

**WESTERN**

**EIIM**



**2022**

**IMPLEMENTATION WORKSHOP**

**Feb. 2, 2021**

# INTRODUCTION

Allie Mace, *Director of Grid Modernization*



# AGENDA

Time	Topic	Presenter
9 to 9:05 a.m.	Introduction	Allie Mace
9:05 to 9:20 a.m.	EIM Implementation Roadmap Update	Allie Mace
9:20 to 10:20 a.m.	Settlements Prototype	Rasa Keanini
10:20 to 10:30 a.m.	Break	
10:30 to 10:45 a.m.	EIM Training Update	Jamey Turner
10:45 to 11:15 a.m.	EIM Customer Impact Summary	Roger Bentz Eric King Todd Kochheiser
11:15 to 11:30 a.m.	Future Workshop Topics and Schedule	Sarah Burczak
11:30 a.m. to noon	Open Question and Answer Session	

# Five Phases to EIM Decision



- Exploration** July 2018–June 2019
- Implementation agreement** June–Sept. 2019
- Policy decisions** Oct. 2019–Oct. 2020
- BP-22 & TC-22** Dec. 2020–July 2021
- Close-out** Aug.–Sept. 2021

# EIM PARTICIPATION PRINCIPLES

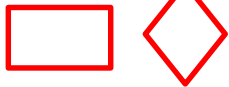


- 1 Bonneville's participation is consistent with its statutory, regulatory and contractual obligations.
- 2 Bonneville will maintain reliable delivery of power and transmission to its customers.
- 3 Bonneville's participation is discretionary and Bonneville retains its ability to effectively exit the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

