principles, Bonneville will describe why it believes the new fact or circumstance does or does not require revisiting the prior EIM-related decisions.

5.2 Notable Changes

5.2.1 Governance Developments

The EIM Policy ROD contained a full analysis of the EIM governance structure and concluded that “[t]he current EIM governance structure is not a barrier to Bonneville joining the EIM, but Bonneville will continue to seek improvements in collaboration with its customers.”⁴¹

In early 2020, the CAISO Board of Governors (BOG) and EIM Governing Body initiated the Governance Review Committee (GRC). The GRC was charged with a full review of the EIM governance structure in view of market expansion, as well as development of a governance framework for a potential Extended Day Ahead Market (EDAM). The GRC is made up of 14 representatives from across the EIM footprint (including California). Bonneville and the Northwest are well represented with active GRC members.

The EDAM stakeholder initiative was put on hold to allow the CAISO to address more immediate changes needed to prepare for reliable operations for summer 2021. As such, the scope of the GRC work for the time being was limited to consider appropriate changes to the governance structure of the EIM only. The GRC took multiple rounds of comments in the process of developing a comprehensive straw proposal for changes to EIM governance. The process for the GRC’s Final Proposal was that it would go to the BOG and EIM Governing Body for joint consideration. If both bodies approved the proposal, the

updated information as it evaluates whether joining the EIM is consistent with its legal and business principles.”); *see also id.* at 40.

³⁹ *See id.* at 40.

⁴⁰ *Id.* at 48.

⁴¹ *Id.* at 92.

recommendations would be codified in governing documents that would be subject to the EIM Governing Body's advisory input and BOG approval.

The GRC's proposal contained six parts: 1) delegation of authority; 2) selection of EIM Governing Body members; 3) EIM Governing Body meetings and engagement with stakeholders; 4) other potential areas for EIM Governing Body involvement, which include the annual policy initiative roadmap, Department of Market Monitoring, Market Surveillance Committee, EIM Governing Body market expert, and funding technical assistance for the Body of State Regulators; 5) EIM Governing Body mission statement; and 6) other topics. The GRC presented parts 2 through 6 of its proposal⁴² to the EIM Governing Body and BOG, which approved the proposals on May 6. These proposals were generally supported by all stakeholders and included definite improvements to the governance structure, such as, expanding the scope of issues addressed by the Regional Issues Forum (RIF), formalizing direct communication between the RIF and the EIM Governing Body and BOG, and funding a market expert to support the EIM Governing Body.

The first part of the GRC's proposal on delegation of authority has been more controversial, and the GRC held an additional process to refine its proposal before submitting it to the EIM Governing Body and BOG. Under the current EIM governance structure, the BOG has delegated authority to the EIM Governing Body that establishes the EIM Governing Body's role in deciding different types of issues. Each issue to be decided is designated early in the process as subject to the EIM Governing Body's primary authority, advisory authority, or no authority. The EIM Governing Body has primary authority over issues that are EIM-specific. Under primary authority, the EIM Governing Body issues a decision that is then put on a consent agenda for the BOG, with the BOG having ultimate authority to approve or remand the EIM Governing Body's decision. The EIM Governing Body has advisory authority over issues that are generally applicable to the CAISO and the EIM. Under advisory authority, the EIM Governing Body may provide advice for the BOG to consider. Issues that do not impact the EIM do not go to the EIM Governing Body. The EIM Governing Body and the BOG currently meet separately, and there is limited interaction between the two entities.

The GRC advanced a proposal⁴³ for joint authority that is a significant change to the current structure. Under the joint authority proposal, the EIM Governing Body and BOG would meet together to decide all rules applicable to the EIM Entity balancing authority areas,

⁴² *Western EIM Governance Review, Governance Review Committee Part One Draft Final Proposal*, CAISO (Apr. 12, 2021), available at http://www.caiso.com/InitiativeDocuments/PartOneDraftFinalProposal_EIMGovernanceReview.pdf.

⁴³ *Western EIM Governance Review, Governance Review Committee Part Two Draft Final Proposal*, CAISO (July 19, 2021), available at <http://www.caiso.com/InitiativeDocuments/Decision-EIM-Governance-Review-Committee-Part-Two-Draft-Final-Proposal-July-19-2021.pdf>.

EIM Entities, or other market participants within the EIM balancing authority areas in their capacity as participants in the EIM. The EIM Governing Body and BOG would each vote separately—with a majority of each required to approve a proposal—but the joint meeting would allow for sharing perspectives and would enhance the influence of the EIM Governing Body on the outcome of issues. While the CAISO asserts that California law requires the BOG to retain ultimate approval authority, the proposed joint authority model represents progress towards independent governance. At its upcoming August 2 meeting, the GRC is expected to approve its Joint Authority proposal and is expected to ask the EIM Governing Board and BOG to approve it at their next meeting.

Bonneville continues to be supportive of the GRC's proposals and believes that joint authority would be a significant improvement in the governance structure. None of the GRC's proposals would impair the current governance structure. For purposes of deciding whether or not to join the EIM, Bonneville holds to the governance analysis in the EIM Policy ROD and believes that the current EIM governance structure is not a barrier to Bonneville joining the EIM.⁴⁴

5.2.2 CAISO Summer 2020 Heat Events

In August and September of 2020, extreme heat waves spread across a significant portion of the western interconnection. On August 14, stage two and stage three energy emergencies were declared, which resulted in load shedding in the CAISO balancing authority area. Energy emergencies were also declared on August 15, 17, and 18. Additionally on September 6, an EIM mirror resource with Arizona Public Service was cut to 0 MW and without a corresponding adjustment to the underlying interchange schedule this can result in a significant Area Control Error excursion. While all western markets experienced significant price excursions, markets—including the EIM—continued operating effectively throughout both periods. Nonetheless, these high profile events warranted significant scrutiny by regulators and stakeholders and resulted in identification of several areas in which the CAISO markets were not functioning as designed. Policy enhancements have been identified, adopted and implemented to address these design elements.

The CAISO, California Public Utilities Commission (CPUC), and California Energy Commission (CEC) jointly conducted a root cause analysis of the energy emergencies and load shedding events. The root cause analysis identified three major causes: extreme weather conditions, deficiencies in resource adequacy and planning processes, and day-ahead market practices. To address these findings, the CAISO developed a number of changes for its day-ahead and real-time markets, including meaningful enhancements to

⁴⁴ EIM Policy ROD at 92.

EIM operations. Specifically for the EIM, CAISO added an uncertainty factor to the EIM resource sufficiency evaluation requirement and required use of automated updates to the mirror resource schedules at CAISO inertia scheduling points.⁴⁵

The changes made by the CAISO are intended to address its summer readiness for 2021 and the CAISO has recognized that additional market design changes may be needed going forward. The CAISO has initiated a stakeholder process for further enhancements to the EIM resource sufficiency evaluation. Bonneville has been an active participant in the 2021 summer readiness process and will continue to participate in CAISO's ongoing processes to help ensure that the CAISO market structure functions appropriately for all participants and does not raise reliability risks.

