



IMPLEMENTATION WORKSHOP

January 27, 2022

INTRODUCTION

Tina Ko, *Vice President of Transmission
Marketing and Sales*



SAFETY MOMENT



- 2019 National Survey on Drug Use & Health
 - 9.7m people misused prescription pain killers
 - 4.9m people misused prescription stimulants
 - 5.9m misused tranquilizers/sedatives

Majority of misused prescription drugs were obtained from family and friends, often from home medicine cabinets

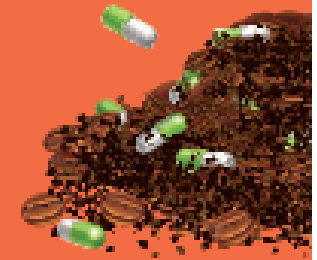
SAFETY MOMENT

If there is no prescription drug disposal program in your area, follow these steps...

Follow these simple steps to dispose of medicines in the household trash

MIX

Mix medicines (do not crush tablets or capsules) **with an unpalatable substance** such as dirt, cat litter, or used coffee grounds;



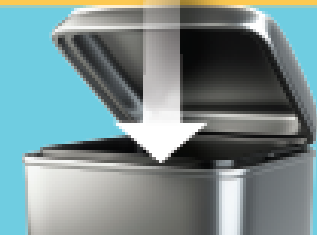
PLACE

Place the mixture **in a container** such as a sealed plastic bag;



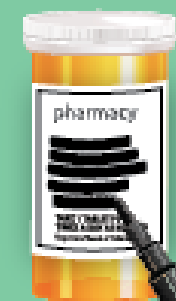
THROW

Throw the container **in your household trash**;



SCRATCH OUT

Scratch out **all personal information** on the prescription label of your empty pill bottle or empty medicine packaging to make it unreadable, then dispose of the container.



AGENDA

Time	Topic	Presenter
9 to 9:05 a.m.	Introductions	Tina Ko
9:05 to 9:20 a.m.	Go Live update	Nita Zimmerman
9:20 to 9:35 a.m.	Grid Mod Mobilization	Mark Symonds
9:35 to 10:00 a.m.	Program Update	Roger Bentz and Mark Symonds
10:00 to 10:15 a.m.	Settlements	Rasa Keanini
10:15 to 10:30 a.m.	Break	
10:30 to 10:45 a.m.	Metering/Billing update	Malerie Ray and Misty Meyer
10:45 to 11:00 a.m.	Agency Enterprise Portal (AEP)	Maggie Rhodes
11:00 to 11:15 a.m.	Outage Management System (OMS)	Michelle Cathcart
11:15 to 11:30 a.m.	EIM Reporting Update	Allie Mace
11:30 to noon	Open question and answer	

GO-LIVE UPDATE

Nita Zimmerman, *Chief Business
Transformation Officer*



EIM GO-LIVE

GRID Modernization

BPA decided to move BPA EIM Go-Live from March 2, 2022 to May 3, 2022

- Move will allow current projects to complete and meet go-live dates with adequate testing and customer training

GRID MODERNIZATION MOBILIZATION

Mark Symonds, *Grid Modernization Director*



GRID MODERNIZATION MOBILIZATION STATUS

Updated: 01.25.2022

0%

Identify

13%

Define

5%

Integrate

51%

Deliver

31%

Complete

Agency Enterprise Portal Phase 2
AMS MRU Devise Event Reporting
Power Operations Log Replacement
Wildfire Risk Modeling
Mission Critical IT – Re-Platforming

Concurrent Losses
Real Time Ops Modernization

AGC Modernization
Agency Enterprise Portal
Agency Metering System Replacement
Automated Operations Planning & Reliability Assessment
BPA Network Model
Customer Billing Center Replacement
Data Analytics
EIM Bid & Base Scheduling
EIM Real Time Operations
EIM Settlements Implementation
EIM Training Program
EIM Testing Program
Federal Data & Generation Dispatch Modernization
Load & Renewable Forecasting
Metering Review & Update
Mission Critical IT – Infrastructure
Outage Management System
Price & Dispatch Analysis (PRADA)
ST Available Transfer Capability
Sub-Hourly Scheduling on the DC

CTA Implementation
EIM Settlements Scoping
Energy Trading & Risk Management & MMS Expansion
Marketing & Settlements System
Mission Critical IT – Architecture
Mission Critical IT – Integration
Mission Critical IT – Service Management
One BPA Outage
Outage Tracking System
Power Services Training
RAS Automatic Arming
Reliability Coordinator Decision, Planning & Execution