# EIM IMPLEMENTATION ROADMAP

Allie Mace, *Director of Grid Modernization*



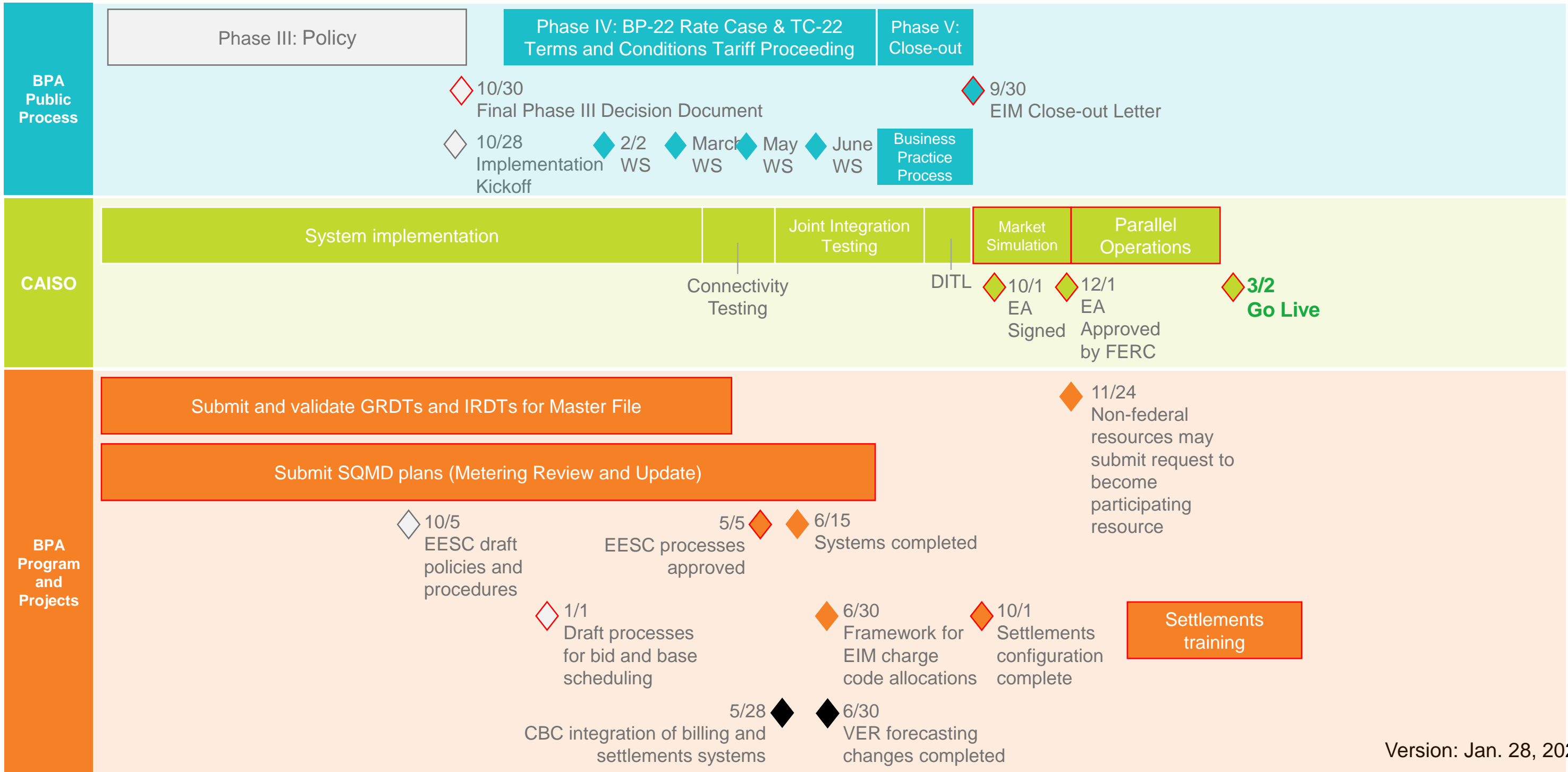
# MILESTONES KEY

	<b>Critical path activity or milestone</b>	These activities have a marginal room for error and delay and have the highest risk of impacting the go-live date.
	<b>Partial EIM project milestones</b>	These milestones represent a cross-project coordination point that is critical to the EIM program.
	<b>Completed activity or milestone</b>	These activities have been completed.

ACCRONYMS IN THE ROADMAP	
CBC	Customer Billing Center Replacement
DITL	Day in The Life (CAISO)
EA	EIM Entity Agreement
EESC	EIM Entity Scheduling Coordinator
GRDT	Generator Resource Data Template
IRDT	Intertie Resource Data Template
PR	Participating Resource
SQMD	Settlement Quality Meter Data
VER	Variable Energy Resources
WS	Workshop
Additional resource: <a href="#">CAISO's Glossary</a>	