Other aspects of the summer readiness proposals are outside the scope of this Draft EIM Close-out Letter. One such aspect is the CAISO's changes to its transmission scheduling priorities in its day-ahead and real-time markets for transactions intending to wheel through the CAISO's balancing authority area. Bonneville and multiple other parties disagreed with the CAISO's proposed tariff changes. However, FERC approved the CAISO's proposal for transmission scheduling priorities and its post-Hour Ahead Scheduling Process (HASP) to allocate transmission capacity for one year (to sunset May 31, 2022). The CAISO has also begun a stakeholder process to explore long-term solutions (the External Load Forward Scheduling Rights Process Initiative). The CAISO's transmission scheduling priorities and post-HASP transmission capacity allocation process have no direct impact on the EIM and thus are outside the scope of this Draft EIM Close-out Letter.

The 2020 events and the resulting deficiencies that have been identified in the EIM resource sufficiency evaluation do not rise to the level of a significant change from Bonneville's earlier assessment of the EIM. The CAISO's summer readiness changes to the EIM resource sufficiency evaluation are steps in the right direction and the ongoing policy initiative for the EIM resource sufficiency evaluation should lead to further improvements in the EIM. Ultimately, if Bonneville joins the EIM, and similar market structure issues become apparent, CAISO's ability to correct the identified issues will be closely monitored by Bonneville, and may affect how or whether Bonneville participates in the EIM.

5.2.3 Greenhouse Gases

5.2.3.1 Context

With respect to greenhouse gas (GHG) and carbon policy matters, one of the decisions made in the EIM Policy ROD was to opt out of marketing directly into California through the EIM unless Congress grants Bonneville the authority to directly purchase carbon

⁴⁵ CAISO, FERC Docket No. ER21-1536, Transmittal Letter at 3-4, 27-31.

allowances under state clean energy programs such as California’s Cap and Trade program.⁴⁶ The ROD went on to state that “[i]f Congress authorizes Bonneville to purchase allowances and Bonneville therefore is able to sell directly into California in the EIM, Bonneville will evaluate whether direct sales to California are cost effective based on current circumstances at that time.”⁴⁷

On December 20, 2019, after the EIM Implementation Agreement and EIM Policy ROD were signed, Congress authorized Bonneville to purchase carbon allowances.⁴⁸ As a result, Bonneville’s next step was to evaluate whether the agency should sell power into California through the EIM. The analysis compared the revenues and costs associated with marketing power into California or not doing so and considered the uncertainty associated with the potential impacts to GHG emission reduction and clean energy programs in the region, such as Washington’s Clean Energy Transformation Act. Bonneville will discuss this analysis in the following sections of this letter; the analysis itself is contained in Attachment A.

5.2.3.2 Discussion

5.2.3.2.1 Carbon and California Energy Imports

The EIM Policy ROD contains extensive background on the GHG issues associated with participation in the EIM and Bonneville’s decision of whether to sell into California.⁴⁹ Bonneville incorporates that discussion by reference, and will not repeat it here.

5.2.3.2.2 Carbon Compliance for EIM Imports into California

Under California’s Cap and Trade program administered by the California Air Resource Board (CARB), any entity that imports electricity into California from another state must purchase carbon allowances to cover carbon emissions associated with the electricity imported. CARB considers the PRSC⁵⁰ to be the entity with the compliance obligation under California’s Cap and Trade program for imports into the state via the EIM, meaning the PRSC is responsible for acquiring the allowances to cover any carbon associated with the EIM import. Entities participating in the EIM must indicate a GHG adder cost in their bid that reflects the cost of purchasing any allowances associated with the import. Alternatively, there is an option that the PRSC can choose to not have Participating

⁴⁶ EIM Policy ROD at 144.

⁴⁷ *Id.* at 148.

⁴⁸ Further Consolidated Appropriations Act of 2020, Pub. L. No. 116-94, 133 Stat. 2,534 (2019).

⁴⁹ See EIM Policy ROD at 140-49.

⁵⁰ The PRSC is discussed above in section 4.4.3.1.

Resources deemed delivered to California, thus not incurring a compliance obligation with California's Cap and Trade program.

5.2.3.2.3 Carbon Costs and Benefits of Sales to California through the EIM

In centralized markets (including the EIM), there is no explicit link between specific resources and specific loads. The market optimizes all resources and all loads across the entire market footprint and dispatches them based on least-cost taking into account all identified constraints. However, given that the EIM extends CAISO's real-time market to states outside of California, CAISO needed a way to differentiate between resources serving load within California (and thus are subject to the California Cap and Trade program) and resources serving load outside of California. So the CAISO created an algorithm with a "deeming" construct, meaning that the resources with the lowest GHG bid adder are "deemed" to serve California loads. If "deemed delivered" to California in the EIM, the EIM participant would get paid the GHG shadow price, which is equal to its GHG adder (if the resource is the marginal resource "deemed delivered" to California), or higher (if a resource with a higher GHG adder is the marginal resource).

For an entity that is an ACS, like Bonneville, there is a potential additional impact. The effect of the CAISO's deeming methodology is that states may assume for GHG accounting purposes that the low-carbon resources are backfilled by unspecified resources. Because states attribute emissions to unspecified resources, it is possible Bonneville's ACS emissions factor will increase because some states may consider a higher portion of Bonneville's fuel mix to be made up of unspecified power. Bonneville will continue to work with CARB and CAISO to determine the real impact that deeming deliveries to California in the EIM may have on Bonneville's ACS emissions factor.

As discussed in the EIM Policy ROD, there are unintended consequences with the CAISO's deeming construct.⁵¹ However, as stated in the EIM Policy ROD, Bonneville can always "opt out of selling directly into California in the EIM . . ."⁵² For now, Bonneville has analyzed the carbon costs and benefits of sales to California in Attachment A. At this time, selling into California via the EIM appears to be cost-effective. Based on the E3 analysis, the benefits of selling into California in the EIM appear to far outweigh the costs. To the extent this conclusion does not hold true in actual operations, Bonneville can decide to stop selling to California in the EIM at any time. Accordingly, Bonneville will opt to sell into California when conditions warrant, and will monitor the costs and benefits of doing so.

⁵¹ See EIM Policy ROD at 145-47.

⁵² *Id.* at 147.

5.2.3.2.4 Considerations for Washington Clean Energy Transformation Act, Washington Cap-and-Trade, and Other State Programs

Both in comments to the draft EIM Policy ROD in 2019 and during the EIM implementation workshops, several commenters raised concerns with the impacts of selling to California on other state GHG emission reduction and clean energy laws. In particular, commenters point to Washington's Clean Energy Transformation Act (CETA) and new cap-and-trade legislation. The impacts to customers under these laws from Bonneville participating in the EIM and selling directly into California in the EIM at this time are uncertain. Currently there are significant uncertainties associated with how EIM transactions will be treated under Washington's CETA and cap-and-trade programs. However, customers will not need to mitigate for unspecified power under CETA until 2030, which provides time for more development and understanding of the interaction between CETA and other state carbon reduction and clean energy policies and how EIM transactions are accounted for under the different state programs. Washington's cap-and-trade program, by allocating free allowances to utilities for forecasted emissions, should provide direct allowances to customers in order to cover the compliance for these emissions. Additional discussion of these potential impacts can be found in Attachment A. Bonneville staff will continue to assess the impacts of its participation in the EIM and CAISO's GHG deeming algorithm when selling into California, and the interaction of those impacts with other state GHG emissions reduction policies. Bonneville will incorporate findings into how Bonneville participates in the EIM and its ongoing evaluation of whether sales into California are reasonable.

