Excess Behind the Meter Production

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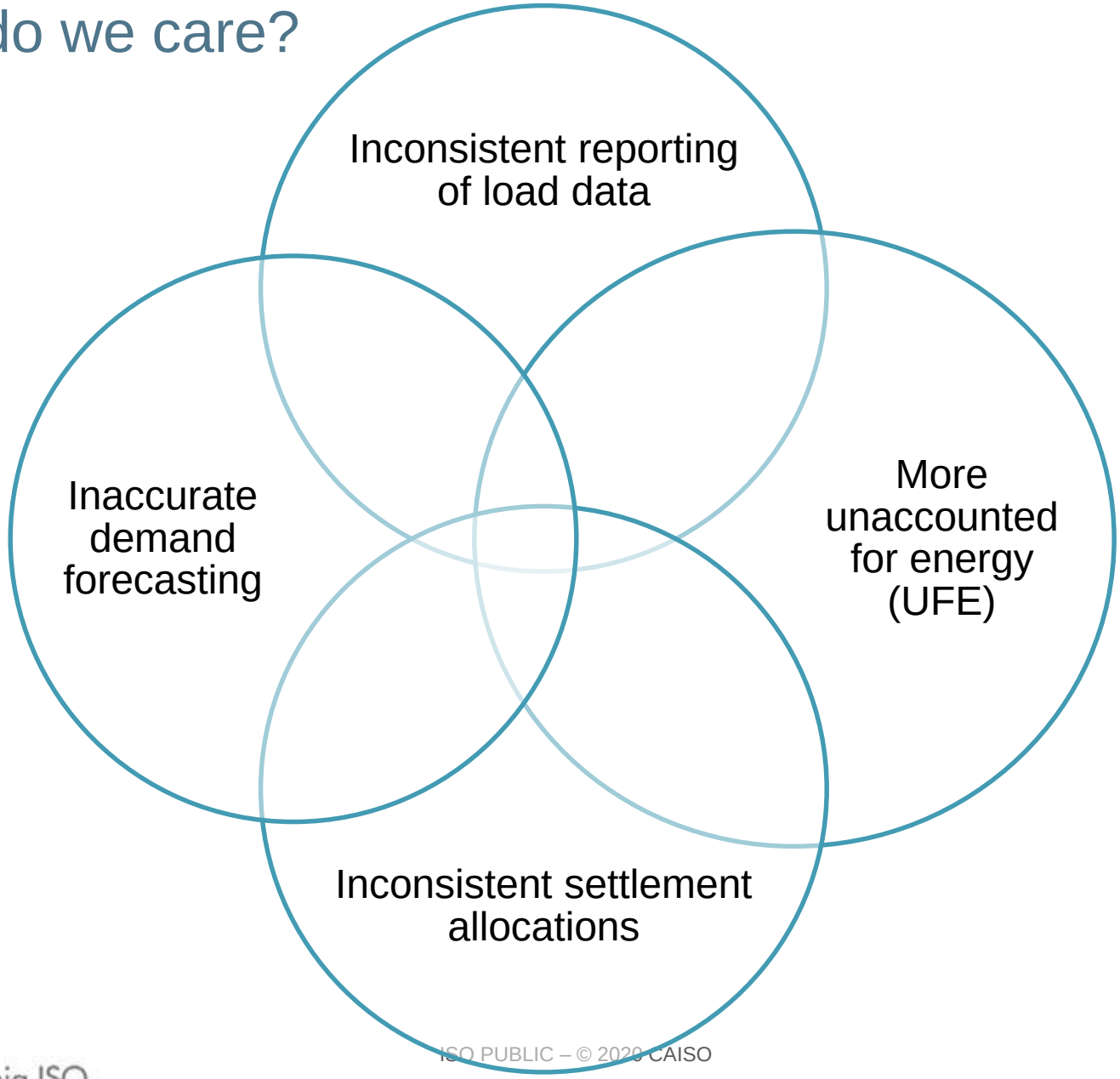
Bob's House

Producing 2 KWh of energy

Consuming 1 KWh of energy

When metered generation is greater than the host load, what is the correct way to submit that meter data to the ISO?