# BPA EIM INTEGRATED PROGRAM ROADMAP

2020 April July Oct. 2021 Today Jan. April July Oct. 2022 Jan. April July





# EIM SETTLEMENTS IMPLEMENTATION: EIM-S BILL AND DETAILED DATA PROTOTYPES

Rasa Keanini, *Settlements Product Owner*

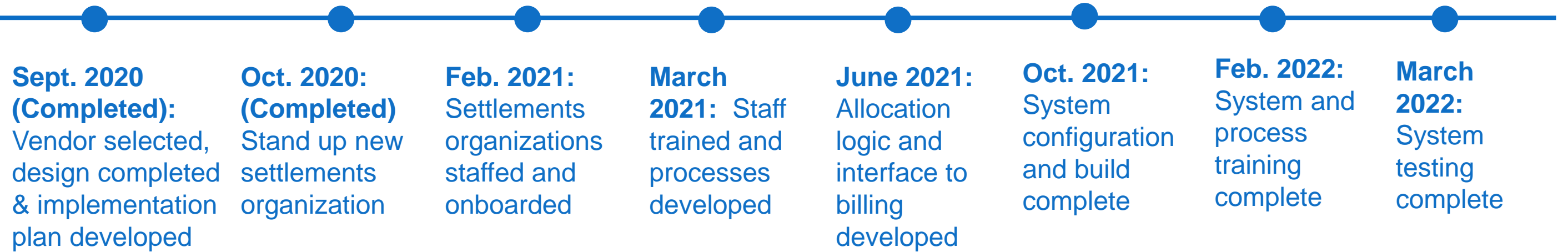


# SETTLEMENTS PROJECT OVERVIEW

- Validate and submit settlement quality meter data**
  - Submit data to the CAISO for generation, load and interchange consistent with the approved SQMD plans.
- Review and validate settlements**
  - Review participating resource settlement statements from the CAISO for federal resources bid into the market.
  - Review EIM Entity Scheduling Coordinator settlement statements from the CAISO.
- Calculate sub-allocations**
  - For any EESC settlement charge codes BPA determines to sub-allocate in the rate and tariff proceedings.
- Support transmission customers**
  - Billing of sub-allocated EESC charge codes.
  - Enable access to relevant settlement statement and invoice causational data for sub-allocated EIM charge codes.
- Manage disputes**
  - Manage EESC and PRSC invoice disputes with the CAISO.
  - Administer and manage transmission customer disputes of sub-allocated EIM charge codes.

# KEY MILESTONES

**GRID** Modernization



# SETTLEMENTS PROTOTYPE

**GRID** Modernization 

- The settlements prototypes shared at these workshops are based on current design proposals for the EIM Settlements and Customer Billing Center systems. They are subject to change as systems are developed.
- The prototypes assume the EIM charge code allocation proposed in the BP-22 Initial Proposal. This is subject to change pending the BP-22 Final Record of Decision.

# WHO MAY RECEIVE EIM-S BILL?

**GRID** Modernization 

Customer types with “Yes” could receive an EIM-S bill.

Code Type	Customer with Non-Participating Resource (Excludes Load)	Customers Receiving Energy Imbalance Today	Load Following Customer	Wheel-Through Customer
Base (Direct Assigned)	YES	YES	NO	YES
Neutrality + Congestion Offset (Measured Demand)	NO	YES	NO	YES
Scheduling Penalties (Measured Demand by Direction)	NO	YES	NO	NO
Treatment of Remaining Codes (those not sub-allocated): Codes with fixed charges forecasted within revenue requirement and codes without fixed charges will be reviewed as data is available and incorporated into either revenue requirement and/or risk assessment.				

Note: This view is based on the sub-allocation method proposed in the BP-22 Initial Proposal and is subject to change. Also, participating resources will settle directly with the CAISO.

# EIM-S BILL PROTOTYPE

**GRID** Modernization 

- EIM-S bills will:
  - Be issued monthly.
  - Be completely separate from other BPA bills. There will not be any netting against the transmission bill.
  - Be distributed from BPA's billing department like the power and transmission bills.
  - Include contact information for any questions related to the EIM-S bill (this is not the same as for other bills where the contact is the revenue analyst).
  - Follow the same initial starting point for bill disputes – customers will contact their transmission account executives to file a bill dispute.

# EIM-S BILL PROTOTYPE

**GRID** Modernization

- EIM-S bills will:
  - Cover multiple performance periods, following the same timeline as CAISO settlement statements (e.g., initial settlement statement, recalculation, and optional settlement statements).
  - Have current, previous and net values.

