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SUBMITTED VIA E-TARIFF FILING

March 1, 2017

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

**Re: *Portland General Electric Company*
Docket No. ER17 - ____-000
Amendments to the Portland General Electric Company Open Access
Transmission Tariff to Facilitate Entry into the Energy Imbalance
Market**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act (“FPA”)¹ and Part 35 of the Federal Energy Regulatory Commission’s (“Commission” or “FERC”) regulations,² Portland General Electric Company (“PGE”) hereby submits for filing revisions to its Open Access Transmission Tariff (“OATT”). The attached revisions are designed to facilitate PGE’s participation in the Energy Imbalance Market (“EIM”) administered by the California Independent System Operator (“CAISO”), with parallel operations targeted for August 1, 2017, and full participation scheduled to commence on October 1, 2017. The OATT revisions are the culmination of a stakeholder process lasting several months during which PGE gave OATT customers and other stakeholders the opportunity to review and comment on the proposed revisions. The tariff changes include:

¹ 16 U.S.C. § 824d (2012).

² 18 C.F.R. Part 35 (2016).

- (i) the qualifications and requirements for generation resources physically or electrically located in PGE’s balancing authority area (“BAA”) to participate in the EIM;
- (ii) the roles and responsibilities of PGE as a balancing authority (“EIM Entity”) and of CAISO as the market operator (“MO”);
- (iii) the flow of information from transmission and interconnection customers taking service in PGE’s BAA to PGE that is then amalgamated into a resource plan and transmitted to CAISO in order to facilitate CAISO’s economic dispatch modeling;
- (iv) the manner in which capacity on PGE’s transmission system will be made available for EIM transfers into and out of the PGE BAA; and
- (v) the settlement of EIM-related payments and charges between PGE and its transmission and interconnection customers.
- (vi) in addition to the revisions described above, PGE is also making minor administrative revisions to improve its OATT.

While the CAISO OATT acknowledges the need for EIM Entities to determine the manner in which they will participate as a BAA in the EIM on a case-by-case basis,³ PGE is the fifth EIM Entity to announce its participation and its proposed OATT revisions consequently are guided by the prior efforts of others. Specifically, the OATT revisions proposed by PGE herein are modeled on, and in all cases consistent with, the most recent Commission-accepted tariff changes adopted by one or more of the current EIM participants.⁴ The EIM-related provisions of PGE’s OATT are further designed to work in concert with parallel provisions of the CAISO OATT, which define CAISO’s role and responsibility as the EIM MO.

³ See *Cal. Indep. Sys. Operator Corp.*, Fifth Replacement FERC Electric Tariff (OATT), Roles and Responsibilities, § 29.4(b)(3) (effective Feb. 1, 2017) (“CAISO Tariff”).

⁴ The current EIM Entities are: PacifiCorp, Nevada Power Co. and Sierra Pacific Power Co. (together, d/b/a “NV Energy”), Puget Sound Energy, Inc. (“PSE”), and Arizona Public Service Company (“APS”) (collectively, “Existing EIM Entities”). The Commission has previously accepted tariff changes filed by the Existing EIM Entities. See, e.g. *PacifiCorp*, 147 FERC ¶ 61,227 (“PacifiCorp EIM Order”), *order on reh’g, clarification, and compliance*, 149 FERC ¶ 61,057 (2014) (“First PacifiCorp Compliance Order”), *reh’g denied*, 150 FERC ¶ 61,084, *order accepting compliance filings*, 151 FERC ¶ 61,261 (2015) (“Second PacifiCorp Compliance Order”); *Nev. Power Co.*, 151 FERC ¶ 61,131 (“NV Energy EIM Order”), *order on reh’g and clarification*, 153 FERC ¶ 61,306 (2015); *Puget Sound Energy, Inc.*, 155 FERC ¶ 61,111 (2016) (“PSE EIM Order”); *Ariz. Pub. Serv. Co.*, 155 FERC ¶ 61,112, *order on compliance, clarification, and reh’g*, 156 FERC ¶ 61,227 (2016) (“APS EIM Order”). See also *PacifiCorp*, Letter Order Accepting Compliance Filing, Docket No. ER14-2544-001 (filed June 30, 2015); *PacifiCorp*, 152 FERC ¶ 61,241 (2015).

As a new EIM participant, PGE's proposed tariff revisions are also consistent with the measurable readiness criteria approved by the Commission on November 19, 2015, for new BAAs participating in the EIM, including the requirement to complete a sufficient amount of parallel operations prior to certification of readiness.⁵ PGE is on track to complete all readiness requirements prior to its scheduled October 1, 2017, go-live date, and has already made considerable progress in that regard.

In Docket No. ER16-366-000, the Commission accepted as just and reasonable the agreement between CAISO and PGE memorializing PGE's commitment to participate in the EIM ("Implementation Agreement").⁶ PGE now asks the Commission to issue an order no later than May 1, 2017, that accepts the proposed tariff changes included with this filing, effective as of the dates requested herein, so that customers may begin realizing the significant benefits of EIM participation on October 1, 2017.

I. BACKGROUND

A. Description of PGE

PGE, the largest utility in Oregon, is an integrated electric utility serving over 1.5 million people in a 4,000-square-mile service territory in Northwest Oregon. PGE's service territory includes Portland, Salem, and 50 other cities. PGE owns generation, transmission, and distribution facilities for service to wholesale and retail customers and it buys and sells power in the Western energy market. PGE owns and operates 669 circuit miles of transmission and is a joint owner of the California-Oregon Intertie. PGE has direct transmission interconnections with the PacifiCorp West BAA and the California ISO BAA. PGE will also utilize transmission service on the Bonneville Power Administration's ("BPA") system to facilitate transfers of imbalance energy into and out of the PGE BAA once PGE enters the EIM.

B. EIM Background

The CAISO-administered EIM emerged from the efforts of Western utility regulators earlier this decade to explore the benefits of a multi-state market for imbalance energy. In response to that initiative, CAISO proposed to utilize its existing market platform to integrate BAAs outside California with the CAISO BAA for purposes of supplying imbalance energy under a single, intra-hour economic dispatch model. By using an existing organized market in the region as a platform, EIM participants could avoid some of the expense and delays associated with developing a market from the ground up.

⁵ See *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,205 at P 85 (2015) (approving readiness criteria); see also *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,283 (2016) (accepting NV Energy's readiness certification in advance of commencing operations).

⁶ See *Cal. Indep. Sys. Operator Corp.*, 154 FERC ¶ 61,020 (2016).

PacifiCorp was the first utility to announce its intent to join the EIM, filing OATT revisions to facilitate participation of its East and West BAAs on February 28, 2014 in Docket No. ER14-1578. The Commission ultimately accepted those tariff changes, subject to a compliance filing, on June 19, 2014.⁷ On the same day, the Commission conditionally accepted revisions to the CAISO OATT providing for the administration of a multi-state EIM by CAISO.⁸ Following multiple compliance filings by both PacifiCorp and CAISO and respective Commission orders,⁹ the EIM was activated and became fully operational on November 1, 2014, with PacifiCorp as the first non-CAISO participant.

On March 6, 2015, NV Energy filed its own tariff revisions in Docket No. ER15-1196 designed to facilitate its participation in the EIM. NV Energy's proposed revisions were conditionally accepted, subject to a compliance filing, by FERC order on May 14, 2015,¹⁰ and NV Energy commenced participation in the EIM on December 1, 2015.

On February 10, 2016, PSE filed its tariff revisions in Docket No. ER16-923 in order to facilitate its participation in the EIM. PSE's proposed revisions were conditionally accepted, subject to a compliance filing, by FERC order on April 29, 2016,¹¹ and PSE commenced participation in the EIM on October 1, 2016.

On February 12, 2016, APS filed its tariff revisions in Docket No. ER16-938 in order to facilitate its participation in the EIM. APS's proposed revisions were conditionally accepted, subject to a compliance filing, by FERC order on April 29, 2016,¹² and APS commenced participation in the EIM on October 1, 2016.

Along the way, CAISO and Existing EIM Entities' OATT provisions related to EIM participation have evolved and been refined through compliance filings or separate proceedings designed to enhance the functioning of the market based on preliminary experience. For example, in Docket No. ER14-2544, the Commission accepted for filing PacifiCorp tariff revisions to modify the allocation of operating reserve payments,¹³ while in Docket No. ER15-2365 the Commission accepted PacifiCorp tariff revisions designed to accommodate the use of available transfer capability ("ATC") between the PacifiCorp BAAs and the NV Energy BAA, and to implement changes consistent with CAISO's EIM Year 1 Enhancements Phase I.¹⁴ Additionally, as discussed below, CAISO

⁷ See PacifiCorp EIM Order.

⁸ *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231 (2014).

⁹ See First PacifiCorp Compliance Order; see also *Cal. Indep. Sys. Operator Corp.*, 149 FERC ¶ 61,058 (2014).