5.2.4 Update on Flexible Reserve Product

In the EIM Policy ROD, Bonneville recognized that in addition to the EIM, other CAISO market enhancements are needed to fully compensate for the value of the flexibility, capacity, and green attributes of the federal hydro system.⁵³ One of these enhancements was the creation of a day-ahead flexible reserve product. At the time of the EIM Policy ROD, the CAISO was in the early stages of its Day-Ahead Market Enhancements stakeholder initiative, which included several enhancements to its day-ahead market, including a flexible reserve product. Some aspects of the Day-Ahead Market Enhancements proposal proved to be technically complicated and faced strong opposition from some California stakeholders. The CAISO has restructured its proposal and dropped several aspects that were causing complications, but the one remaining aspect of the proposal is the creation of a day-ahead flexible reserve product.

Efforts to create this new product were delayed due to the emphasis on summer readiness, but the CAISO moved this proposal forward in late July of 2021 with plans to implement any changes by the fall of 2022. While this issue is related to the day-ahead market rather than the EIM, and therefore does not directly impact Bonneville's decision to join the EIM,

⁵³ *Id.* at 23-27.

Bonneville notes that it is still a strong supporter of having a day-ahead flexible capacity product to address uncertainty between the day ahead and fifteen minute market that will complement the real-time flexible ramping product, improve reliability for California and provide another avenue for Bonneville to gain value for the surplus flexibility and capacity of the federal hydro system.

5.2.5 Update on Hydro Default Energy Bid

In the EIM Policy ROD, Bonneville committed to continue to monitor the progress of the enhancements through FERC's approval process and CAISO's implementation process. FERC approved these changes and they are now reflected in the CAISO's tariff. The hydro Default Energy Bid (DEB) reflects the value of both existing bilateral markets and is commensurate with an entity's hydraulic storage timeframe to access those markets. At this time, Bonneville continues to be satisfied with the status and availability of the hydro DEB.

5.2.6 Pandemic

Beginning in Phase III, through the entirety of Phase IV, and likely through Phase V, the world has faced the COVID-19 pandemic. This pandemic has caused many changes to the way people communicate in almost all sectors of business as well as in personal lives. In response to the pandemic, Bonneville changed its policies on public meetings such that all public meetings occur virtually rather than in person.

While the virtual format was an adjustment, Bonneville has been able to continue conducting its business throughout the pandemic. Bonneville held 25 public meetings via WebEx and held numerous other meetings with various customers and constituents via WebEx or telephone to discuss EIM-related matters. While the pivot to virtual communications was unexpected, Bonneville has been able to maintain meaningful engagement with customers and constituents. Thanks to technology, Bonneville has stayed on track with its EIM decision process. In addition, technology has enabled Bonneville to stay on track with its EIM implementation work as well as its collaboration with its customers and constituents. Though the pandemic has been a terrible event, it has not presented a reason for Bonneville to reconsider any of the EIM-related decisions previously made.

5.2.7 BP-22 Rate Proceeding Decisions

As noted above in section 4.4, Bonneville issued the BP-22 Final ROD on July 28, 2021. Among other decisions made in that BP-22 Final ROD, the Administrator decided the allocation of EIM charges and credits among customers as well as an estimate of EIM benefits to be included in power rates for FY 2022 and 2023. In regard to EIM surplus power benefits, the Administrator adopted staff's recommendation that, for the first 19 months of EIM participation, EIM credits should be set to equal the forecasted costs of EIM

Start-up/Implementation costs functionalized to Power customers.⁵⁴ That value, as estimated in the BP-22 Final ROD, is \$3.4 million.

At the time Bonneville developed the EIM Policy ROD business case, Bonneville had not developed its policy for estimating EIM surplus benefits in rates for the BP-22 rate period. Staff's testimony in the BP-22 rate proceeding developed that policy position and the Administrator has adopted it as part of the BP-22 Final ROD. While Bonneville's decision to set EIM surplus power benefits equal to EIM costs is a "new fact or circumstance" in that it was not known at the time of the EIM Policy ROD, Bonneville does not view this decision as requiring a revision to its business case. As discussed more fully in the evaluation below in section 7.4, Bonneville finds that the business case from the EIM Policy ROD continues to support Principle 4: Bonneville's participation is consistent with a sound business rationale.

5.2.8 TC-22 Tariff Decisions

As noted above in section 4.4, Bonneville issued the TC-22 Final Tariff ROD on July 28, 2021. The Administrator decided to adopt the EIM-related terms and conditions in the Tariff, which would enable Bonneville to implement the EIM in its balancing authority area should it ultimately decide to join. Bonneville was able to adopt terms and conditions consistent with its principles. As such, the Tariff terms and conditions do not constitute a significant change requiring additional evaluation.

5.2.9 Market Improvements Resulting from Bonneville and the CAISO's Implementation Work

During Bonneville and the CAISO's collaborative implementation work to prepare Bonneville for EIM participation, there have been market improvements identified that are being implemented. These improvements will help Bonneville and other market participants.

1. *Avoiding Unaccounted For Energy Charges:* Bonneville staff worked with the CAISO to gain a greater understanding of the Unaccounted For Energy settlement and its applicability in the EIM. During those discussions, the parties agreed that while this charge should apply to full market participation, it is not necessary to the EIM. The CAISO subsequently proposed in a stakeholder initiative to give EIM participants an option that, if selected, results in the participant not being exposed to the charge.⁵⁵ The proposal was accepted by the EIM Governing Body and CAISO Board of Governors. The CAISO filed the necessary tariff revisions on January 27,

⁵⁴ Administrator's Final Record of Decision, BP-22-A-02, at 8; *id.* at Appendix A (Settlement), Attachment 1, § 3; Traetow *et al.*, BP-22-E-BPA-33, at 15.

⁵⁵ See <https://stakeholdercenter.aiso.com/StakeholderInitiatives/Real-time-settlement-review>.

2021,⁵⁶ and amended them on March 25, 2021.⁵⁷ FERC issued an order accepting the CAISO's proposed edits on April 30, 2021.⁵⁸

2. *Low Side Metering Model:* Bonneville, like most EIM Entities, is considering joining the EIM with a mix of high-side and low-side meters for generators in its balancing authority area. During Bonneville's implementation work, Bonneville staff determined, and the CAISO concurred, that low-side generation meters did not need to be compensated as long as the basis for base scheduling, operating, and metering those generators were all carried out with low-side values. Bonneville has integrated this result into its EIM design, reducing the exposure to imbalance settlements. Bonneville continues to pursue the installation of high-side meters as the transition benefits Bonneville beyond EIM participation.
3. *New EIM Operations Automated Program Interfaces:* Because of the size and complexity of Bonneville's system and the degree of operations automation, the ability to implement automated interfaces for Bonneville's EIM operations actions into the CAISO's Balancing Authority Area Operations Portal was crucial to the success of Bonneville's implementation design. Bonneville staff and the CAISO defined the business requirements and design to meet Bonneville's operations automation needs. The CAISO subsequently worked with its software vendor to develop and deliver four application program interfaces (API) to integrate Manual Dispatch, Load Conformance, Telemetry Following Manual Dispatches, and Contingency Flag actions. Prompts for these new APIs were developed by Bonneville's staff and folded into Bonneville's market participation design, simplifying the job of keeping the market in sync with operations actions. The CAISO plans to release these APIs to the EIM community for testing in Summer 2021 and for use in the production environment later in 2021. Collectively, these actions will enhance the operational resiliency and reliability for all EIM Entities.