EIM SERVICES BILL			
Customer Name:	Best Utility	Bill Period:	March 2020
Bill ID:	MAR20-TRN01-BESID	Period Ending:	March 31, 2020
Issue Date:	April 07, 2020		
<b>EIM Services</b>			
<b>Summary</b>			
Bill Period: 03/09/2020 to 03/15/2020 Settlement Cycle: RECALC 1 Invoice Type: DAILY			
Charge Code	Current	Previous	Net
6045 Allocation – Over and Under Scheduling EIM Settlement	\$0.00	\$0.00	\$0.00
6046 Allocation – Over and Under Scheduling EIM Allocation	\$-12.70	\$0.00	\$-12.70
64600 Allocation – FMM Instructed Imbalance Energy EIM Settlement	\$21,556.33	\$21,556.33	\$0.00
64700 Allocation – Real Time Instructed Imbalance Energy EIM Settlement	\$-160.10	\$2.03	\$-162.13
64750 Allocation – Real Time Uninstructed Imbalance Energy EIM Settlement	\$-39,040.34	\$-0.00	\$-39,040.33
64770 Allocation – Real Time Imbalance Energy Offset EIM	\$12,347.35	\$-12,853.84	\$25,201.19
6478 Allocation – Real Time System Imbalance Energy Offset	\$-4.96	\$-4.88	\$-0.08
67740 Allocation – Real Time Congestion Offset EIM	\$-12,897.69	\$-17,810.02	\$4,912.33
69850 Allocation – Real Time Marginal Losses Offset EIM	\$-1,195.38	\$-928.21	\$-267.16
<b>Total</b>	<b>\$-19,407.49</b>	<b>\$-10,038.59</b>	<b>\$-9,368.90</b>
Bill Period: 03/23/2020 to 03/29/2020 Settlement Cycle: INITIAL 1 Invoice Type: DAILY			
Charge Code	Current	Previous	Net
6045 Allocation – Over and Under Scheduling EIM Settlement	\$0.00	\$0.00	\$0.00
6046 Allocation – Over and Under Scheduling EIM Allocation	\$0.00	\$0.00	\$0.00
64600 Allocation – FMM Instructed Imbalance Energy EIM Settlement	\$11,649.05	\$0.00	\$11,649.05
64700 Allocation – Real Time Instructed Imbalance Energy EIM Settlement	\$-51.87	\$0.00	\$-51.87

# DATA PROTOTYPE

GRID Modernization 

- Customers will be able to get their detailed data in a similar manner to how they access metered data today.
- Data may include something similar to the tables in the prototype Excel file:
  - Imbalance Charges Hourly
    - Load Uninstructed Imbalance
    - Intrachange Imbalance
    - Non-Participating Resource – Internal Imbalance
  - Other EIM Charges – both the CAISO Charge Code value and Customer Allocation
    - Real-Time Congestion Offset
    - Real-Time Imbalance Offset
    - Real-Time Unaccounted for Energy
    - Real-Time Marginal Losses Offset
  - For Interchanges and Generating Resources
    - Fifteen Minute Market Instructed Imbalance (5-minute increment)
    - Real-Time Instructed Imbalance (5-minute increment)



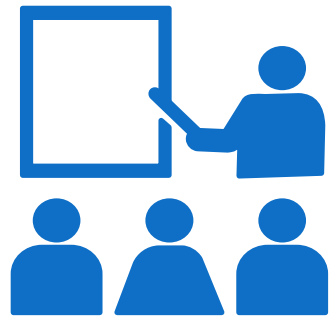
# EIM TRAINING PROGRAM

Jamey Turner, *Program Analyst*



# PROJECT DESCRIPTION

**GRID** Modernization



The EIM Training program will:

- Create a **structured and coordinated approach** to training BPA managers and staff involved in EIM activities.
- Provide the **right amount of EIM knowledge** and skill at the right times.
- Include mechanisms to **retain and grow capabilities** over time.
- Offer **settlements training** to customers.