¹⁰ See NV Energy EIM Order.

¹¹ See PSE EIM Order.

¹² See APS EIM Order.

¹³ *PacifiCorp*, Letter Order Accepting Tariff Changes, Docket No. ER14-2544-001 (filed June 30, 2015).

¹⁴ *PacifiCorp*, 152 FERC ¶ 61,241.

and the EIM Entities have reduced the frequency of scarcity conditions through tariff changes implementing available balancing capacity (“ABC”) (making reserves available to EIM Entities visible to CAISO),¹⁵ and have changed the flexible ramping constraint to a flexible ramping product (allowing for the procurement of ramping capability via market products).¹⁶

C. PGE Participation in the EIM

PGE became the fifth utility to announce its intent to join the EIM on November 20, 2015. PGE’s decision was based on extensive internal due diligence and was informed by the benefits realized by PacifiCorp from the outset of the market, as well as the significant benefits predicted for PGE by a consultant’s independent analysis.

1. Expected Benefits of Participation

The PGE EIM Economic Analysis filed in Docket No. ER16-366-000¹⁷ assesses the potential economic benefits of CAISO EIM participation. PGE anticipates incremental benefits to PGE:

Overall, the dispatch cost savings range from \$2.7 million in the base scenario to \$6.1 million in the high RPS scenario. Reduced reserves would provide an additional \$0.8 million of savings for the base scenario. While not directly modeled, these savings are likely applicable to the other scenarios at a similar level—resulting in \$0.8M higher total savings for all scenarios after considering the reserves requirement impact. Thus, the maximum total savings would range from \$3.5 to \$6.9 million.¹⁸

These benefits are expected to contribute to significant savings for consumers in Oregon, increase system reliability, and improve integration of renewable resources. Additionally, PGE expects to create incremental savings for current CAISO EIM participants by contributing additional liquidity and diversity of supply and demand to the market.¹⁹

¹⁵ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,305 (2015); *PacifiCorp*, 154 FERC ¶ 61,170 (2016).

¹⁶ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 156 FERC ¶ 61,226 (2016); *Puget Sound Energy Inc.*, 157 FERC ¶ 61,198 (2016).

¹⁷ *Cal. Indep. Sys. Operator Corp.*, Motion to Intervene and Comments of Portland General Electric Company, Attachment A – PGE Energy Imbalance Market Economic Analysis, Docket No. ER16-366-000 (filed Nov. 25, 2015) (“PGE Economic Analysis”) (attached hereto as Attachment D).

¹⁸ *Id.* at 38.

¹⁹ *Id.* at 39.

2. Implementation Agreement and Project Milestones

PGE executed an Implementation Agreement with CAISO on May 15, 2015. CAISO filed the agreement at FERC on November 20, 2015, and it was approved by the Commission on January 19, 2016.²⁰ The Implementation Agreement identifies a number of project and financial milestones in its Exhibit A leading to PGE's full participation in the EIM on October 1, 2017. PGE and CAISO have already completed Milestone 1, as the Implementation Agreement was made effective through acceptance by the Commission on January 19, 2016;²¹ in November 2016, PGE and CAISO completed Milestone 2 when PGE was modeled into the ISO Full Network Model through the Energy Management System. PGE will continue to work diligently with all stakeholders to ensure its timely, productive and smooth entry into the EIM October 1, 2017.

Upcoming implementation milestones include:

- April 2017: CAISO will promote the market network model, including the PGE area, to its non-production system, and allow PGE to connect and exchange data in advance of market simulation.
- June 2017: EIM market simulation will allow PGE and CAISO to conduct specific market scenarios in a test environment prior to the deployment of production resources to ensure that all system interfaces are functioning as expected to produce simulated market results. The commencement of EIM simulation will signal that PGE and CAISO have independently completed EIM system design, development and testing to participate in joint testing.²²
- August 2017: CAISO and PGE will activate a parallel operation environment to practice production grade systems integration, market processes, and operating procedures, and will apply these results to the EIM readiness criteria.
- September 2017: PGE will implement the project and go live, including resource registration, operating procedures and updates, executed service agreements, updated tariffs, applicable board approvals, the filing and acceptance of service agreements and tariff changes with FERC, and completion and filing of a readiness criteria certification in accordance with the CAISO OATT.

3. Stakeholder Process

Following its November 23, 2015, public announcement, PGE posted on its OASIS a letter to OATT customers on July 15, 2016, to invite customers to participate in its stakeholder process.²³ PGE posted an initial draft of proposed tariff changes to

²⁰ See *Cal. Indep. Sys. Operator Corp.*, 154 FERC ¶ 61,020.

²¹ *Id.*

²² *Cal. Indep. Sys. Operator Corp.*, Implementation Agreement, Exhibit A, Project Scope and Schedule, Docket No. ER16-366-000 (filed Nov. 20, 2015).

²³ Letter from Frank Afranji, Director, Transmission & Reliability Services (July 15, 2016), available at http://www.oasis.oati.com/PGE/PGEdocs/Notice_of_PGE_OATT_Stakeholder_Process.pdf.

implement EIM participation on August 15, 2016, and hosted a stakeholder meeting via WebEx on October 14, 2016. Customers were given the opportunity to file written comments on the initial draft between August 15, 2016 and November 1, 2016.

PGE posted revised drafts of tariff revisions on November 17, 2016, and January 9, 2017. Another stakeholder meeting was held via WebEx on January 12, 2017, and customers were invited to submit written comments between November 15, 2016, and January 23, 2017. PGE did not receive any written comments following its January 2017 stakeholder meeting. Matrices summarizing PGE's OATT changes are available in the EIM folder on PGE's OASIS website at: <http://www.oatioasis.com/pge/>.

PGE proposes revisions in this tariff filing to Schedule 4-R to price imbalance energy settlements using the same load aggregation price ("LAP") to settle imbalance with its other transmission customers under Schedule 4. PGE seeks to ensure that the pricing provisions for imbalance energy under Schedule 4-R of the OATT and retail rate schedules are consistent.

II. DESCRIPTION OF TARIFF FILING

PGE's proposed tariff changes are in all cases substantively consistent with tariff provisions already accepted as just and reasonable for one or more of the Existing EIM Entities.²⁴ PGE, like the Existing EIM Entities, proposes to adopt a new OATT attachment dedicated to defining the rights and responsibilities of PGE and its OATT customers with respect to the EIM. Attachment P works "in concert with" the EIM provisions of the CAISO tariff without establishing privity between PGE's OATT customers and CAISO. Consistent with the approach first accepted as just and reasonable in the PacifiCorp EIM Order,²⁵ the provisions of PGE's Attachment P are controlling to the extent they conflict with other provisions of the PGE OATT. This provision recognizes that Attachment P is an integral part of the OATT and is intended to govern the relationship between the PGE EIM Entity, transmission customers, and interconnection customers.

Attachment P describes:

- the applicability of Attachment P to PGE customers taking transmission and/or interconnection service under the OATT (Section 1);
- the eligibility requirements and mechanism for a generating resource to participate in the EIM as a "PGE EIM Participating Resource" (Sections 2 and 3);

²⁴ See PacifiCorp EIM Order; First PacifiCorp Compliance Order; Second PacifiCorp Compliance Order; NV Energy EIM Order; PSE EIM Order; APS EIM Order. See also *PacifiCorp*, Letter Order Accepting Compliance Filing, Docket No. ER14-2544-001 (filed June 30, 2015); *PacifiCorp*, 152 FERC ¶ 61,241; *Puget Sound Energy, Inc.*, Letter Order Accepting Compliance Filing, Docket No. ER16-923-002 (filed July 21, 2016).

²⁵ PacifiCorp EIM Order at P 102.

- the obligations of PGE as the PGE EIM Entity and PGE EIM Entity Scheduling Coordinator (Section 4);
- the obligations of PGE transmission customers to provide forecast data,²⁶ including Transmission Customer Base Schedules,²⁷ to PGE at certain intervals before the start of the operating hour (Section 4);
- the provision of transmission capacity on PGE transmission assets for EIM Transfers into and out of the PGE BAA (Section 5);
- the management of the transmission system by PGE during normal and emergency operating conditions (Section 6);
- transmission and generation outage reporting requirements in the PGE BAA (Section 7);
- settlement and billing of EIM charges (Section 8);
- compliance obligations of transmission customers, rules of conduct, and enforcement oversight of FERC with respect to the EIM (Section 9); and
- rules and procedures during market contingencies (Section 10).