6 EIM Participation Agreements

If Bonneville chooses to join the EIM as an EIM Entity and Participating Resource, it will have to sign six agreements with the CAISO that allow Bonneville to participate on an ongoing basis as an EIM Entity with Participating Resources. These agreements include:

⁵⁶ See CAISO, FERC Docket No. ER21-955-000, Transmittal Letter (Jan. 27, 2021), available at <http://www.caiso.com/Documents/Mar25-2021-Amendment-TariffChanges-EIM-Enhancements-Real-TimeSettlements-BaseScheduleEnhancements-ER21-955.pdf>.

⁵⁷ See CAISO, FERC Docket No. ER21-955-001, Transmittal Letter (Mar. 25, 2021), available at <http://www.caiso.com/Documents/Jan27-2021-TariffAmendment-EIM-Enhancements-Real-Time-Settlements-and-BaseScheduleTimelines-ER21-955.pdf>.

⁵⁸ CAISO, 175 FERC ¶ 61,096, at P 27 (2021).

6.1 EIM Entity-Related Agreements

- i. *EIM Entity Agreement*: This is the foundational agreement for Bonneville, as a balancing authority, to participate in the EIM. It requires that Bonneville abide by the terms and conditions in the CAISO's tariff regarding the EIM, including, but not limited to, Section 29. The agreement also identifies how Bonneville's transmission system will be utilized by the EIM.
- ii. *EIM Entity Scheduling Coordinator Agreement*: This agreement identifies Bonneville as its own EIM Entity Scheduling Coordinator for EIM participation. As a Scheduling Coordinator, Bonneville will submit EIM Entity base schedules and financially settle with the CAISO.
- iii. *EIM Entity Meter Services Agreement*: This agreement sets forth the general terms and conditions regarding how Bonneville, as the EIM Entity Scheduling Coordinator, will comply with the metering standards and requirements set forth in Section 10 of the CAISO's tariff applicable to EIM Entity Scheduling Coordinators.

6.2 Participating Resource-Related Agreements

- i. *Participating Resource Agreement*: This is the foundational agreement for Bonneville to participate in the EIM with the Federal generation resources.⁵⁹ It requires that Bonneville abide by the terms and conditions of the CAISO's tariff regarding participating resources in the EIM, including, but not limited to, Section 29. Schedule 1 of the agreement sets forth the Overlapping Resource Aggregation paradigm that Bonneville will use to participate with the Federal resources in the EIM.
- ii. *Participating Resource Scheduling Coordinator Agreement*: This agreement identifies Bonneville as the Participating Resource Scheduling Coordinator for the Federal generation resources. As a Participating Resource Scheduling Coordinator, Bonneville will submit bids and base schedules, and financially settle with the CAISO on behalf of participating Federal generation resources.
- iii. *Participating Resource Meter Services Agreement*: This agreement sets forth the general terms and conditions regarding how Bonneville, as the Participating Resource Scheduling Coordinator for Federal generation resources, will comply with the metering standards and requirements set forth in Section 10 of the CAISO's tariff applicable to EIM Entity Scheduling Coordinators.

⁵⁹ The Federal generation resources that Bonneville will participate in the EIM with are owned and operated by either the U.S. Army Corp of Engineers or U.S. Bureau of Reclamation. Bonneville markets the output of these resources pursuant to various statutes and regulatory requirements.

Each of these participation agreements allows Bonneville to unilaterally terminate them by providing the requisite amount of notice identified in the particular agreement without an exit fee or charge. Each agreement also explicitly memorializes the CAISO's acknowledgement of Bonneville's non-jurisdictional status with the Federal Energy Regulatory Commission and respects Bonneville's intention to remain as such. There are also certain terms and conditions that were modified from the CAISO's "pro forma" template agreement, such as the governing law and forum clause, to recognize Bonneville's status as a Federal entity. Bonneville also notes that each of these agreements contains a section that explicitly references Section 22.9 of the CAISO's tariff, which provides that any potential conflicts between the CAISO tariff or the agreement and Bonneville's status as a Federal entity will be resolved in favor of Bonneville's Federal entity status.

Finally, given that each of these agreements are non-conforming to the CAISO's template agreements, the CAISO has advised that it intends to file each agreement with the Federal Energy Regulatory Commission if Bonneville makes a final decision to join the EIM.

7 Assessment of EIM Participation Principles

7.1 Principle 1: Bonneville's Participation Is Consistent with Its Statutory, Regulatory, and Contractual Obligations.

Bonneville's potential EIM participation must be consistent with its statutory, regulatory, and contractual obligations. As noted above, in the EIM Policy ROD Bonneville set out its legal analysis establishing that Bonneville has the legal authority to join the EIM.⁶⁰ In addition, Bonneville met with preference customers to discuss how Bonneville will provide notice to preference customers that it has surplus power available if it joins the EIM. Bonneville set out the method by which it will provide notice in the EIM Policy ROD and after discussion with preference customers Bonneville has determined that method is sound.

None of the Notable Changes described in section 5.2 above require Bonneville to reconsider its original assessment that participation in the EIM is within Bonneville's statutory authorities. Bonneville's participation in the EIM would not impair Bonneville's performance under its existing contracts. Bonneville has identified several legacy contracts with its co-owners of the Northwest AC Intertie that do not contemplate the existence of EIM. Bonneville's participation in the EIM is not barred by these contracts. However, the way in which the CAISO and existing EIM Entities have structured and modeled the Northwest AC Intertie in EIM will, in certain, limited circumstances, result in EIM charges and credits being allocated to Bonneville, rather than to the Northwest AC Intertie owner

⁶⁰ EIM Policy ROD § 3.2.

whose transmission is being used. Bonneville is working with the contract holders to address this issue.

7.2 Principle 2: Bonneville Will Maintain Reliable Delivery of Power and Transmission to Its Customers.

If Bonneville joins the EIM, Bonneville will still retain the responsibility for the operation of the Federal power and transmission systems. Joining the EIM does not obviate Bonneville's responsibility regarding system reliability. If Bonneville were to determine in the future that EIM participation impaired its ability to maintain the reliability of the Federal power or transmission systems, it would stop participating in the EIM and address the reliability issue. In fact, participation in the EIM is expected to help system reliability in terms of managing transmission constraints on Bonneville's transmission system.⁶¹

None of the Notable Changes described in section 5.2 above require Bonneville to reconsider its ability to maintain reliable delivery of power and transmission to customers. Bonneville will retain all of its currently available tools to maintain reliability. In the event that the EIM produces results that would impair reliability, Bonneville will have the ability to suspend EIM Transfers and settlements in its balancing authority area.

7.3 Principle 3: Bonneville's Participation Is Discretionary and Bonneville Retains Its Ability to Effectively Exit the Market in the Event Participation Is No Longer Consistent with These Principles.

In regard to resource participation, the EIM is a voluntary market. Owners/operators of resources inside the Bonneville balancing authority area can choose whether to participate or not. Those that choose to participate, including Bonneville on behalf of the Federal generating resources, must execute a Participating Resource agreement with the CAISO. Moreover, even owners/operators that sign a Participating Resource agreement with the CAISO are not required to submit bids for any particular market interval. Stated another way, the EIM does not impose "must-run" requirements on any resources within an EIM balancing authority area. Bonneville recognizes that in some cases, if it chooses not to bid Federal generation into the EIM, there may be a reduction in dispatch benefits. Furthermore, Bonneville, in its role as an EIM Entity, may choose to separate from or exit the EIM.