EIM PARTICIPATION PRINCIPLES

**GRID** Modernization

- 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 PROGRAM UPDATE

Mark Symonds, *Grid Mod Director*

Roger Bentz, *EIM Program Manager*



EIM PROGRAM UPDATE

GRID Modernization

- All project work is continuing full throttle
- Teams are not changing their focus & maintaining current MVP scope
- Risks actively being managed (meter data, outage management, settlements sub-allocation, detail data file, billing & customer portal)
- EESC desk fully staffed & trained
- Functional & non-functional post go-live support model coming together
- Coordination and testing with upstream and downstream systems & functions making good progress
- Training of operators & support staff has been completed
- List of BPA's EIM pricing nodes (pnodes) has been provided on BPA's external EIM website

PARALLEL OPERATIONS PROGRESS

 **GRID** Modernization

- Parallel Ops activities and market participation going well
- Operators carrying out roles effectively and gaining understanding of market
- Operations systems performing well
- 30 of 34 CAISO Readiness Criteria completed
- Processes and procedures continuing to be refined
- Testing of operations procedures & scenarios going well
- End-to-end testing of EIM transfers successfully carried out with two adjacent EIM entities & remaining will be tested before go-live

READINESS CRITERIA - Completed


GRID Modernization

RC #	Readiness Category	Evidence Owner	Status
1, 2, 3	Network Model centric	ISO	Closed
4	Prospective EIM Entity Full Network Model Integration	ISO	Close 11.30.2021 FNM criteria met
5	Agreements	Joint	Closed 12.01.2021, copies of executed agreements provided
6	Operations Training	EIM Entity	Closed, operators have all completed training & are ready
7 & 8	Forecasting Capability	ISO	Closed
9	Forecasting Capability	ISO	Closed
10 & 11	Balanced Schedules	EIM Entity	Closed
12	Balanced Schedules	ISO	Closed
13	Operating Procedures	Joint	Closed 10.05.2021, NDA no longer required
14	Operating Procedures	EIM Entity	Closed 11.19.2021, procedure documents provided
15 & 16	System Readiness & Integration	EIM Entity	Closed 9.30.2021 Functional and system integration complete
17	System Readiness & Integration	Joint	Closed
18	System Readiness & Integration	Joint	Closed 09.30.2021 data interface testing completed
19 & 20	Market Simulation	Joint	Closed DITL and Structured Scenarios completed
21	Market Simulation	EIM Entity	Closed 11.30.2021 Unstructured Scenarios determined
22 & 23a	Market Simulation	ISO	Closed 11.17.2021 ISO Market QA appropriate, Market Prices and MWs validated
24	Market Simulation	Joint	Close 11.16.2021 Final update schedule 1
27	Monitoring	ISO	Closed
29	Outage Management System	Joint	Close 11.15.2021 outages created processed by ISO OMS
30	Communications between the CAISO and the prospective EIM Entity	EIM Entity	Closed 11.19.2021, Everbridge and other processes implemented
31	Communications between the CAISO and the prospective EIM Entity	EIM Entity	Closed 11.10.2021 communications training completed
32	Communications between the CAISO and the prospective EIM Entity	Joint	Closed since no 3rd party TSPs exist
33	EIM Available Balancing Capacity	EIM Entity	Closed 11.17.2021 systems identified and capable of designated ABC

READINESS CRITERIA - Remaining

GRID Modernization 

RC #	Readiness Category	Evidence Owner	Status
23b	Prices are validated against inputs	ISO	Issues are not expected; close-out expected soon
25	Settlements statements match ops and market data	Joint	Validation mostly completed
26	CAISO Settlements & entity sub-allocations are accurate	Joint	Addressing the customer sub-allocation readiness component
28	Parallel Ops runs consistently and according to plan	ISO	Issues are not expected; close-out expected soon

IMPACTS OF THE DELAY

GRID Modernization 

- Parallel Ops will be interrupted to accommodate 3/2 target date for other new EIM entities
- BPA's testing will revert back to the Market Sim environment beginning early February
- Move back to Market Sim environment will require some reconfiguration and synchronization work with CAISO, vendors & internal support staff
- Will require pause in some testing efforts (AGC integration scenarios, End-to-end ETSR testing etc.)