PGE’s Attachment P is organized in the same fashion as the FERC-accepted OATTs of PacifiCorp (Attachment T), NV Energy (Attachment P), PSE (Attachment O), and APS (Attachment Q). And, like the Existing EIM Entities, PGE has proposed a series of corresponding revisions to existing provisions of its OATT to accommodate EIM participation. In particular, PGE has proposed:

- Revisions to Section 1 (Definitions) to add a number of new defined terms used in Attachment P related to the EIM;
- The addition of a new Section 12.4A to address resolution of EIM-related disputes;
- Minor revisions to Parts II (Point-to-Point Transmission Service) and III (Network Integration Transmission Service) of its OATT to clarify the manner in which transmission service will be provided for EIM-related dispatch;
- The addition of a new Schedule 1A to Schedule 1 that will allow PGE to recover CAISO EIM administrative costs;

²⁶ PGE proposes to add a new definition of “Forecast Data” to Section 1 of its OATT. “Forecast Data” is “[i]nformation provided by Transmission Customers regarding expected load (as determined pursuant to Section 4.2.4.3 of Attachment P of this Tariff), generation, Intrachange, and Interchange, as specified in Section 4.2.4 of Attachment P and the PGE EIM BP. The Transmission Customer Base Schedule includes Forecast Data that is used by the PGE EIM Entity as the baseline by which to measure Imbalance Energy for purposes of EIM settlement.” Attachment A, Proposed Tariff Revision § 1.34.

²⁷ “Transmission Customer Base Schedule” is defined in PGE’s proposed tariff revisions as: “[a]n energy schedule that provides Transmission Customer hourly-level Forecast Data and other information that is used by the PGE EIM Entity as the baseline by which to measure Imbalance Energy for purposes of EIM settlement. The term ‘Transmission Customer Base Schedule’ as used in this Tariff may refer collectively to the components of such schedule (resource, Interchange, Intrachange, and load determined pursuant to Section 4.2.4.3 of Attachment P) or any individual components of such schedule.” Attachment A, Proposed Tariff Revision § 1.100.

- Revisions to Schedules 4 (Energy Imbalance Service), 4-R (Retail Energy Imbalance Service), and 10 (Generator Imbalance Service) to provide for settlement of imbalance charges and payments at locational EIM prices;
- Addition of a new Schedule 11 (Real Power Losses) to provide for the financial settlement of losses using locational EIM prices; and
- Certain additional revisions to Attachment O, Standard Large Generator Interconnection Procedures (“LGIP”), and Attachment M, Standard Small Generator Interconnection Procedures (“SGIP”), to clarify requirements for interconnection customers related to the EIM.

The Commission has accepted as just and reasonable this same overall OATT structure for EIM implementation for the Existing EIM Entities, and should make consistent findings here. PGE has included as Attachment C to this filing a chart summarizing all proposed tariff changes and identified PGE’s requested effective date for each such change.

A. Summary of PGE Elections With Respect to Tariff Provisions For Which the Existing EIM Entities Have Adopted Varying Approaches

All of PGE’s proposed tariff revisions are wholly consistent with tariff language that has already been accepted as just and reasonable in the case of one or more of the Existing EIM Entities (recognizing pre-existing differences in PGE’s tariff). In areas where Existing EIM Entities have used varying approaches, PGE has elected to use the following tariff mechanisms:²⁸

- PGE’s Attachment P, Section 5 offers two mechanisms for the provision of PGE transmission capacity to effectuate EIM Transfers: namely, the provision of capacity by an interchange rights holder, and the provision of capacity utilizing ATC. This two-pronged approach is consistent with PacifiCorp’s currently accepted OATT,²⁹ as well as those of PSE and APS.³⁰ Additionally, as the Commission has noted, use of the interchange rights holder mechanism is distinct from reassignment of transmission rights.³¹
- PGE proposes in Schedule 11 to require customers to settle losses financially at the LAP price produced by the EIM. The financial settlement of losses at the LAP price has been accepted as just and reasonable and in fact was mandated as a replacement for a regional index price by the Commission in the PacifiCorp EIM

²⁸ The list excludes pre-existing tariff deviations, such as the existence of PGE’s Schedule 4-R, Retail Energy Imbalance Service.

²⁹ *PacifiCorp*, 152 FERC ¶ 61,241.

³⁰ See APS EIM Order at PP 10, 67; PSE EIM Order at P 134.

³¹ See PacifiCorp EIM Order at P 114 (“[This] proposal does not appear to be a sale, assignment, or transfer of transmission service that would fall under section 23 of the *pro forma* OATT.”). Based upon the Commission’s clear distinction, PGE has not included express language comparable to PacifiCorp’s section 23.4 expressly exempting EIM transfers from the “sale, assignment, or transfer” provisions of its OATT.

Order.³² Requiring financial settlement of losses to the exclusion of in-kind replacement was also approved in the PSE EIM Order and the APS EIM Order, in the latter of which FERC found it to be just and reasonable and consistent with Order Nos. 888 and 890.³³ Financial settlement more closely tracks actual costs because in-kind replacement has an inherent lag that can be exploited to, for example, take advantage of on-peak and off-peak pricing differences or other temporal variations in the price of energy. For the same reasons, PGE has also proposed to require financial settlement of losses to the exclusion of in-kind replacement at the hourly Mid-Columbia Price Index published by Powerdex during EIM market contingencies, as reflected in proposed Attachment P, Sections 10.4.4 and 10.4.5.

- PGE proposes under Attachment P, Section 8.12 to allocate payments for operating reserves related to EIM transfers consistent with the approach that was accepted for PSE.³⁴ Namely, PGE will sub-allocate payments to Transmission Customers with Participating Resources in the PGE BAA for Operating Hours during which EIM Transfers from the PGE BAA to another BAA occurred. Payments shall be sub-allocated on a ratio-share basis, defined as the proportion of the volume of Operating Reserves provided by the Participating Resource compared to the total volume of Operating Reserves provided by all Participating Resources dispatched in the PGE BAA during the Operating Hour. PGE will not allocate charges for operating reserve obligations incurred under Section 29.11(n)(2) to transmission customers.³⁵
- Consistent with PSE,³⁶ PGE proposes to require transmission customers without generation or load in the PGE BAA to submit a Transmission Customer Base Schedule that includes intrachange Forecast Data.
- PGE proposes to limit the EIM-related scheduling requirements in Section 4 of Attachment P to generation resources of 3 MW or more, consistent with the requirements of PacifiCorp and NV Energy.³⁷

³² *Id.* at P 162.

³³ *Ariz. Pub. Serv. Co.*, 143 FERC ¶ 61,280 at P 28 (2013) (“We find that Order Nos. 888 and 890 do not preclude the use of a financial settlement mechanism to the exclusion of in-kind replacement.”), *order on reh’g*, 148 FERC ¶ 61,125 (2014).

³⁴ *See* PSE EIM Order at PP 91-92.

³⁵ *Id.*

³⁶ *Puget Sound Energy, Inc.*, Letter Order Accepting Compliance Filing, Docket No. ER16-923-002 (issued July 21, 2016); *Puget Sound Energy, Inc.*, Letter Order on Tariff Revisions, Docket No. ER16-2272-000 (issued Sept. 14, 2016).

³⁷ *See generally* PacifiCorp EIM Order; NV Energy EIM Order.

B. EIM Roles and Responsibilities

1. PGE as an EIM Entity

PGE has a variety of responsibilities as the EIM Entity and functions as the direct link with CAISO on behalf of load, Non-Participating Resources, interchange, and intrachange customers in the PGE BAA. As an initial matter, PGE must have effective provisions in its OATT to enable it to receive the information it needs to manage EIM operations and conduct accurate settlements. In addition, PGE, as an EIM Entity, must: (1) qualify or secure representation as an EIM Entity Scheduling Coordinator;³⁸ (2) process PGE EIM Participating Resource applications;³⁹ (3) provide required information regarding modeling data and registration to CAISO;⁴⁰ (4) provide data to CAISO regarding the day-to-day operation of the EIM, including the submissions of “EIM Base Schedules”⁴¹ and Resource Plans and any changes to such plans;⁴² (5) provide CAISO with information regarding the reserved use of the transmission system and interties and any changes to transmission capacity;⁴³ and (6) submit information regarding planned and unplanned outages and derates.⁴⁴ These responsibilities are necessary to facilitate the operation of the EIM in accordance with the requirements for EIM Entities specified in Section 29 of the CAISO Tariff.

Participation in the EIM does not change PGE’s existing responsibilities as a BAA. As it does today in the performance of its BAA system-balancing responsibilities, PGE will set aside resource capacity at specific generators for contingency reserve, up-regulation, and down-regulation for system balancing service for PGE’s BAA.

2. Determinations for EIM Implementation

a. Load Aggregation Points

Under Section 29.4(b)(3)(F) of the CAISO Tariff the EIM Entity must identify its LAP used for settlement purposes. PGE’s proposal to use a single LAP for its single BAA simplifies the process of market participation for transmission customers and allows PGE to gain experience with the locational marginal prices (“LMP”) created by

³⁸ Attachment A, Proposed Attachment P § 4.1.1.1 (“Attachment P”).

³⁹ *Id.* § 4.1.1.2.

⁴⁰ *Id.* § 4.1.2.