Why do we care?



Summary of Excess Behind the Meter Production provisions effective 1/1/21

- Update Tariff and BPM definitions
- Specify rules for submitting meter data
- Clarify settlement allocation formulas

DEFINITIONS

Gross Load definition clarification

"…includes Load served by Excess Behind the Meter Production. Excess Behind the Meter Production shall not be netted against End-Use Customer Load in determining Gross Load…."

Producing 2 KWh of energy

Consuming 1 KWh of energy

Gross Load = 0 KWh

New Excess Behind the Meter Production definition

"Energy from an End-Use Customer in excess of its onsite demand."

Producing 2 KWh of energy

Consuming 1 KWh of energy

Excess Behind the Meter Production (EBTMP) = 1 KWh

METERING REQUIREMENTS

Meter data energy measurement types after 1/1/21

Meter Polling Time Interval	Behind the Meter		At the Meter		Hourly Meter Value	
	Full Load (KWh)	Solar (KWh)	Gross Load (KWh)	EBtMP (KWh)	Gross Load (KWh)	EBtMP (KWh)
			If (2) > (3) then (2) - (3), else 0	If (3) > (2) then (3) - (2), else 0	If sum of (4) > (5) then = sum of (4) - (5), else 0	If sum of (5) > (4) then = sum of (5) - (4), else 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12:05	5	2	3	0		
12:10	5	2	3	0		
12:15	5	2	3	0		
12:20	5	2	3	0		
12:25	5	2	3	0		
12:30	5	6	0	1	22	0
12:35	5	6	0	1		
12:40	5	6	0	1		
12:45	5	4	1	0		
12:50	5	2	3	0		
12:55	5	2	3	0		
13:00	5	2	3	0		

Note: This is an aggregation for a single household up to the hourly level

Example – A Load Aggregation Point (LAP) with three homes (for one hour)

Home 1
22 KWh of Gross Load
0 KWh of EBTMP

Home 2
15 KWh of Gross Load
0 KWh of EBTMP

Home 3
0 KWh of Gross Load
10 KWh of EBTMP

LAP Totals
Gross Load = 35 KWh
EBTMP = 10 KWh

Gross Load (with Gross Up) calculation for settlements

Hourly Meter Value (KWh)					**MRI-S (KWh)**	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gross Load	**EBTMP**	DLF	Losses from Gross Load (1) * (3)	Avoided losses from EBTMP (2) * (3)	**Gross Load (with Gross Up)** (1) + (4) – (5)	**EBTMP**
35	10	.10	3.5	.1	38.4	10

More examples in FAQ

Scheduling coordinator impact

Applies to

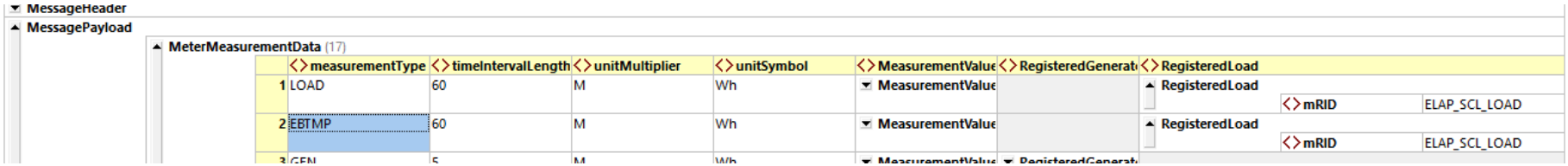
- Scheduling Coordinator Metered Entities (SCME)

Does not apply to

- ISO Metered Entities (ISOME)
- EIM SCs
- Certain publicly owned utilities
- Metered Subsystems (MSS)