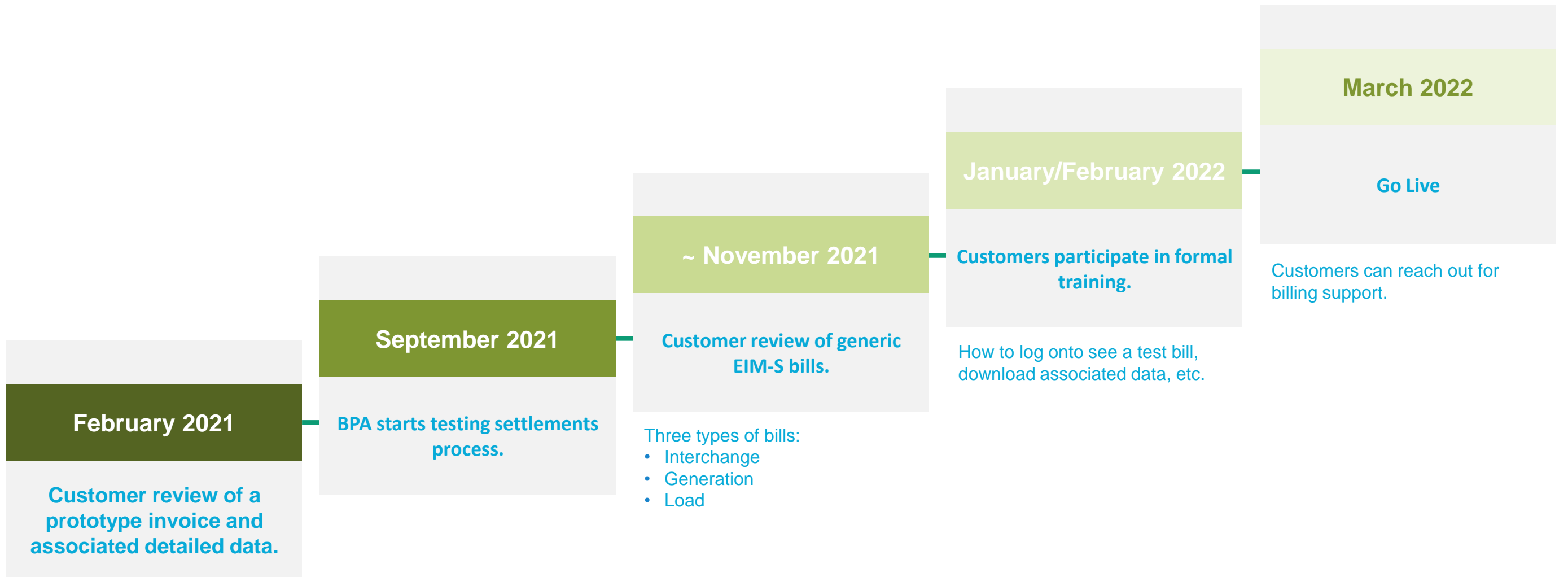
# EXISTING TRAINING RESOURCES

GRID Modernization

- BPA's External EIM Site
  - BPA hosted EIM 101 (Sept. 13, 2019)
  - EIM Fact Sheet (November 2020)
  - EIM Implementation Roadmap (January 2021)
- CAISO's Western EIM Site
  - Foundational Computer Based Trainings
  - Detailed Business Practice Manuals
  - Subscribe to CAISO's new releases and notices

# SETTLEMENTS TRAINING

**GRID** Modernization



Note: Timeline subject to change. Assumes BPA decides to join the EIM in September 2021 and Agency Enterprise Portal goes live August 2021.

# EIM CUSTOMER IMPACT SUMMARY

Roger Bentz, *EIM Program Manager*

Eric King, *Electrical Engineer*

Todd Kochheiser, *Electrical Engineer*



# BACKGROUND

- At Oct. 28 kickoff and in subsequent comments, customers requested greater clarity on how proposed EIM changes will impact customer systems.
- BPA determined the best option is not to alter the roadmap but create a new document which captures this information.

# EIM CUSTOMER IMPACT SUMMARY

- The *EIM Customer Impact Summary* documents what is and is not changing for customers. It also provides whether a final decision has been made and where that decision has been or will be made.
- This document will continue to be updated as information is available and decisions are finalized.
- At future workshops, specific items from the summary will be discussed with an opportunity for questions.

# LOSSES FOR EIM TRANSFERS

**Objective:** Determine whether imbalance energy dispatched by the EIM should incur transmission loss return obligations.

**Analysis:** This issue was discussed at length during the Phase III workshops. Noting this issue is distinct from the BPA’s real power loss return rate or mechanisms and from the loss factor used in EIM. It was concluded in the Sept. 29, 2020, workshop that requiring loss returns on EIM transfers would present a barrier to EIM participation and Bonneville established the position of not requiring real power loss returns for imbalance energy dispatched via the EIM.

## Customer Impact

No loss return required for EIM transfers.