The voluntary nature of the EIM is an essential feature from Bonneville's perspective. None of the Notable Changes described in section 5.2 above affect the voluntary aspects of the EIM.

⁶¹ Bonneville's system operations tools are discussed in the EIM Policy ROD at Section 3.5.3.

7.4 Principle 4: Bonneville’s Participation Is Consistent with a Sound Business Rationale.

Bonneville’s decision whether to join the EIM will be based on a reasoned business decision. Bonneville conducted a business case, which considered both quantitative and qualitative benefits to power and transmission as well as the strategic value of joining the EIM. The business case was discussed in detail in the EIM Policy ROD.⁶²

Bonneville has considered the business case from the EIM Policy ROD and concludes it still satisfies Principle 4. This conclusion is based on a re-evaluation of the major components of that business case. The business case from the EIM Policy ROD included both a quantitative comparison of the costs and benefits of joining the EIM as well as a qualitative assessment of the operational benefits of the EIM.⁶³ For the quantitative benefits estimate, Bonneville performed a high level cost-benefit analysis that considered the following:

- Costs of joining the EIM (Startup/Ongoing Costs)
- Power quantitative benefits

Based on this high-level quantitative assessment, Bonneville concluded that the EIM participation would provide a net positive benefit to Bonneville. Even this assessment, though, only showed a partial picture of the value of EIM participation. The value to Transmission Services of EIM participation was more difficult to quantify, in that it is expected to occur through more efficient use of the Federal transmission system, less costly redispatch, and other operational benefits.⁶⁴ These benefits were omitted from the cost-benefit analysis. In the EIM Policy ROD, Bonneville illustrated how these qualitative benefits of EIM functionality could be translated into quantitative transmission benefits through avoided transmission builds or more economic redispatch to alleviate constraints.⁶⁵ These illustrative Transmission benefits further strengthen the business case for joining the EIM.

Two years have passed since the original business case was developed. For this Draft EIM Close-out Letter, Bonneville performed a high-level review of the assumptions from the original EIM business case analysis to determine whether the business case continues to present a reasonable basis for EIM participation. This follows from Bonneville’s commitment in the EIM Policy ROD to consider revisiting the business case “if there are fundamental changes in facts or market rules.”⁶⁶ Throughout the Spring of 2021,

⁶² EIM Policy ROD § 3.4.

⁶³ *Id.* at 95.

⁶⁴ *Id.* at 100-01.

⁶⁵ *Id.* at 101-07.

⁶⁶ *Id.* at 114-15; *see also id.* at 109.

Bonneville held a series of workshops on EIM to consider, among other issues, whether updates to the business case were required.⁶⁷ This evaluation considered the overall reasonableness of the main components of the quantitative business case, namely, (1) the costs of joining EIM; and (2) the dispatch benefits attributable to Power Services from joining the EIM. Bonneville concluded that no additional review was needed for the Transmission Services qualitative component of the business cases. Bonneville's conclusions from the evaluation of the quantitative components of the EIM business case are provided below.

Costs of Joining EIM (Startup/Ongoing)

In the EIM Policy ROD business case, Bonneville estimated that startup costs for joining the EIM would be in the range of \$29.7 million to \$35.1 million.⁶⁸ Ongoing annual costs were estimated at approximately \$6.9 million.⁶⁹ These estimates were prepared in 2019. Bonneville has reviewed these cost estimates and has concluded they remain within a reasonable range. An updated estimate of the start-up costs showed that they are still within the original range, although costs have shifted amongst the cost categories. Bonneville employee and contract employee costs are lower than originally projected while non-labor costs (including contract costs) are higher than originally anticipated due to the staffing and support strategy that Bonneville pursued for start-up. An estimate of the ongoing costs produced in May 2021 showed on-going costs at around \$7.1 million, or roughly a 2.9% increase, which is within a reasonable range of the original projection.⁷⁰ Further, the CAISO has not announced any new major additional operational or technological requirements since the 2019 estimate was prepared. Moreover, Bonneville has not identified any major new systems or infrastructure for EIM participation. The 2019 estimate appears reasonable and, therefore, will continue to be used in assessing the business case.

Power Quantitative Dispatch Benefits

Quantitatively, the EIM will benefit Bonneville through the more efficient dispatch of Federal generation, otherwise known as "dispatch benefits." EIM participation through voluntary bids can result in benefits through the economic optimization of generation

⁶⁷ EIM Workshop, March 16, 2021, at 43-45, available at <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/March-2021-EIM-Workshop.pdf>; EIM Workshop, April 27, 2021, at 14, available at <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/April-2021-EIM-Workshop.pdf>; EIM Workshop, May 19, 2021, at 52-55, available at <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/May-2021-EIM-Workshop.pdf>; EIM Workshop, June 17, 2021, at 14, available at <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/June-2021-EIM-Workshop.pdf>.

⁶⁸ EIM Policy ROD at 96.

⁶⁹ *Id.* at 97.

⁷⁰ EIM Implementation Workshop, May 19, 2021, at 54.

movements with market prices. The bid curves submitted by Participating Resources enable the EIM to “increase[] [generation] when doing so will make more revenue for that resource, and . . . decrease[] [generation] when it would save that resource money.”⁷¹

To estimate these dispatch benefits, Bonneville used analysis performed by E3, an industry-recognized expert energy consulting firm,⁷² combined with a number of Bonneville-specific adjustments,⁷³ to isolate the dispatch benefits for the Federal Columbia River Power System for the operational period of 2016–2018, assuming Bonneville had been in the EIM.⁷⁴ Scenario and sensitivity analyses were also run to test the effects of different operations and pricing on benefit levels.⁷⁵ In the EIM Policy ROD, Bonneville estimated that, had it been in the EIM during the test year, gross EIM benefits could have ranged between \$24.4 million to \$47.1 million.⁷⁶ Applying these gross benefits to the estimated costs resulted in a scenario net EIM benefit range to Bonneville of between \$29.2 million and \$33.5 million.⁷⁷ A full explanation of the business case ranges is included in the EIM Policy ROD.

In the Spring 2021 workshops, Bonneville identified three areas it would test to determine whether the dispatch benefits from the EIM Policy ROD business case remained reasonable. These three areas were as follows:

- FCRPS Capability – This assessment considered whether the spin capability assumed in the study period (2016–2018) was consistent with more recent observed spinning capability in the FCRPS (2019–present).⁷⁸
- EIM Market Price Volatility – This assessment compared recent EIM price volatility to the study period (2016–2018) standard deviation changes to ensure consistency.⁷⁹
- Market Fundamentals – This assessment considered whether any rules had fundamentally changed EIM participation thereby changing the value proposition of joining the EIM.⁸⁰

⁷¹ EIM Policy ROD at 97.

⁷² *Id.*

⁷³ *Id.* at 98.

⁷⁴ *Id.*

⁷⁵ *Id.* at 99.

⁷⁶ *Id.* at 100.

⁷⁷ *Id.*

⁷⁸ EIM Workshop, March 16, 2021, at 44.

⁷⁹ *Id.*

⁸⁰ *Id.*

Additionally, as part of its overall review of the EIM Policy ROD business case, Bonneville also considered the decisions it had reached in the BP-22 Rate Case. Specifically, Bonneville considered its decision to hold the surplus power benefits associated with EIM participation equal to Power Services' share of EIM Start-up/Implementation costs (approximately \$3.4 million).⁸¹

After considering the foregoing areas of evaluation, Bonneville finds that the EIM business case produced in the EIM Policy ROD remains reasonable and Bonneville does not intend to conduct an updated EIM business case. This decision is informed by the following considerations.