⁴¹ “EIM Base Schedules” are defined by the CAISO as “[a]n hourly forward Energy Schedule that does not take into account Dispatches from the Real-Time Market.” CAISO Tariff, Appendix A, Definitions, version 0.0.0 (effective Sept. 9, 2014).

⁴² Attachment P § 4.1.3.

⁴³ *Id.* § 5.1.

⁴⁴ *Id.* § 7.

the EIM.⁴⁵ Additionally, PGE does not currently have any transmission constraints within its BAA that warrant multiple LAPs. The Commission has recognized the reasonableness of a single LAP approach, at least initially, for the Existing EIM Entities.⁴⁶

b. Use of CAISO Load Forecast Versus Own Forecast

PGE has elected to use the CAISO load forecast for the purpose of preparing its Resource Plan.⁴⁷ Under CAISO's market design, an EIM Entity may elect to use either its own load forecast or a load forecast produced by CAISO.⁴⁸ If the EIM Entity Scheduling Coordinator chooses to submit a Resource Plan using the CAISO load forecast, it can minimize exposure to charges for under- or over-scheduling.⁴⁹ There is no incremental cost to PGE or its customers for the use of the CAISO forecast. Furthermore, in accordance with Section 29.34(d) of CAISO's Tariff, the option to use CAISO's load forecast does not preclude the EIM Entity from balancing to its own forecast in a given hour if it concludes it is appropriate to do so. PGE's determination to use the CAISO load forecast is also consistent with the approach taken by Existing EIM Entities.⁵⁰

c. CAISO Versus Scheduling Coordinator Metered Entity

In accordance with Section 29.10 of the CAISO Tariff, the PGE EIM Entity and all transmission customers with PGE EIM Participating Resources have the option to be

⁴⁵ Multiple LAPs are justified when significant differences between regional LMPs are identified. As an example, the CAISO is currently exploring creating additional LAPs based upon actual LMP and congestion data and history for its BAAs. Currently, PGE's BAA does not have historical LMP data.

⁴⁶ See PacifiCorp EIM Order at P 259; PSE EIM Order at P 141; APS EIM Order at P 125. See generally NV Energy EIM Order.

⁴⁷ Attachment P § 4.1.1.3(3). A "Resource Plan" is defined in PGE's proposed tariff revisions as "[t]he combination of load, resource and Interchange components of the Transmission Customer Base Schedule, ancillary services plans of the PGE EIM Entity, bid ranges submitted by PGE EIM Participating Resources, and the EIM Available Balancing Capacity of Balancing Authority Area Resources." Attachment A, Proposed Tariff Revision § 1.42A.

⁴⁸ The MO's load forecast will be based on historical data, applicable meteorological data, and the CAISO's State Estimator solution. It will be produced separately for each LAP and then aggregated for each BAA. PacifiCorp has one LAP for each of its BAAs, which results in one load forecast for each of its BAAs. NV Energy, PSE, and APS each have a single LAP for their individual BAAs, resulting in a single load forecast. PGE is proposing a single LAP for its BAA, which also will result in a single load forecast. The MO recovers the costs associated with the gathering and processing of required information to establish the load forecast through its EIM Administrative Charge.

⁴⁹ If an EIM Entity Scheduling Coordinator using the CAISO load forecast submits an EIM Base Schedule forecast for the entire BAA that is within +/- 1% of the CAISO load forecast, the EIM Entity Scheduling Coordinator would not be exposed to under- or over-scheduling penalties, which in turn would be sub-allocated to its load.

⁵⁰ PSE EIM Order at PP 134-35; see also APS EIM Order at PP 106-11.

either CAISO Metered Entities or Scheduling Coordinator Metered Entities.⁵¹ *PGE has elected to become a Scheduling Coordinator Metered Entity on behalf of its customers, including transmission customers with Non-Participating Resources.*⁵² Accordingly, the PGE EIM Entity shall submit load, resource, and Interchange meter data to the MO in accordance with the MO Tariff’s format and timeframes on behalf of transmission customers with Non-Participating Resources, loads, and Interchange.⁵³ The PGE EIM Entity must fulfill this role in order to meet the requirements of the CAISO Tariff and provide the MO timely and accurate meter data for EIM settlements.

3. Transmission Customer Responsibilities

Section 4.2 of Attachment P outlines the responsibilities of customers with respect to the EIM. These include providing: (1) initial registration data, including operational characteristics of generators; (2) updates to the initial registration data; (3) planned and forced outage and derate information; and (4) Forecast Data. These requirements are just and reasonable and necessary to facilitate operation of the EIM.⁵⁴ Because the EIM is the

⁵¹ Attachment P § 4.1.1.3(4). Pursuant to the CAISO Tariff, a Scheduling Coordinator Metered Entity is “(1) a Generator, Eligible Customer, End-User, Reliability Demand Response Resource, or Proxy Demand Resource that is not a CAISO Metered Entity; (2) an EIM Entity; [or] (3) an EIM Participating Resource that elects to be a Scheduling Coordinator Metered Entity.” A CAISO Metered Entity is:

- (a) any one of the following entities that is directly connected to the CAISO Controlled Grid:
 - i. a Generator other than a Generator that sells all of its Energy (excluding any Station Power that is netted pursuant to Section 10.1.3) and Ancillary Services to the Utility Distribution Company or Small Utility Distribution Company in whose Service Area it is located;
 - ii. an MSS Operator; or
 - iii. a Utility Distribution Company or Small Utility Distribution Company; and
- (b) any one of the following entities:
 - i. a Participating Generator;
 - ii. a Participating TO in relation to its Tie Point Meters with other TOs or Balancing Authority Areas;
 - iii. a Participating Load;
 - iv. a Participating Intermittent Resource;
 - v. an EIM Participating Resource that has elected not to be a Scheduling Coordinator Metered Entity, with regard to the EIM Resources it specifies that it represents as a CAISO Metered Entity; or
 - vi. a utility that requests that Unaccounted For Energy for its Service Area be calculated separately, in relation to its meters at points of connection of its Service Area with the systems of other utilities.

CAISO Tariff, Appendix A, Definitions.

⁵² Attachment P § 4.1.1.3(4).

⁵³ *Id.* § 4.1.4.

⁵⁴ PacifiCorp EIM Order at P 101.

manner in which PGE will provide imbalance services to all of its Transmission and Interconnection Customers, it is appropriate for all such customers to bear the responsibilities and duties set forth in Attachment P to facilitate the EIM.⁵⁵

Registration and outage information is necessary to comply with requirements established under proposed CAISO Tariff Sections 29.4(c)(4)(C) and (D) (registration) and 29.9 (outages). As a matter of Good Utility Practice and operation, many customers today already provide this type of information to PGE on their respective facilities and outages. These limited data requirements will enhance reliable operation of the EIM as the MO will have up-to-date and accurate information on resource capabilities and availability. In addition, the information should be readily available to customers and is not burdensome to produce. Outage and derate data is necessary to ensure that the MO has accurate operational data to administer the EIM, to produce accurate and appropriate Dispatch Instructions, and to mitigate the potential for congestion and imbalance on PGE's transmission system.

Similarly, most customers today already schedule their projected day-ahead and hour-ahead load and generation requirements either through the submission of e-Tag schedules or through the provision of manual scheduling data. The EIM simply formalizes and centralizes the manner in which Forecast Data is communicated in a way that facilitates EIM dispatch and settlement. Forecast Data is necessary for the EIM to be able to properly model and account for expected load, generation, imports, and exports during the operating hour. In addition, Forecast Data comprise the Transmission Customer Base Schedule that is used by the PGE EIM Entity as the baseline by which to measure Imbalance Energy for purposes of EIM settlement. Overall, the requirements are just and reasonable as they facilitate efficient implementation of the EIM in accordance with requirements established by CAISO as the MO.

D. Eligibility of Resources to Participate

1. Application and Certification

CAISO and the PGE EIM Entity must have a consistent and complete understanding of which resources: (1) are eligible to participate; (2) have voluntarily elected to participate; (3) have met all CAISO's certification requirements; and (4) have met PGE's application and certification requirements. The PGE EIM Entity must know which resources are participating in the EIM (and thus settling imbalances directly with CAISO) or not participating in the EIM (and thus settling imbalances under PGE's OATT Schedules 4, 4-R, and 10 as a Non-Participating Resource).⁵⁶ To that end,

⁵⁵ See, e.g., PacifiCorp EIM Order at P 191 ("we find that PacifiCorp's filing and the EIM Benefits Study adequately demonstrate that the EIM will provide both quantitative and qualitative benefits to PacifiCorp's customers. Accordingly, in order to realize those benefits, PacifiCorp, and by extension, its transmission customers, must submit forecast data consistent with the timelines established by the CAISO in order for CAISO to run its security-constrained economic dispatch.").

⁵⁶ Attachment P § 3.3.4 clarifies that, unless certified by the PGE EIM Entity as a PGE EIM Participating Resource, the resource shall be deemed to be a Non-Participating Resource.