### Source

9/29/20 Phase III Workshop

### Status of decision

Pending TC-22



# SETTLEMENTS PROCESS – TIMING & DATA

**Objective:** Establish the timing and approach for BPA EIM entity settlements with transmission customers.

**Analysis:** This issue was discussed at length during the Phase III workshops. Critical factors discussed include making sure settlements were conveyed in a timely manner with clarity of charges and the visibility of the underlying data.

## Customer Impact

- The EIM transmission customer bill will be provided monthly with weekly publication of a statement containing the billing determinants from the previous week’s settlements to customers.
- Customers will be able to get their detailed data in a similar manner to how they access metered data today.

## Source

Phase III workshops

## Status of decision

Internal business decision

# SETTLEMENTS PROCESS – MEASURED DEMAND

**Objective:** Establish the appropriate basis for calculating “measured demand” – a key component of numerous settlement calculations.

**Analysis:** This issue was discussed at length during the Phase III workshops. Critical factors discussed are consistency with other EIM entities and fair allocation of charges. Consistent with other EIM entities and CAISO, measured demand for use in EIM settlements will be computed by summing metered demand and e-tagged export megawatts from the BPA balancing authority area (excluding BPA EIM transfers).

## Customer Impact

BPA EIM entity settlement calculations will use measured demand in ways consistent with other EIM entities.

### Source

9/29/2020 Phase III Workshop

### Status of decision

Pending BP-22

# SETTLEMENTS – SUB-ALLOCATED CHARGE CODES

**Objective:** Identify which EIM entity EIM settlement charge codes should be allocated to respective transmission customers and based on what factors.

**Analysis:** This issue was discussed at length during the Phase III workshops with the objectives of balancing the complexity while at the same time providing reasonable incentives and equity of market charges and credits.

## Customer Impact

The following EIM entity settlement charge codes will be directly allocated to BPA transmission customers:

- Base codes via direct assignement - 64750, 64600, 64700
- Neutrality codes via measured demand - 64770, 64740, 69850, 6478, 67740
- Over/Under scheduling codes via imbalance by direction and metered demand by direction - 6045, 6046

## Source

8/25/2020 Phase III workshop

## Status of decision

Pending BP-22

# SETTLEMENTS – UNALLOCATED CHARGE CODES

**Objective:** Identify which EIM entity settlement charge codes should not be allocated to transmission customers and instead be included in transmission rates and associated revenue requirements.

**Analysis:** This issue was discussed at length during the Phase III workshops with the objectives of balancing the complexity while at the same time providing reasonable incentives and equity of market charges and credits.

## Customer Impact

Aside from the 10 sub-allocated EESC settlements charge codes, the remaining charge codes will not be sub-allocated directly to BPA transmission customers.

See the table in the next slide.

## Source

8/25/2020 Phase III workshop

## Status of decision

Pending BP-22

# SETTLEMENTS – UNALLOCATED CHARGE CODES

CC #	Charge Code Name	CC #	Charge Code Name	CC #	Charge Code Name
701	Forecasting Service Fee	5900	Shortfall Receipt Distribution	7087	Daily Flexible Ramp Down Uncertainty Award Allocation
1592	EP Penalty Allocation Payment	5901	Shortfall Allocation Reversal	7088	Monthly Flexible Ramp Down Uncertainty Award Allocation
2999	Default Invoice Interest Payment	5910	Shortfall Allocation	7989	Invoice Deviation Interest Distribution
3999	Default Invoice Interest Charge	5912	Default Loss Allocation	7999	Invoice Deviation Interest Allocation
4564	GMC-EIM Transaction Charge	7070	Flexible Ramp Forecast Movement Settlement	8526	Generator Interconnection Process GIP Forfeited Deposit Allocation
4575	SMCR -Settlements, Metering, and Client Relations	7071	Daily Flexible Ramp Up Uncertainty Capacity Settlement	8989	Daily Neutrality Adjustment
4989	Daily Rounding Adjustment	7076	Flexible Ramp Forecast Movement Allocation	8999	Monthly Neutrality Adjustment
4999	Monthly Rounding Adjustment	7077	Daily Flexible Ramp Up Uncertainty Award Allocation	66200	Bid Cost Recovery EIM Settlement
5024	Invoice Late Payment Penalty	7078	Monthly Flexible Ramp Up Uncertainty Award Allocation	66780	Real Time Bid Cost Recovery Allocation EIM
5025	Financial Security Posting (Collateral) Late Payment Penalty	7081	Daily Flexible Ramp Down Uncertainty Capacity Settlement		