First, the FCRPS capability has not fundamentally changed since the original business case assessment was performed. While there have been some new operational constraints, such as those produced by the Columbia System River Operations Review Environmental Impact Statement (CRSO EIS) ROD, those limitations do not fundamentally change the flexibility of the Federal system or Bonneville's ability to participate in the EIM.⁸²

Second, the market price estimates from the EIM Policy ROD business case have not fundamentally changed. Bonneville evaluated observed average annual EIM prices from the original business case (2016–2018) with an updated data set (2016–2020).⁸³ This comparison showed no material changes in EIM price volatility and confirmed that the EIM prices from the original EIM business case remain within a reasonable range.

Third, EIM market fundamentals have not substantially changed since the original EIM business case. The EIM has seen some market improvements, such as revisions to the Default Energy Bid parameters and prospective changes to the timing of the final EESC base schedule submission from T-40 to T-30. These changes, though, simply allow the EIM to function more efficiently and reliably, and do not fundamentally alter the market's rules, operations, or construct.

Finally, Bonneville has considered its decision in the BP-22 rate proceeding to hold EIM projected benefits equal to EIM Start-up/Implementation costs for the FY 2022–2023 rate period. During the EIM Implementation workshops held in the Spring of 2021, some commenters questioned the validity of the quantifiable Power-related EIM business case benefits in light of Bonneville's proposed policy decision to assume EIM benefits equal to EIM costs in Power rates for the BP-22 rate period. Bonneville understands the concerns raised by these commenters, but continues to believe its EIM business case remains sound.

⁸¹ Administrator's Final Record of Decision, BP-22-A-02, at 8; *see also* Traetow *et al.*, BP-22-E-BPA-33, at 15-20.

⁸² EIM Workshop, May 19, 2021, at 52.

⁸³ *Id.* at 53.

The purpose of the EIM business case is to evaluate the threshold question of whether joining the EIM is in Bonneville’s overall business interest. Preparing for EIM participation requires significant pre-investment of time, money, and effort. To determine whether Bonneville should even begin to commit the necessary resources for participation, Bonneville, with help from E3, looked back at historic years (2016–2018) and considered what would have occurred had Bonneville been in the EIM during that period. Based on this historic look, the EIM business case showed that Bonneville would likely have received additional economic value had it been in the EIM, and that value is within a range that would make investing in the EIM worth Bonneville’s time and effort. This analysis, thus, answered the basic business question of whether joining the EIM, in light of its attendant costs, was in Bonneville’s overall business interest. What the EIM business case analysis did not show, however, was the actual EIM benefits to be included in rates for any particular year. This omission was intentional because the EIM business case is not the projection of future EIM credits or benefits for a particular rate period. That type of forecast would depend on translating the activities of EIM participation (bidding in Federal system capability) into a rate case-level projection.

For the BP-22 Rate Case, Bonneville proposed not to develop that projection. Rather, in the context of secondary sales—that is, surplus sales—Bonneville assumed that the EIM benefits would equal the forecasted EIM Start-up/Implementation costs of EIM as a matter of policy.⁸⁴ The policy rationale for this approach was explained in Bonneville staff’s testimony and is multi-faceted.⁸⁵ The key factor in this decision, though, was the point that the EIM is a new market, one in which Bonneville has no participation experience. While Bonneville will be well positioned with its systems and personnel to participate at the time of Go Live, it will be important to gain experience with actual market dispatches to understand how EIM dispatches impact the revenue and cost streams that feed into rate case projections. Developing rates assuming a stated level of EIM-related credits without any EIM experience was not, in Bonneville’s view, a prudent business step to take in the first year of EIM participation.⁸⁶ Instead, Bonneville found that it was more consistent with sound business principles to “take it slow” in the BP-22 rate period by limiting EIM benefits to projected costs in order to give Bonneville staff time to better understand the systems, processes, charge codes, and rules of the EIM.⁸⁷

Bonneville does not view its decision in the BP-22 Rate Case, which is founded on policy considerations of whether it is prudent to assume in ratemaking substantial credits in the introductory year of Bonneville’s participation in a new market, as being deleterious to its decision that its EIM business case remains sound. Bonneville still concludes that the EIM

⁸⁴ Traetow *et al.*, BP-22-E-BPA-33, at 17.

⁸⁵ *Id.* at 16-21; *see also* Traetow *et al.*, BP-22-E-BPA-43, at 1-18.

⁸⁶ Traetow *et al.*, BP-22-E-BPA-43, at 10-14.

⁸⁷ *Id.* at 13.

will provide substantial quantifiable benefits to Bonneville and, ultimately, its customers. How those benefits are manifested in projections used for ratemaking will require additional data, experience, and discussions with customers and constituents over the coming months. Bonneville looks forward to exploring these issues with its customers and constituents, and commits as part of this Draft EIM Close-out Letter to further discuss how to potentially translate EIM dispatch benefits into rate case projections.

Post Go-Live Reporting

Bonneville has received requests for ongoing reporting on EIM performance after Bonneville begins participation in the EIM and, in response, Bonneville commits to providing ongoing reporting on EIM performance. The content of such reporting is a work in progress and will be better informed once Bonneville is participating in the EIM and has a more comprehensive understanding of the data that will be available. Bonneville is committed to continue working with customers and constituents to evolve reporting over time. Bonneville anticipates that the reporting will occur on a quarterly basis and will likely utilize the Quarterly Business Review technical workshops as the forum.

7.5 Principle 5: Bonneville’s Participation Is Consistent with the Objectives of Bonneville’s Strategic Plan

Bonneville’s 2018–2023 Strategic Plan⁸⁸ sets forth its high-level vision as well as specific goals and objectives to ensure its competitiveness and ability to continue meeting customers’ and regional future needs. Bonneville’s participation in the EIM will provide several benefits that are strongly supportive of the goals and objectives set forth in the Strategic Plan.

Participation in the EIM provides Bonneville an additional marketing opportunity to increase power revenues which is an explicit objective in the plan (Strategic Objective 3(a)).⁸⁹ Bonneville believes that taking advantage of market opportunities like the EIM will help it to maximize the full value of the Federal power system. Similarly, EIM participation will provide benefits to transmission operations and customers in that Bonneville will have better state awareness data and tools to manage the grid more efficiently and potentially address congestion, which is consistent with Strategic Objective 4(a).⁹⁰ As capacity on the Federal transmission grid becomes scarcer, taking advantage of a more diverse resource

⁸⁸ 2018-2023 Strategic Plan, www.bpa.gov/StrategicPlan/StrategicPlan/2018-Strategic-Plan.pdf (“Strategic Plan”).

⁸⁹ *Id.* at 36-37.

⁹⁰ *Id.* at 47.

mix to serve imbalance needs in Bonneville's balancing authority area using the EIM will be a benefit to Bonneville and its customers.

Participation in the EIM is also a key driver for Bonneville's Grid Modernization⁹¹ Key Strategic Initiative, which is the core component of Strategic Goal 2 of the Strategic Plan.⁹² While EIM participation is by no means the sole driver of the program, several of the projects in the program are necessary for Bonneville to participate in the EIM.⁹³ Development and implementation of projects within its Grid Modernization program will better position Bonneville to effectively manage the Federal power and transmission systems as well as be competitive regionally in years to come.