Section 3.3 of PGE's Attachment P includes a two-phase set of requirements for the application and certification of PGE EIM Participating Resources.

Consistent with Section 3.3.1 of Attachment P, to become a PGE EIM Participating Resource, an applicant must submit a completed application and provide a processing deposit of \$1,500. The fee is necessary for PGE to recover its costs associated with processing the application, setting up the communications and billing accounts, and for evaluating and determining metering or telemetry requirements necessary for EIM participation. The PGE EIM Entity shall decide to accept or reject the application within 45 days of receipt of the application.⁵⁷ At minimum, the PGE EIM Entity shall validate, through the application, that the PGE EIM Participating Resource applicant has satisfied Sections 3.1 and 3.2 of Attachment P, as applicable, and met minimum telemetry and metering requirements, as set forth in the PGE EIM Business Practice. If the PGE EIM Entity approves the application, it will notify the PGE EIM Participating Resource applicant and the MO. If the PGE EIM Entity rejects the application, the PGE EIM Entity will notify the applicant and state the grounds for the rejection. Section 3.3.2 provides a mechanism for the applicant to cure the grounds for the rejection.

Consistent with Section 3.3.3 of Attachment P, certification of the PGE EIM Participating Resource occurs upon approval of the application and once the Transmission Customer demonstrates, and CAISO has confirmed, that the Transmission Customer has done the following:

- Met CAISO's criteria to become an EIM Participating Resource⁵⁸ and executed CAISO's *pro forma* EIM Participating Resource Agreement;
- Qualified to become or retained the services of a CAISO-certified EIM Participating Resource Scheduling Coordinator;
- Met the necessary metering requirements of PGE's OATT and Section 29.10 of the CAISO Tariff;
- Secured the EIM Participating Resource Scheduling Coordinator's executed CAISO *pro forma* Meter Service Agreement for Scheduling Coordinators;
- Met communication and data requirements of PGE's OATT and Section 29.6 of the CAISO Tariff; and
- Demonstrated the ability to receive and implement dispatch instructions every five minutes from CAISO.

Section 3.3 of Attachment P also includes provisions regarding the treatment of resources pending certification, as well as the ongoing obligation of transmission customers with a PGE EIM Participating Resource to inform the PGE EIM Entity of any changes to any information submitted as part of the application process.⁵⁹

⁵⁷ *Id.* § 3.3.2.

⁵⁸ *See* CAISO Tariff § 29.4 (Roles and Responsibilities).

⁵⁹ Attachment P § 3.3.5.

2. Transmission Rights Required for EIM Participation

a. Internal Resources

PGE's proposed EIM eligibility requirements for resources within the BAA are set forth in Section 3.1 of Attachment P and simply require the execution of a transmission service agreement of some form. Thus, PGE allows a resource to seek CAISO certification to become a PGE EIM Participating Resource if one of the following applies:

- (1) The resource is a Designated Network Resource of a Network Customer and the Network Customer elects to participate in the EIM through its Network Integration Transmission Service Agreement; or
- (2) The resource is associated with either (i) a Service Agreement for Firm Point-to-Point Transmission Service, or (ii) a Service Agreement for Non-Firm Point-to-Point Transmission Service, and such Transmission Customer elects to participate in the EIM.⁶⁰

The execution of a service agreement is a reasonable requirement as it establishes the necessary contractual relationship with respect to performance of EIM-related responsibilities. Neither these provisions nor Attachment P, Section 8.7 impose any transmission service charge related to EIM transactions.

b. External Resources

In the proposed tariff provisions, PGE has adopted the same proposed EIM eligibility requirements for external resources as approved by the Commission for the Existing EIM Entities.⁶¹ Under Attachment P, Section 3.2.1, a resource that is not physically located inside the metered boundaries of the PGE BAA is eligible to become a PGE EIM Participating Resource, if the Transmission Customer:

- (1) Implements a pseudo-tie into the PGE BAA;
- (2) Has arranged firm transmission over any third-party transmission systems to the PGE BAA intertie boundary point equal to the amount of energy that will be dynamically transferred through a pseudo-tie into the PGE BAA; and
- (3) Has entered into a transmission service agreement with PGE consistent with Section 3.1 of Attachment P.

This approach is not only consistent with the approach of other EIM Entities, but the Commission recognized in the order conditionally accepting PacifiCorp's eligibility

⁶⁰ *Id.* § 3.1.

⁶¹ *See* PacifiCorp EIM Order at PP 130-31; *see also* NV Energy EIM Order at P 185; PSE EIM Order at P 147; APS EIM Order at PP 81-83.

requirements that it is “consistent with the Commission’s acceptance of a similar arrangement in the SPP’s Energy Imbalance Service market requiring that external resources use a pseudo-tie in order to participate in that market.”⁶² Noting this consistency, the Commission did not impose a timetable for either PacifiCorp or NV Energy to begin a stakeholder process to address the feasibility of expanding the EIM to include intertie bidding

Although CAISO has considered whether it would be appropriate to require that all EIM Entities implement intertie bidding in the EIM,⁶³ the Commission recently deferred this issue to CAISO’s stakeholder process and held that “CAISO and its stakeholders are in the best position to work through these issues at this time.”⁶⁴ Accordingly, PGE’s proposed tariff revisions do not address intertie bidding, although PGE will remain engaged with CAISO’s stakeholder process as this topic develops further.

3. EIM Transmission Charges

In its consideration of PacifiCorp’s EIM OATT filing, the Commission noted the commitment of CAISO and PacifiCorp to reconsider the issue of an EIM-wide transmission charge once there was sufficient data available to provide a meaningful analysis.⁶⁵ Consistent with that order, PGE has been and will continue to be committed to engaging in any conversations or stakeholder processes with CAISO and other EIM Entities relating to a transmission access charge for the EIM. In the interim, based on clear guidance from the Commission in its orders regarding the Existing EIM Entities, PGE has included language in Attachment P, Section 8.7 which provides “[t]here shall be no incremental transmission charge assessed for transmission related to the EIM. Participating Resources and Balancing Authority Area Resources will not incur unreserved use charges solely as a result of EIM Dispatch Instruction.” The Commission has accepted similar language for other EIM Entities.⁶⁶

E. Availability of Transmission for EIM Transfers

The Commission has accepted two different mechanisms for EIM Entities to utilize transmission capacity to effectuate EIM transfers into and out of the EIM Entity’s BAA: Interchange Rights Holder Donations and ATC. PGE proposes to make transmission capacity available for EIM Transfers using both methods. This dual

⁶² PacifiCorp EIM Order at P 130 (citing *Sw. Power Pool, Inc.*, 123 FERC ¶ 61,062 at P 24 (2008)).

⁶³ CAISO, Energy Imbalance Year 1 Enhancements, Phase 2, Draft Final Proposal (Sept. 8, 2015), http://www.caiso.com/Documents/DraftFinalProposal_EnergyImbalanceMarketYear1Enhancements_Phase2.pdf.

⁶⁴ *Cal. Indep. Sys. Operator Corp.*, 158 FERC ¶ 61,101 (2017).

⁶⁵ PacifiCorp First Compliance Order at P 63.

⁶⁶ *See, e.g.*, PSE EIM Order at PP 134-35; APS EIM Order at PP 106-11.

approach has already been proposed and accepted by the Commission for Existing EIM Entities.⁶⁷

Attachment P, Section 5.2 permits Interchange Rights Holders to make transmission capacity available for EIM Transfers through the submission of an e-Tag by 75 minutes prior to the start of the operating hour. Consistent with the PSE EIM Order, PGE has not proposed revisions to the existing transmission capacity assignment and transfer provisions of Section 23 of its OATT, which are consistent with the *pro forma* OATT, and which on their face do not apply to the provision of transmission capacity by an Interchange Rights Holder to the EIM as contemplated in Attachment P, Section 5.2.⁶⁸ With respect to transmission capacity made available for EIM transfers under Attachment P, Section 5.3, PGE proposes to determine ATC available for EIM Transfers at 40 minutes prior to the operating hour and communicate the availability of such ATC to CAISO using an e-Tag with an OASIS identification reservation number created for EIM Transfers utilizing ATC. This mechanism for making ATC available for EIM Transfers is consistent with the language accepted for existing EIM Entities.⁶⁹

Given its position relative to the CAISO and existing EIM Entities, PGE expects that EIM Transfers will occur (i) directly between the PGE BAA and PacifiCorp West BAA; and (ii) between the PGE BAA and CAISO using transmission on either BPA's or PGE's system, in addition to PGE's rights on the California-Oregon Intertie. First, to accomplish EIM Transfers to and from PacifiCorp West, PGE will utilize direct interconnections between its BAA and the PacifiCorp West BAA. These interconnections will be available for EIM Transfers using the ATC method described above. The initial capability will be up to 305 MW for summer months, and up to 415 MW for winter months.