IMPACTS OF THE DELAY (cont'd)

GRID Modernization

- Will migrate back to Parallel Ops environment somewhere between 3/2/22 and 3/15/22
- Expecting readiness certification attestation not later than 4/1/22
- EIM Transfer testing with adjacent EIM Entities will continue once Parallel Operations resumes

NEXT STEPS

GRID Modernization

- Continue push for final product deliveries
- Complete development & testing activities
- Provide settlement detail data file for sample bill days to customers
- Continue testing & operations exercises in Market Sim environment
- Continue Parallel Operations once reconfiguration is completed
- Complete readiness certification
- Prep for May 3rd go-live

EIM SETTLEMENTS

Rasa Keanini, *EIM Settlements Product Owner*

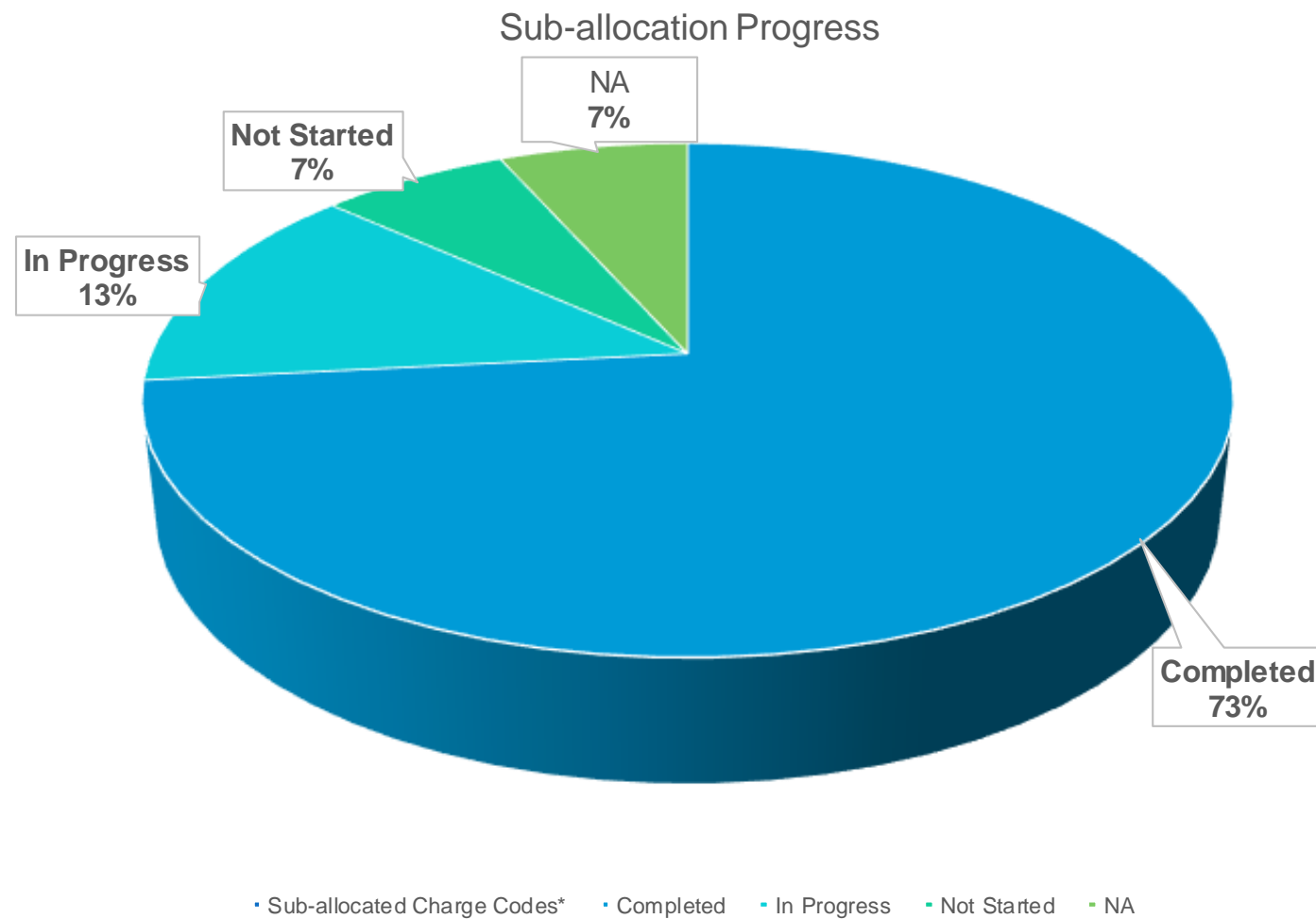


UPDATE ON SOFTWARE PROGRESS

**GRID** Modernization

- Expect the vendor to hold to agreed upon schedule
 - No change due to shift in Go-Live
 - BPA and vendor staff are both focused on delivering sub-allocation functionality as soon as possible