# METERING REQUIREMENTS

**Objective:** Assure BPA’s metering requirements can fully meet the EIM needs.

**Analysis:** After further examination of Bonneville’s metering specifications and the CAISO’s requirements, no action is necessary for either generators or load in Bonneville’s balancing authority area to comply with the CAISO’s metering requirements if Bonneville decides to participate in the EIM.

**Customer Impact**  
None.

## Source

EIM Phase III Final Decision Document

## Status of decision

Final

# LIST OF TOPICS TO BE COVERED IN SUMMARY

- ✓ Metering Requirements
- ✓ Settlements Processes
- ✓ Settlement Sub-allocation
- ✓ Losses for EIM transfers
- Participating Resources
- Generators in EIM
- Resource Sufficiency
- EI For Load
- EI For Generation
- Over / Under Scheduling Charges
- VER Scheduling
- Scheduling Timing
- Intentional Deviation
- Persistent Deviation
- Transfer Service Costs

# QUESTIONS AND FEEDBACK

- Is it helpful describing and summarizing customer impacts in this fashion and capturing them in a summary document that is posted?
- What topics would you like us to focus on at the March workshop?



# FUTURE WORKSHOPS

Sarah Burczak, *Stakeholder Engagement Lead*



# TIMELINE



# WORKSHOP #2

## Customer Impact Summary Updates

Continue discussion of customer impacts, review changes or updates to the EIM Customer Impact Summary, and an opportunity to ask questions about information provided in the document.

## GHG Accounting Overview

When BPA issued the EIM Policy Record of Decision, it did not have authority to purchase carbon allowances. Now that BPA has been granted authority to purchase allowances, it needs to decide whether or not to sell into California. BPA will review how GHG accounting works in the EIM and share how its evaluating the issue.

## Phase V Overview

Share the expected timeline for the final EIM decision phase as well as what will be covered in the close-out letter including a review of the six participation principles. Discuss whether any significant changes have occurred to jeopardize meeting BPA's EIM principles, including its business and legal principles.

# WORKSHOP #3

<b>Customer Impact Summary Updates</b>	Continue discussion of customer impacts, review changes or updates to the EIM Customer Impact Summary, and an opportunity to ask questions about information provided in the document.
<b>GHG Accounting Decision</b>	Share final decision on whether or not BPA will sell into California in the EIM.
<b>Western EIM Governance Review Committee Proposal</b>	BPA stated in the EIM Policy ROD that the current governance structure is not a barrier to joining the market. The CAISO's GRC initiative has been looking at ways to improve the current governance structure over the last year. A final proposal is due out later this year and BPA plans to share if it changes its stance on market governance.
<b>Post go-live Reporting</b>	Discuss BPA's proposal to do follow up reporting pending the Phase V decision on joining the EIM.

# WORKSHOP #4

## **Customer Impact Summary Updates**

Continue discussion of customer impacts, review changes or updates to the EIM Customer Impact Summary, and an opportunity to ask questions about information provided in the document.

## **Update on EIM systems and processes**

BPA plans to have initial EIM systems completed by June 15. The teams will provide an update on implementation of those systems and review readiness for testing.

## **Any remaining issues**

Time reserved for any topics that have not been fully addressed at earlier workshops or if new topics have been identified for discussion.

# QUESTIONS?



# COMMENTS

Please send your feedback to [techforum@bpa.gov](mailto:techforum@bpa.gov) by Friday Feb. 12. Specifically share with us:

- Is there a customer impact you do not see covered in the proposed EIM Customer Impact Summary document?
- Is there a future topic you would like to discuss that is not on the schedule?

Thank you for participating in today's workshop. For more information, visit [www.bpa.gov/goto/eim](http://www.bpa.gov/goto/eim).