Second, PGE will utilize the Interchange Rights Holder methodology to facilitate EIM Transfers with CAISO. PGE will initially use two paths to effectuate EIM transfers into the CAISO BAA:

- Transfers from PGE to Grizzly to the California-Oregon Border using up to 150 MW of PGE Firm Point-to-Point Transmission (OASIS Posted Path), which can be redirected to the John Day to COB path.
- Transfers from PGE to BPAT.PGE using PGE Firm Point-to-Point Transmission, then from BPAT.PGE to John Day using BPA Firm Point-to-Point Transmission, then John Day to COB using up to 146 MW (or 296 MW when the 150 MW on the Grizzly to California-Oregon Border path is redirected) of PGE Firm Point-to-Point Transmission (all on OASIS Posted Paths).

⁶⁷ See *supra* note 30.

⁶⁸ PSE EIM Order at P 134.

⁶⁹ See, e.g., *id.* at P 78.

PGE will initially effectuate EIM Transfers from the CAISO BAA into PGE’s BAA from COB to John Day on up to 627 MW of PGE Firm Point-to-Point Transmission, then from John Day to BPAT.PGE using BPA Firm Point-to-Point Transmission, and then from BPAT.PGE to PGE on PGE Firm Point-To-Point Transmission. These paths are all posted on OASIS.

PGE continues to work with BPA, CAISO, and Existing EIM Entities to optimize transmission functionality and flexibility in the EIM consistent with BPA’s other obligations as a transmission owner and operator, including five-minute market dynamic transfer capability. Additionally, as one of the owners of the BPA-operated Southern Intertie (along with BPA and PacifiCorp), PGE is participating in ongoing discussions to increase flexibility on this transmission segment.

F. Sub-Allocation of EIM-Related Charges and Payments Under Attachment P, Section 8

Section 8 of Attachment P identifies the EIM charges and payments and the methods PGE will use to allocate and settle each of them. As with the rest of PGE’s proposed OATT changes, the allocation methods used for each category identified in the table below have been found to be just and reasonable for one or more of the Existing EIM Entities.

Tariff Section	Charge and/or Payment	Allocation
Att. P, § 8.1	Instructed Imbalance Energy	Sub-allocated directly to transmission customers at applicable nodal real-time price.
Att. P, § 8.2	Uninstructed Imbalance Energy	Charges or payments will not be sub-allocated.
Att. P, § 8.3	Unaccounted for Energy	Charges or payments will not be sub-allocated.
Att. P, § 8.4	Over- and under-scheduling charges	Assigned to transmission customers contributing to imbalance based on their respective ratio shares of the over- or under-scheduling in that hour, per schedules 4 and 4R. Any excess revenues will be distributed to customers not subject to over- or under-scheduling charges based on Metered Demand.
Att. P, § 8.5.1	Real-time Market Neutrality	Sub-allocated based on Measured Demand.
Att. P, § 8.5.2	BAA Real-time Congestion Offsets	Sub-allocated based on Measured Demand.
Att. P, § 8.5.3	Real-time Marginal Cost of Losses Offset	Sub-allocated based on Measured Demand.

Tariff Section	Charge and/or Payment	Allocation
Att. P, § 8.5.4	EIM Neutrality Settlement	Sub-allocated based on Measured Demand.
Att. P, § 8.5.5	Real-time Bid Cost Recovery	Sub-allocated based on Measured Demand.
Att. P, § 8.5.6	Flexible ramping product	For flexible ramping forecasted movement demand allocation, sub-allocated based on Metered Demand; for all other categories of flexible ramping charges or payments, sub-allocated based on Measured Demand.
Att. P, § 8.5.7	Penalties for inaccurate or late settlement-quality meter data	Assigned directly to transmission customers.
Att. P, § 8.5.8	Other EIM Neutrality Settlement Provisions	Sub-allocated to the PGE EIM Entity.
Att. P, § 8.6	Tax Liabilities	Assigned directly to transmission customers.
Att. P, § 8.7	EIM Transmission Service Charge	No incremental EIM transmission charge.
Att. P, § 8.7	Variable Energy Resource Forecast Charge	Assigned directly to transmission customers.
Att. P, § 8.12	Operating reserves related to EIM transfers	Payments will be sub-allocated to transmission customers based on a ratio-share basis. Charges will not be sub-allocated.

G. Other Proposed Tariff Changes to the OATT

1. New Schedule 1A: EIM Administrative Service

Like the Existing EIM Entities, PGE will incur administrative charges from CAISO and therefore proposes under a new Schedule 1A to sub-allocate the EIM administrative charges to all transmission customers on the basis of Measured Demand.⁷⁰ The Commission accepted NV Energy’s proposal to recover CAISO administrative charges on the basis of Measured Demand in its own Schedule 1-A,⁷¹ and should similarly accept as just and reasonable PGE’s proposed Schedule 1A. PGE’s proposal is consistent with the Commission’s determination in the PacifiCorp EIM Order that all transmission customers cause PGE to incur CAISO’s EIM administrative charges, and

⁷⁰ PGE proposes to include a new defined term, “Measured Demand,” in Section 1 of its OATT. Measured Demand includes all metered demand plus e-Tagged export volumes from the PGE BAA. Attachment A, Proposed Tariff Revision § 1.50.

⁷¹ See generally NV Energy EIM Order.

should pay according to their volumetric use of the PGE system as determined by Measured Demand.⁷²

2. Revisions to Schedules 4, 4-R, and 10

a. Use of LAPs and LMPs to Settle Energy and Generator Imbalance

PGE will price energy imbalance service provided to transmission customers serving load within PGE's BAA under Schedules 4 and 4-R of the PGE OATT using the LAP price produced by the EIM. Similarly, PGE will price generator imbalance service provided under Schedule 10 to customers with generating resources in the PGE BAA that are not PGE EIM Participating Resources using LMPs generated by the EIM. The Commission has held consistently that using the EIM-produced LAP price or LMP price to establish charges for energy and generator imbalance is just and reasonable.⁷³ For example, the Commission in Order 890 held that Energy Imbalance Service should be priced on the basis of the utility's incremental and decremental cost when the system is deficient or in surplus, respectively. LMP is a form of incremental pricing where such charges reflect a pass-through of the costs to provide the service, since PGE will utilize the EIM to balance its system within the hour. PGE's proposed revisions to Schedules 4, 4-R, and 10 closely mirror the corresponding Commission-accepted energy and generator imbalance schedules of the Existing EIM Entities.

Under Schedules 4 and 4-R, a transmission customer will be charged or paid for Energy Imbalance Service measured as the deviation of the transmission customer's metered load from the load component of the Transmission Customer Base Schedule (as determined pursuant to Section 4.2.4 of Attachment P). The charge or payment is settled at the Uninstructed Imbalance Energy ("UIE") price, as determined by the MO under Section 29.11(b)(3)(C) of the CAISO Tariff, for the period of the deviation at the applicable LAP where the load is located.

Under Schedule 10, a transmission customer will be charged or paid for Generator Imbalance service when a difference occurs between the output of a generator that is not a PGE EIM Participating Resource and is located in the PGE BAA and the resource component of the Transmission Customer Base Schedule. For customers that have not received a Manual Dispatch or EIM Available Balancing Capacity dispatch instruction from the PGE EIM Entity and have not communicated physical changes in the output of the resource to CAISO, any deviation between the transmission customer's metered generation and the resource component of the Transmission Customer Base Schedule will be settled as energy imbalance at the UIE price as determined by the MO under Section 29.11(b)(3)(B) of the MO Tariff for the period of the deviation at the applicable primary node ("PNode") real-time dispatch ("RTD") price where the generator is located.

⁷² PacifiCorp EIM Order at P 170.

⁷³ See PacifiCorp EIM Order at PP 160-63. See also NV Energy EIM Order at PP 174-79.

For transmission customers who have received a Manual Dispatch or EIM ABC dispatch, or who have communicated physical changes in the output from resources to the MO, Generator Imbalance Service will apply under the following circumstances:

- A transmission customer shall be charged or paid for Generator Imbalance Service measured as the deviation of the transmission customer's metered generation compared to the Manual Dispatch amount, EIM ABC dispatch amount, or physical changes in the output of resources incorporated by the MO in the fifteen-minute market ("FMM"), settled as UIE for the period of the deviation at the applicable PNode FMM price where the generator is located, as determined by the MO under Section 29.11(b)(3)(B) of the MO Tariff;
- A transmission customer shall be charged or paid for Generator Imbalance Service measured as the deviation of the transmission customer's metered generation compared to the Manual Dispatch amount, EIM ABC dispatch amount, or physical changes in the output of resources incorporated by the MO in RTD, settled as UIE for the period of the deviation at the applicable PNode RTD price where the generator is located, as determined by the MO under Section 29.11(b)(3)(B) of the MO Tariff;
- A transmission customer shall be charged or paid for Generator Imbalance Service measured as the deviation of either the Manual Dispatch amount, EIM ABC dispatch amount, or physical changes in the output of resources incorporated by the MO in the FMM, compared to the resource component of the Transmission Customer Base Schedule, settled as Instructed Imbalance Energy ("IIE") for the period of the deviation at the applicable PNode FMM price where the generator is located, as determined by the MO under Section 29.11(b)(1)(A)(ii) of the MO Tariff; or
- Generator Imbalance Service measured as the deviation of either the Manual Dispatch amount, EIM ABC dispatch amount, or physical changes in the output of resources incorporated by the MO in RTD, compared to the FMM schedule, as IIE for the period of the deviation at the applicable PNode RTD price where the generator is located, as determined by the MO under Section 29.11(b)(2)(A)(ii) of the MO Tariff.