SUB-ALLOCATION PROGRESS

GRID Modernization

- Sub-allocation Progress
 - Includes Intentional Deviation, Persistent Deviation and Intrachange (using the token)
 - NA pertains to Charge Code 64740 – Unaccounted for Energy
 - Successfully tested using hardcoded data
 - Next set of tests will be on live data

EXAMPLE 1: LOAD

GRID Modernization

EIM SERVICES BILL

Customer Name: EIM Example Participant
Bill ID: SEP21-EIM-99998
Issue Date: October 29, 2021

Load Example

Bill Period: September 2021
Period Ending: September 30, 2021

INITIAL: 2021-09

Charge Code	Description	Current Amount	Previous Amount	Net Amount
20	Persistent Deviation Penalty	\$0.00	\$0.00	(\$15.00)
6045	Over/Under Sched Settle	\$0.00	\$0.00	(\$235,723.52)
6046	Over/Under Sched Alloc	\$0.00	\$0.00	\$0.00
64750	RT UIE EIM Settlement	\$0.00	\$0.00	(\$36,168.39)
64770	RT Imb Energy Offset EIM	\$0.00	\$0.00	\$856,817.39
6478	RT Sys Imb Energy Offset	\$0.00	\$0.00	(\$227.44)
67740	RT Congestion Offset	\$0.00	\$0.00	(\$212,486.23)
69850	RT Marg Losses Offset	\$0.00	\$0.00	\$0.00

RECALC: 2021-07

Charge Code	Description	Current Amount	Previous Amount	Net Amount
20	Persistent Deviation Penalty	\$0.00	\$0.00	(\$15.00)
6045	Over/Under Sched Settle	\$0.00	\$0.00	(\$235,723.52)
6046	Over/Under Sched Alloc	\$0.00	\$0.00	\$0.00
64750	RT UIE EIM Settlement	\$0.00	\$0.00	(\$36,168.39)
64770	RT Imb Energy Offset EIM	\$0.00	\$0.00	\$856,817.39
6478	RT Sys Imb Energy Offset	\$0.00	\$0.00	(\$227.44)
67740	RT Congestion Offset	\$0.00	\$0.00	(\$212,486.23)
69850	RT Marg Losses Offset	\$0.00	\$0.00	\$0.00

EXAMPLE 2: GENERATION



EIM SERVICES BILL

Customer Name:	EIM Example Participant	Bill Period:	September 2021
Bill ID:	SEP21-EIM-99998	Period Ending:	September 30, 2021
Issue Date:	October 29, 2021		

Generation Example

INITIAL: 2021-09

Charge Code	Description	Current Amount	Previous Amount	Net Amount
15	Intentional Deviation Penalty	\$0.00	\$0.00	\$221.05
20	Persistent Deviation Penalty	\$0.00	\$0.00	(\$15.00)
64600	FMM IIE EIM Settlement	\$0.00	\$0.00	\$4,057.19
64700	RT IIE EIM Settlement	\$0.00	\$0.00	(\$44,767.73)
64750	RT UIE EIM Settlement	\$0.00	\$0.00	(\$36,168.39)

RECALC: 2021-07

Charge Code	Description	Current Amount	Previous Amount	Net Amount
15	Intentional Deviation Penalty	\$0.00	\$0.00	\$221.05
20	Persistent Deviation Penalty	\$0.00	\$0.00	(\$15.00)
64600	FMM IIE EIM Settlement	\$0.00	\$0.00	\$4,057.19
64700	RT IIE EIM Settlement	\$0.00	\$0.00	(\$44,767.73)
64750	RT UIE EIM Settlement	\$0.00	\$0.00	(\$36,168.39)

EXAMPLE 3: INTERCHANGE



EIM SERVICES BILL

Customer Name: EIM Example Participant

Bill ID: SEP21-EIM-99998

Issue Date: October 29, 2021

Bill Period: September 2021

Period Ending: September 30, 2021

Interchange Example

INITIAL: 2021-09

Charge Code	Description	Current Amount	Previous Amount	Net Amount
64600	FMM IIE EIM Settlement	\$0.00	\$0.00	\$4,057.19
64700	RT IIE EIM Settlement	\$0.00	\$0.00	(\$44,767.73)
64770	RT Imb Energy Offset EIM	\$0.00	\$0.00	\$856,817.39
6478	RT Sys Imb Energy Offset	\$0.00	\$0.00	(\$227.44)
67740	RT Congestion Offset	\$0.00	\$0.00	(\$212,486.23)
69850	RT Marg Losses Offset	\$0.00	\$0.00	\$0.00