Finally, another benefit to EIM participation is to provide Bonneville and its customers with experience in a voluntary, organized market context. Bonneville sees this as a critical first step to any potential further market expansions involving Bonneville. Bonneville expects markets to continue and evolve over time, thus participation in the EIM will provide Bonneville and its customers invaluable experience in understanding and helping to shape those markets.

7.6 Principle 6: Bonneville's Evaluation of EIM Participation Includes Transparent Consideration of the Commercial and Operational Impacts on Its Products and Services

To help ensure appropriate commercial and operational impacts on the products and services Bonneville sells to its customers, Bonneville has held numerous workshops to discuss potential policy changes to ensure it meets this principle. Bonneville will initially utilize the Federal Generation Participation Model to manage generation available to the EIM and the Interchange Rights Holder Methodology to make transmission that has already been purchased available to the EIM, as discussed further above. In addition, in response to commenter requests, Bonneville committed to consider the impacts of joining the EIM on its products and services, work through solutions, and engage the CAISO as appropriate.

On the Power side, Bonneville considered the impacts of EIM implementation on its two main firm power products: Load Following and Slice. Bonneville concludes that the EIM would not materially impact its Load Following customers. Bonneville will retain its role in supplying power to meet these customers' imbalance as part of the Load Following product. For customers served by Slice, Bonneville identified a number of EIM implementation issues that needed to be addressed to ensure effective implementation of

⁹¹ See <https://www.bpa.gov/Projects/Initiatives/Grid-Modernization/Pages/Grid-Modernization.aspx>.

⁹² Strategic Plan at 23-32.

⁹³ A roadmap of the Grid Modernization projects and those necessary or critical to EIM participation can be viewed at: <https://www.bpa.gov/Projects/Initiatives/Grid-Modernization/gridmod/Current-Grid-Mod-Roadmap.pdf>.

its Slice product. Throughout Phases III and IV, Bonneville worked closely with Slice customers in the Slice Implementation Group to propose solutions to these issues. For example, Bonneville adjusted some timelines in the computer applications used to implement the Slice product in order to accommodate current EIM schedule submission timelines.

Bonneville addressed issues related to Slice/Block implementation in the BP-22 rate proceeding. Such issues included the allocation of Power revenues as well as an Intraday Imbalance rate schedule in the BP-22 rate proceeding to address a potential mismatch in EIM settlement costs and credits between Bonneville and its Slice customers. Through the Intraday Imbalance rate schedule—an allocation which is unique to Bonneville’s implementation of the EIM—Bonneville has allowed customers a simple mechanism to appropriately allocate imbalance charges and credits between counterparties, including those that are incurred in the execution of the Slice contract.

On the transmission side, EIM participation will not impact the types of transmission service (network integration and point-to-point) currently offered under Bonneville’s Tariff. Bonneville will continue to offer these services if it joins the EIM. Operationally, participation in the EIM will provide Bonneville with more state awareness and congestion management tools, which, in turn, will help Bonneville better manage congestion and flows on the transmission system. Thus, from an operational perspective, EIM participation should benefit Bonneville’s transmission contract holders. From an available transfer capability and revenue standpoint, Bonneville’s transmission business line should not be adversely impacted by EIM participation. EIM Transfers (at balancing authority area interchanges) will rely on donated transmission that has already been purchased and will be scheduled using Energy Transfer System Resource (ETSR) tags. EIM flows occurring within the Bonneville balancing authority area will use real-time, unscheduled capability on the transmission system. Because these internal flows are providing the imbalance portion of load service of transmission customers within the Bonneville balancing authority area, Bonneville is already being compensated for EIM flows via transmission service contracts with those customers who have to reserve transmission for service to their loads.

Bonneville will continue to meet its commitments of providing the power and transmission products and services it has committed to provide to customers. Where technical or operational adjustments have been necessary to allow existing products to function as intended, Bonneville has worked through the issues with customers, seeking out and incorporating such adjustments. If Bonneville learns of any other issues with providing its products and services in the EIM setting, Bonneville will discuss these issues with customers and seek workable solutions with its customers and with the CAISO.

8 NEPA Analysis

Bonneville is in the process of assessing the potential environmental impact that could result from its proposal to join the EIM, consistent with the National Environmental Policy Act (NEPA). All public comments concerning NEPA compliance and/or potential environmental effects of the proposal that were received during the public discussions for this proposal are being considered as part of this NEPA process. Bonneville will also consider any public comments received on this topic as part of the public comment period associated with this proposal.

Based on its most current assessment, Bonneville believes this proposal appears to be the type of action typically excluded from further NEPA review pursuant to U.S. Department of Energy NEPA regulations, which apply to Bonneville. Nonetheless, Bonneville is still assessing the proposal and, depending upon the ongoing environmental review, may instead issue another appropriate NEPA document. Bonneville will complete its NEPA process and issue its NEPA documentation for this proposal before issuing the Final EIM Close-out Letter.

9 Conclusion/Final Decision to Join the EIM

In consideration of the information and analysis contained in this Draft EIM Close-out Letter and the extensive public process that Bonneville has held, Bonneville has concluded that the decision to join the EIM is consistent with the six EIM Participation Principles. Accordingly, Bonneville proposes to join the EIM.

Please provide comments on this proposed decision to join the EIM by August 23, 2021. Submit comments online at www.bpa.gov/comments. Bonneville will issue a Final EIM Close-out Letter by September 30, 2021, addressing comments it receives and making a decision whether to join. If the final decision is for Bonneville to join the EIM, Bonneville will sign the EIM Entity Agreement and related agreements and will proceed with the remaining EIM implementation steps including parallel operations. Bonneville will remain in contact with customers and provide regular updates as EIM implementation activities progress.

Bonneville expects to begin financially binding participation in the EIM, *i.e.* “Go Live,” on March 2, 2022, and Bonneville will be in communication with customers before the Go Live date. Bonneville will issue a Tech Forum notice 14 days before parallel operations begin (7 days before Bonneville’s EIM-related Tariff provisions take effect), and will provide another Tech Forum notice 7 days before the Go Live date.

ATTACHMENT A

ANALYSIS OF REVENUES AND COSTS OF SELLING INTO CALIFORNIA

1. How Deeming Delivery to California in the EIM Could Impact Bonneville’s EIM Benefits

Bonneville’s business case relied on E3 analysis to estimate reduced EIM gross dispatch benefits under a scenario where Bonneville did not deliver directly to California due to GHG-related concerns. This scenario was called the GHG Compliance Sensitivity, and it estimated reduced benefits of \$4.6 million per year.