PGE is, like PacifiCorp, NV Energy, and PSE before it, proposing to eliminate penalty tiers for scheduling behavior under Schedules 4, 4-R, and 10. PGE will monitor the scheduling practices of its transmission customers. If there is intentional over-scheduling or under-scheduling, PGE may seek to reinstate the penalty tiers through a future FPA Section 205 filing.

PGE is also proposing to settle imbalance under Schedules 4, 4-R, and 10 using the full aggregated LAP price (for Schedules 4 and 4-R) or LMP (for Schedule 10), which includes an energy loss component. As discussed below, PGE will only assess average system losses under Schedule 12 using the "balanced" component of the Transmission Customer Base Schedule, so that there will be no duplicative charge for energy losses on energy imbalance. This approach was first accepted as just and

reasonable in the NV Energy EIM Order,⁷⁴ and differs from PacifiCorp's method of backing out the loss component of the LAP price or LMP in the imbalance settlement and assessing system average losses on the full metered output or demand.

b. Adoption of New Schedule 11 – Real Power Losses

PGE's OATT currently does not contain a rate schedule delineating the price at which losses will be financially settled. In practice, PGE has been settling losses on its system using the factors of 2.0% over the Pacific Northwest-Pacific Southwest (PNW-PSW) AC Intertie, 3.0% over the Colstrip transmission line, and 1.6% for all other service over PGE's integrated transmission grid, applied to the Mid-Columbia Powerdex index price. Upon commencement of EIM participation, PGE proposes, consistent with the Commission's direction in the PacifiCorp EIM Order,⁷⁵ to utilize the aggregated LAP price to financially settle losses. The LAP price is a better representation than the Powerdex price of PGE's marginal cost of producing energy to replace real power losses in real-time.

PGE proposes to provide for LAP pricing for losses in a new Schedule 11, under which customers will be assessed losses in accordance with the process approved by the Commission in the NV Energy EIM Order using the Transmission Customer Base Schedule (and not the final e-Tag). This is because losses on Energy Imbalance Service and Generator Imbalance Service provided by PGE are reflected in the LMP or LAP price used to settle imbalance under Schedules 4, 4-R, and 10. PGE also proposes in Schedule 11 to require transmission customers to settle losses financially to the exclusion of in-kind replacement. The timing lag associated with in-kind replacement inherently allows for mismatches in value between the energy at the time it was lost and energy at the time it was replaced, including on-peak and off-peak pricing differences. The Commission has determined that requiring financial settlement of losses to the exclusion of in-kind replacement is just and reasonable and consistent with Order Nos. 888 and 890,⁷⁶ and accepted similar tariff revisions in the PSE EIM Order.⁷⁷

3. Definitions

PGE has added to the definitions in Section 1 of the OATT terms associated with the new market structure. Most of the proposed definitions are intended to be consistent with terms and terminology in the CAISO tariff, the Existing EIM Entities' OATTs, or the NERC Glossary, as applicable.

⁷⁴ See generally NV Energy EIM Order.

⁷⁵ See PacifiCorp EIM Order at P 162.

⁷⁶ *Ariz. Pub. Serv. Co.*, 143 FERC ¶ 61,280 at P 28 (“We find that Order Nos. 888 and 890 do not preclude the use of a financial settlement mechanism to the exclusion of in-kind replacement.”).

⁷⁷ PSE EIM Order at PP 141-42.

4. Changes to Ensure Applicability of Attachment P

The proper functioning of the EIM requires certain minimal information to be provided on an ongoing basis by transmission customers or interconnection customers subject to the OATT, even prior to PGE's initial participation in the EIM. To that end, PGE includes in Section 1 of Attachment P language making Attachment P applicable to all transmission customers and interconnection customers with new and existing service agreements under the OATT. The purpose of this language is to ensure that customers will provide the PGE EIM Entity the necessary information to meet the registration, outage reporting, and forecast requirements included throughout Attachment P in time both for the period of non-binding parallel operations and for actual market participation.

To further clarify the applicability of the EIM-related OATT modifications, PGE proposes the following additions to its OATT:

- A new Section 16.1(g) that provides that “[t]he Transmission Customer must comply with the requirements of Attachment P regarding the EIM;”
- A modification to subsection 29.2(ix) to require the Network Customer to provide information identified in Attachment P; and
- A new Section 5 of the Small Generator Interconnection Procedure in Attachment M and new Section 2.5 of the Standard Large Generator Interconnection Procedure in Attachment O that specify the “Interconnection Customer shall have a continuing duty to comply with Attachment P of this Tariff, as applicable.”

These provisions were accepted by the Commission for the Existing EIM Entities. They are necessary and appropriate to make the EIM-related OATT provisions applicable to all customers and enable the PGE EIM Entity to provide CAISO with the necessary information to administer the market.

5. Use of Designated Network Resources

To implement the EIM, PGE proposes to amend the provisions in its OATT that require undesignation of Network Resources to make off-system sales (new Section 28.7, and Sections 30.1 and 30.4), so that Network Customers have the option to participate in the EIM without having to undesignate all or a portion of the resource. The Commission-accepted OATTs of the Existing EIM Entities contain similar amendments.

Eliminating the requirement to undesignate network resources that are PGE EIM Participating Resources is justified for several reasons. First, it will not be possible to know in advance of any hour if a particular Network Resource will be used only to serve Network Load or will be awarded an EIM dispatch instruction. It will also not be possible in advance of any hour to know if an EIM dispatch instruction will be issued for load within the PGE BAA, PacifiCorp's BAAs, the NV Energy BAA, or the CAISO BAA. Notwithstanding this uncertainty, the EIM will be serving network load in the broader EIM footprint and, as such, use of Network Integration Transmission Service is justified and reasonable.

Second, the purpose of the Commission’s undesignation requirements is to ensure nondiscriminatory access to available capacity. This purpose is achieved when Network Resources are used to serve any EIM load utilizing available transmission capacity as verified in real time which would be otherwise unable to be used. Third, the Commission has approved provisions in both the SPP and MISO that recognize the need for exemptions from the need to undesignate resources.⁷⁸

6. Conforming Changes to SGIP/LGIP

PGE proposes minor revisions to the LGIP and SGIP, necessary to reflect the addition of Attachment P and the need for interconnection customers to comply with the provisions therein.

7. Standard of Liability for PGE’s Responsibilities as an EIM Entity

While PGE proposes to maintain the existing ordinary negligence standard of liability for its responsibilities as the transmission provider under the *pro forma* OATT, PGE requests, consistent with the liability protection afforded PacifiCorp and NV Energy, that its new market responsibilities as an EIM Entity be subject to a gross negligence or intentional wrongdoing standard.⁷⁹ This is reflected in a proposed addition to Section 10.2 of the OATT.

This gross negligence or intentional wrongdoing standard is consistent with what the Commission has accepted previously in other organized markets. In particular, the Commission has approved such a standard for CAISO and its participating transmission owners under the Transmission Control Agreement and the CAISO Tariff.⁸⁰ The Commission recognized that a gross negligence standard is reasonable, as it offers an “equitable balance between lower rates for all market participants and the burden of limited recovery of liability for some.”⁸¹

⁷⁸ See MISO Tariff § 28.6, Restrictions on Use of Service, version 30.0.0 (effective Nov. 19, 2013); Southwest Power Pool, Inc. Open Access Transmission Tariff, Sixth Rev. Vol. No. 1 § 30.4, Operation of Network Resources, version 1.0.0 (effective Mar. 1, 2014).

⁷⁹ See PacifiCorp OATT § 10, Force Majeure and Indemnification, version 1.0.0 (effective Sept. 23, 2014); see also NV Energy OATT § 10, Force Majeure and Indemnification, version 0.1.0 (effective May 15, 2015).

⁸⁰ *Cal. Indep. Sys. Operator Corp.*, 139 FERC ¶ 61,198 (2012). See also *Cal. Indep. Sys. Operator Corp.*, 123 FERC ¶ 61,285 at P 241 (2008) (accepting gross negligence standard in Section 14.5.1 of the CAISO Tariff).

⁸¹ *Cal. Indep. Sys. Operator Corp.*, 123 FERC ¶ 61,285 at P 241.