RECALC: 2021-07

Charge Code	Description	Current Amount	Previous Amount	Net Amount
64600	FMM IIE EIM Settlement	\$0.00	\$0.00	\$4,057.19
64700	RT IIE EIM Settlement	\$0.00	\$0.00	(\$44,767.73)
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67740	RT Congestion Offset	\$0.00	\$0.00	(\$212,486.23)
69850	RT Marg Losses Offset	\$0.00	\$0.00	\$0.00

METERING AND BILLING UPDATES

Malerie Ray, *Metering Product Owner*

Misty Meyer, *Billing Product Owner*



METERING UPDATE

Data integration

- There have been data integration issues that result in random gaps in the meter data. The vendor has developed a fix that should prevent these gaps from occurring.
- The BPA Metering team is still testing that fix and plans to deploy this week. Deployment is expected no later than January 28.

Reporting

- Data was inconsistent among the six metering report types.
- MDM vendor work is already well underway to address this, with changes happening daily. Require full report performance and hourly updates of information by February 1.

Change Data

- This functionality allows the metering system to recognize if data changes have been made and facilitates re-calculation of data used for metering and billing, and will impact EIM calculations.
- This functionality is online as of January 24 and we continue monitoring this update.

BILLING UPDATE

- Billing replacement project Go Live date is planned for early calendar year Q2.
- Development of the EIM Services Bill template is in progress and we have created a small set of bills using hardcoded data.
 - Testing with live data may reveal that adjustments are required
- Billing is dependent upon sub-allocations functionality being completed in the EIM Settlements system in order to produce an EIM Services Bill.

AGENCY ENTERPRISE PORTAL (AEP)

Maggie Rhodes, *AEP Product Owner*



AEP UPDATE

GRID Modernization

- On track for Feb 25 Go-Live
- Training Sandbox – tentatively available week of Jan 31
 - Customer training
 - Potential early training to be held on Wed, February 9th and Thurs, February 10th
 - Training dates will be held the weeks of Feb 14-24 (via WebEx)
 - Customer Admin only training on Feb 16 (via WebEx)
- Customer Portal Support team will be available to help with user issues/questions prior to and during trainings

AGREEMENTS AND LEGACY SYSTEM STATUS

- Customers with signed new Customer Portal (CP) Access and Use Agreements
 - Customer Portal Support team will email customers to verify their CP Admins and Users (starting Jan 10th)
- Customers which have not yet signed CP Agreements
 - Please reach out to your Account Executive or customerportal@bpa.gov to do so
- At Go-Live, Legacy Customer Portal (CP) will be available only for historical data
 - Legacy CP will not be updated (no user changes, no live data feeds, no metering reports, etc.)
 - Legacy CP will be retired in calendar year 2022

WHAT'S NEXT

 **GRID** Modernization

January

- Week of Jan 31 – Customer CP Training Date Announcement
 - BPA.gov, Tech Forum, email to existing users