E3’s GHG Compliance Scenario

- E3 modeled EIM participation where BPA did not receive higher, CA-delivered prices
- This scenario resulted in average annual revenue \$4.6M less than the base case

EIM Price Scenarios: GHG Compliance

- We model CAISO GHG Compliance as only affecting BPA prices when selling into EIM
 - Marginal GHG component is small relative to energy, congestion

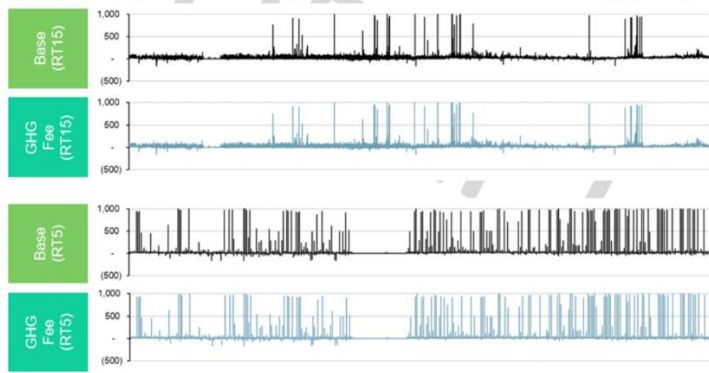


Table 9. Average and Annual Revenue from Dispatch Benefits for Sensitivities

Sensitivities	Average Revenue (\$ million)	Annual Revenue (\$ million)		
		2016	2017	2018
FRST-Only Participation	24.4	32.3	25.4	15.6
California GHG Compliance	34.6	45.6	34.5	23.8
Reduced Price Volatility	35.3	44.9	36.1	24.8
Higher Success Rate	47.1	59.4	47.8	34.0
NW Midpoint/Base	39.2	49.5	39.9	28.2



2. How Deeming Delivery to California in the EIM Could Impact Bonneville’s Non-EIM Net Secondary Revenue

The E3 analysis made several assumptions that are important in analyzing the impacts of Bonneville selling into California (CA) through the EIM. First, the E3 analysis assumed that any amount of headroom Bonneville bid into the EIM was dispatched in the EIM. In other words, there were not instances when Bonneville bid in more megawatts than were dispatched. Second, the E3 analysis assumed energy neutrality, which means that the amount of sales Bonneville made into the EIM were offset by an equal amount of purchases. The E3 analysis indicated Bonneville sales would increase by ~3,000,000 megawatt hours (MWh) and therefore Bonneville purchases would also increase ~3,000,000 MWh per year when joining the EIM. This assumed that Bonneville did not sell to California in the EIM.

Bonneville sales and purchases would increase an additional ~500,000 MWh per year (a total of ~3,500,000 MWh per year) when assuming that Bonneville sells to California in the EIM. Bonneville performed an internal analysis to estimate how these additional purchases would change the Bonneville ACS emission factor.

1. Original emission factor: CO _{2e} /MWh	0.0122 MT
2. New emission factor (BPA joins EIM: no sales to CA in the EIM): CO _{2e} /MWh	0.0261 MT
3. New emission factor (BPA joins EIM: sales to CA in the EIM): CO _{2e} /MWh	0.0284 MT
4. The change in the emission factor (2 - 1): CO _{2e} /MWh	0.0139 MT
5. The change in the emission factor (3 - 2): CO _{2e} /MWh	0.0023 MT
6. The change in the emission factor (3 - 1): CO _{2e} /MWh	0.0162 MT

This results in the following increases in Bonneville carbon compliance costs:

Scenario 1: Bonneville joining EIM with no sales to California in the EIM

The Bonneville carbon compliance cost increased ~\$945,000 per year.

- Bonneville extra-regional sales to California (outside the EIM) are ~4,000,000 MWh⁹⁴ per year. The Bonneville carbon compliance cost for these sales would increase due to the slightly higher Bonneville ACS emission factor.
 - $\sim 4,000,000 \text{ MWh} * 0.0139 \text{ MT CO}_2\text{e/MWh} * \$17/\text{MT CO}_2\text{e} = \sim \$0.95 \text{ million per year}$

Scenario 2: Bonneville joining EIM with sales to California in the EIM

The Bonneville carbon compliance cost increased ~\$400,000 per year. This cost has two components:

⁹⁴ The ~4,000,000 MWh per fiscal year is based on the BP-22 Rate Case Initial Proposal extra-regional sales methodology.

- Bonneville extra-regional sales to California (outside the EIM) are ~4,000,000 MWh per year. The Bonneville carbon compliance cost for these sales would increase due to the slightly higher Bonneville ACS emission factor.
 - $\sim 4,000,000 \text{ MWh} * 0.0162 \text{ MT CO}_2\text{e/MWh} * \$17/\text{MT CO}_2\text{e} = \sim \$1.1 \text{ million per year}$
- Bonneville sales to California increased by ~500,000 MWh per year when the E3 analysis assumed that Bonneville could sell to California in the EIM. These additional sales would increase the Bonneville carbon compliance cost but these costs are compensated through the GHG shadow price.

The table below summarizes the above results:

	Emissions Factor (MT CO _{2e} /MWh)	Carbon compliance cost for extra-regional sales to CA (~\$ million/yr)	Gross Benefits (~\$ million/yr)
Pre-EIM	0.0122 CO _{2e} /MWh	\$0.8	
BPA joins EIM: no direct sales to CA	0.0261 CO _{2e} /MWh	\$1.8	\$29
BPA joins EIM: with direct sales to CA	0.0284 CO _{2e} /MWh	\$2.0	\$33.6

The benefits of selling into California in the EIM appear to far outweigh the costs. And to the extent this conclusion does not hold true in actual operations, Bonneville can decide to stop selling to California in the EIM at any time.

3. Selling into California Could Impact Bonneville’s Customers under Other State Carbon Programs

Bonneville received many comments on the EIM Policy ROD from the public stating that the EIM GHG accounting issue was important to them, particularly its potential impact on their compliance with state laws in the region.⁹⁵ Several customers and customer groups have also communicated these concerns directly to Bonneville staff and management. In general, Bonneville customers have indicated that it is more important to them to consider the implications of Bonneville’s participation in the EIM (including but not limited to current GHG accounting design) to customers’ compliance with current and potential future GHG emissions reduction programs and clean energy standards in Washington and

⁹⁵ See EIM Policy ROD § 3.5.4.2.

Oregon, than it is to consider the impacts (assessed above) regarding Bonneville sales into California.

In 2019, Washington state passed the Clean Energy Transformation Act⁹⁶ that requires retail utilities to remove coal by 2026, be carbon neutral by 2030, and 100% carbon-free by 2045. Implementation plans detailing how utilities will meet their compliance obligations are due to the state starting in 2022, and in 2030 customers will need to mitigate for any unspecified power through purchasing unbundled RECs, doing “energy transformation projects,” or paying an administrative fee. CETA rulemakings are still ongoing and there is significant uncertainty around how utilities will demonstrate compliance with the law and how participation in the EIM will be treated for purposes of compliance with the law.

In April 2021, Washington state passed legislation establishing a cap-and-trade program. The program begins in 2023 and covers electricity that is imported into the state, including via an organized market. The legislation leaves to the rulemaking process the question of how to treat EIM imports into the state. Thus it is not yet determined how Washington will regulate EIM imports under the program. Additionally, if Washington were to propose a method of regulating EIM imports that involved the CAISO, it is likely that further processes would be needed by the CAISO to determine feasibility of implementation. Under the program, Washington utilities will be allocated free allowances that should cover most if not all forecasted emissions. Bonneville’s Washington customers are keenly focused on the CETA rulemakings and compliance obligations, and are expected to be similarly focused on cap-and-trade.

In addition, Oregon has also been aggressively pursuing GHG emissions reduction policies. While focus in the past has been on establishing a cap-and-trade program in Oregon, during the 2021 legislative session that focus shifted to creating a clean energy standard.

Given the current uncertainties associated with how these programs will treat EIM purchases, Bonneville may reevaluate the results of the analysis contained in this Attachment at a later time as more information becomes available. As stated in this Draft EIM Close-out Letter, Bonneville can decide to stop selling to California through the EIM at any time.

⁹⁶ Clean Energy Transformation Act, Wash. Rev. Code § 19.405.