III. OTHER EIM IMPLEMENTATION ISSUES

A. EIM Business Practice

Utilizing customer feedback provided during the stakeholder process, PGE has developed an EIM Business Practice to help customers understand the terms and conditions of service stipulated in the PGE OATT related to the EIM. Decisions on whether to place an item in the OATT or the PGE EIM Business Practice are shaped by the Commission's "rule of reason" policy,⁸² which dictates that provisions that "significantly affect rates, terms and conditions" must be included in the filed tariff.⁸³ The Commission has elaborated that it is appropriate for a business practice to contain "implementation details, such as instructions, guidelines, examples and charts, which guide internal operations and inform market participants of how the [public utility] conducts its operations under the . . . tariff."⁸⁴ The Commission has also found that the "rule of reason" test requires evaluation on a case-by-case basis, comparing what is in an OATT against what is in an unfiled business practice manual.⁸⁵

Examples of guidance provided in the PGE EIM Business Practice include:

- the application and certification process delineated in Attachment P, Section 3 to become a PGE EIM Participating Resource;
- the information required for initial registration with CAISO of PGE EIM Participating Resources and the process for providing updates to the information consistent with the requirements in Attachment P, Sections 4.2.2.1 and 4.2.2.2;
- the process used to report outage and derate information required by Attachment P, Section 4.2.3 and Section 7;
- implementation details for customers to provide Forecast Data required under Attachment P, Section 4.2.4;

⁸² See, e.g., *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (finding that utilities must file "only those practices that affect rates and service *significantly*, that are reasonably *susceptible* of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous") (emphasis in original); *Pub. Serv. Comm'n of N.Y. v. FERC*, 813 F.2d 448, 454 (D.C. Cir. 1987) (holding that the Commission properly excused utilities from filing policies or practices that dealt with only matters of "practical insignificance" to serving customers); *Midwest Indep. Transmission Sys. Operator, Inc.*, 98 FERC ¶ 61,137 at p. 61,401, *clarification granted*, 100 FERC ¶ 61,262 (2002) ("It appears that the proposed Operating Protocols could significantly affect certain rates and services and as such are required to be filed pursuant to Section 205.") (citation omitted).

⁸³ *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076 at P 656, *reh'g denied*, 120 FERC ¶ 61,271 (2007) (citing *ANP Funding I, LLC v. ISO-NE*, 110 FERC ¶ 61,040 at P 22 (2005); *Prior Notice and Filing Requirements Under Part II of the Federal Power Act*, 64 FERC ¶ 61,139 at pp. 61,986-89, *order on reh'g*, 65 FERC ¶ 61,081 (1993)).

⁸⁴ *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271 at P 16 (2008).

⁸⁵ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1370 (2006), *order on reh'g and clarification*, 119 FERC ¶ 61,076, *reh'g denied*, 120 FERC ¶ 61,271 (2007).

- information matching the specific charge code numbers to the EIM cost allocations contained in Attachment P, Section 8;
- the methodology for distributing the under- and over-scheduling of load proceeds authorized under the allocation in Attachment P, Section 8.4.3; and
- information required to report disputes as required under Section 12.4A of the OATT.

PGE’s EIM Business Practice provides guidance on the OATT EIM-related terms and conditions, without significantly affecting or altering those terms and conditions, and therefore strikes an appropriate balance under the Commission’s rule of reason analysis.

B. Market-Based Rate Authority

In the PacifiCorp EIM Order, the Commission directed PacifiCorp to submit a “market-based rate change of status filing within nine months of the launch of the EIM market so that the Commission can assess whether PacifiCorp has market power in the EIM,” noting that the EIM “will be a new relevant geographic market for market power purposes.”⁸⁶ The Commission deemed it “unlikely that there will be sufficient data available to perform a study” on the EIM for at least nine months.⁸⁷ Subsequently, in the NV Energy EIM Order, the Commission directed both PacifiCorp and its affiliate NV Energy to submit “a market power analysis to demonstrate that it does not have market power in the EIM market . . . prior to commencing financially binding participation in the EIM.”⁸⁸ The requirement that an EIM Entity submit a market power analysis prior to participating in the EIM was subsequently clarified by the Commission in a series of orders on the market power filings of the Existing EIM Entities.⁸⁹ Consistent with the Commission’s guidance, PGE intends to submit a change of status report prior to going live on October 1, 2017, which will include a market power analysis of the EIM footprint, as well as an evaluation of whether the PGE BAA constitutes a submarket within the EIM footprint.

IV. EFFECTIVE DATE AND REQUEST FOR WAIVERS

PGE requests effective dates for its proposed OATT revisions as set forth in Attachment C to this transmittal letter. As indicated therein, PGE requests that revisions to the OATT cover page, table of contents, Section 1, Definitions, and other sections including only minor administrative changes be effective May 1, 2017. PGE further requests that Tariff Sections 7.1, 12.4A, 15.7, 28.1, 28.5, and 28.7; Attachment P Sections 4.1.5, 4.1.6, 8.1-8.6, 8.9, 8.11-8.12, 10.1, and 10.4; and Schedules 1A, 4, 4-R,

⁸⁶ PacifiCorp EIM Order at P 206.

⁸⁷ *See id.* at P 206 n.332.

⁸⁸ NV Energy EIM Order at P 201.

⁸⁹ *Nev. Power Co.*, 153 FERC ¶ 61,206 (2015), *order on reh’g*, 155 FERC ¶ 61,186 at PP 22-26 (2016); *see also Ariz. Pub. Serv. Co.*, 156 FERC ¶ 61,148 at PP 39-42 (2016); *see also Puget Sound Energy, Inc.*, 156 FERC ¶ 61,242 at PP 18-23 (2016).

10, and 11 on the later of October 1, 2017, or the implementation date of PGE's participation in the EIM. These are the provisions related to financial settlement of charges associated with the EIM and additional aspects related to implementation of the EIM, and should not take effect prior to the start of financially binding EIM operations.⁹⁰ For all other proposed tariff changes, PGE requests an effective date that is no earlier than July 25, 2017 or seven days prior to the start of parallel operations. This intermediate effective date reflects the need to have information supporting EIM operation in place several business days prior to the initiation of non-financially binding, parallel operations which is currently scheduled for August 1, 2017. The staggered effective dates proposed herein appropriately balance the need for customers and PGE to have certainty regarding EIM design as they prepare for the startup of PGE's EIM participation, while reserving a later effective date for provisions that are not needed prior to the start of parallel or financially binding operations, and may be inconsistent with current non-EIM operations.

Because the requested effective date of certain provisions will be more than 120 days after the date this OATT amendment is filed with the Commission, PGE seeks waiver of Section 35.3(a)(1) of the Commission's regulations, 18 C.F.R. § 35.3(a)(1). Good cause exists for granting this waiver as it will permit PGE's Tariff amendments to be in place in a timeframe necessary to support final design, testing, and startup, thereby providing all parties with necessary regulatory and operational certainty.⁹¹

In addition, consistent with 18 C.F.R. § 35.3(a)(1), PGE respectfully requests that the Commission issue an order no later than May 1, 2017. As described above, a timely order is necessary to facilitate PGE's and CAISO's market testing scheduled to begin in June 2017, and PGE's customers' implementation of system changes necessary to accommodate the EIM.

To the extent that any filing requirement in Part 35 of the Commission's regulations is not satisfied by this filing and the materials enclosed herewith, PGE respectfully requests waiver of such requirements.

⁹⁰ Because new Attachment P of PGE's OATT will include three different proposed effective dates, PGE has requested an effective date for Attachment P of May 1, 2017, in its eTariff software and included language in Section 1 of Attachment P to set forth the subsequent effective dates and applicable sections. This is similar to the approach taken by NV Energy.

⁹¹ See, e.g., PacifiCorp EIM Order at P 82; *Midcontinent Indep. Sys. Operator, Inc.*, 145 FERC ¶ 61,208 at P 13 (2013).

V. COMMUNICATIONS

All communications, correspondence, and documents related to this proceeding should be directed to the following persons:

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VI. SERVICE

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, PGE is providing an electronic copy of this filing to all transmission and interconnection customers. In addition, PGE has served this filing on CAISO and the Oregon Public Utility Commission.

VII. CONTENTS OF FILING

This filing includes the following Attachments in addition to this transmittal:

Attachment A:	Clean Tariff Sheets of Amended OATT Sections
Attachment B:	Redlined Tariff Sheets of Amended OATT Sections
Attachment C:	Summary of Proposed OATT Changes and Identification of Proposed Effective Dates
Attachment D:	PGE Energy Imbalance Market Economic Analysis

VIII. CONCLUSION

For the reasons stated above, PGE asks the Commission to issue an order, no later than May 1, 2017, which accepts for filing the proposed OATT revisions included herewith with an effective date as discussed in Section IV above and as summarized in Attachment C to this filing.

Respectfully submitted,

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Attachments