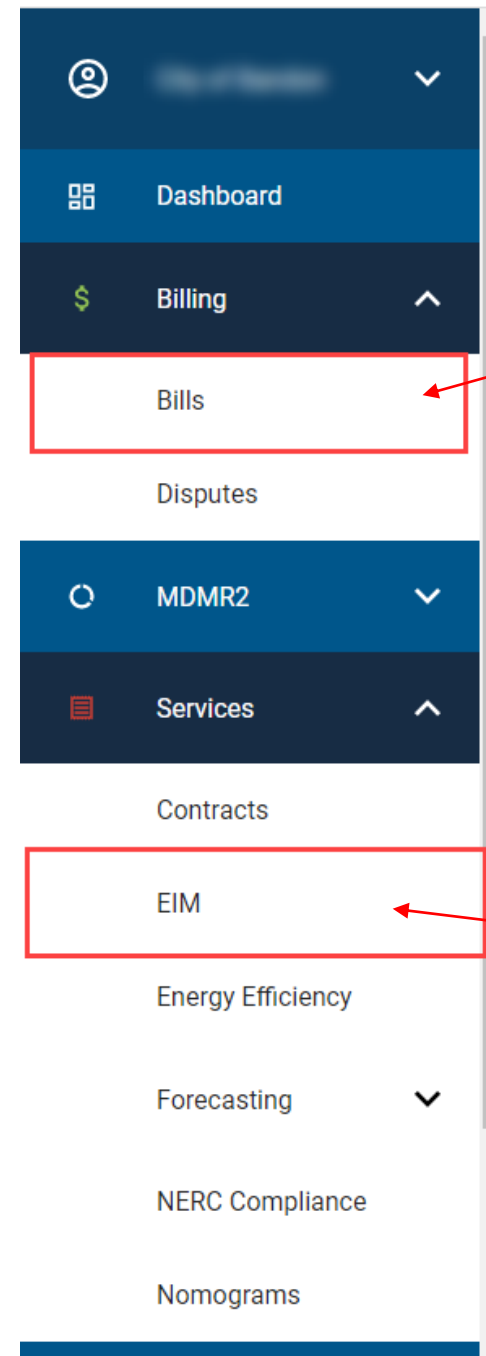
February

- Week of Feb 7th – completed customer CP Admin manual available
- Week of Feb 14 – (AEP team) record video-based CP Demos in sandbox and posted for all users in legacy CP and in the sandbox
- Friday, Feb 25 – Planned Go-Live (bpa.gov and CP down for the weekend)

March

- March 2022 – Post-Training Follow Up Sessions scheduled for all users to address ongoing questions, issues, etc.

EIM on Customer Portal



EIM Bills will be available here
(Once EIM services bill is available).

Backup EIM settlement data will be here when BPA joins EIM.

Questions?

Contact: customerportal@bpa.gov

OUTAGE MANAGEMENT SYSTEM (OMS)

Michelle Cathcart, *Vice President of
Transmission System Operations*



OMS REPLACEMENT UPDATE

GRID Modernization 

- OMS replacement is currently planned to go-live in February 2022, with specific date TBD
- EIM Go-Live is dependent on OMS go-live since OMS will contain the generator modeling that EIM is designed around
- BPA and vendor continue to work through a few critical bugs
- BPA is coordinating with CAISO on model implementation
- User Training is complete (~550 users)

EIM REPORTING UPDATE

Allie Mace, *Market Analysis and Policy
Manager*



REPORTING BACKGROUND

GRID Modernization 

- BPA committed to quarterly updates in the Final EIM Close-out Letter and working with stakeholders to determine the contents of reporting.
- BPA had proposed:
 - Quarterly updates via the Quarterly Business Review Technical Workshop.
 - Reporting metrics from the CAISO Quarterly Benefit report.
 - Qualitative updates on market activity.
- Based on your feedback, BPA has added new metrics for the Phase 1 and Phase 2 reporting.

UPDATED PHASE 1 METRICS

GRID Modernization

Phase 1 Metrics:

- Provide the quantity of unspecified purchases made through the EIM. BPA will also consider a metric on the amount delivered to California and the associated premium/costs.
 - Provide how frequently BPA passes the RS Balancing Test, RS Capacity Test and RS Flex Ramp test.
 - Provide data on EIM transfer limits and use.
 - **Provide summary data on BA scheduling error and the frequency with which CAISO BA forecast was targeted on a quarterly basis. The scheduling error will be measured against either the CAISO BA forecast and/or actual load. BPA will collect and share data on how the BA did as a whole with every entity scheduling to their own best forecast.**
-
- BPA is committed to reporting on Phase 1 metrics within six months of EIM go-live (November 2022 QBR).

UPDATED PHASE 2 METRICS

GRID Modernization

Phase 2 Metrics:

- Provide data on charge code allocations.
 - Provide data on transmission donations and how often they are used.
 - **Provide information on EIM impacts to BPA system carbon emission rate.**
-
- Reporting on EIM impacts to BPA System carbon emission rate may transition to a different forum in the future as BPA engages on broader regional carbon issues and regulation.
 - BPA is committed to reporting on Phase 2 metrics but may need more time to put in place. The goal is to have these metrics in place by BP-26.

REPORTING FEEDBACK

GRID Modernization 

- BPA is committed to continuous engagement on the metrics through implementation workshops and other venues.
- Please share feedback on the following:
 - Questions or feedback for updated Phase 1 or Phase 2 EIM reporting updates shared today.
- Feedback can be sent to gridmod@bpa.gov.

QUESTIONS?



COMMENTS

Please send your feedback to techforum@bpa.gov by Thursday, Feb. 10.

Thank you for participating in today's workshop. For more information, visit www.bpa.gov/goto/eim.