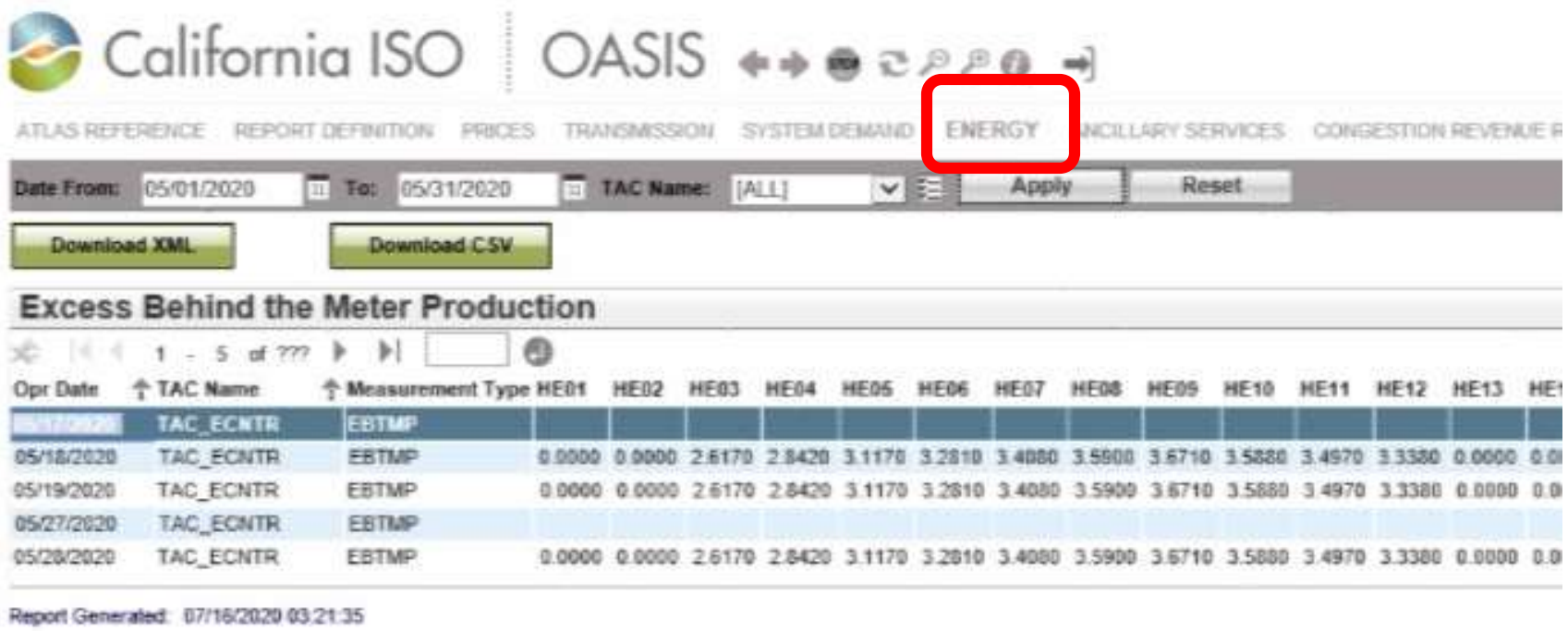
Meter submission details

- Meter data submission mechanism will not change
- SC must perform Gross Up calculation
- Values must not be null or negative
- SubmitMeterData payload containing Load and EBTMP as of 1/1/21



REPORTING - OASIS

A new OASIS Report will be found in the Energy menu



SETTLEMENT IMPLICATIONS

Settlement charge codes that are using the new "Gross Load" definition

Charge code #	Charge Code Description
372	High Voltage Access Charge Allocation
382	High Voltage Wheeling Allocation
383	Low Voltage Wheeling Allocation
1302	Long Term Voltage Support Allocation
1303	Supplemental Reactive Energy Allocation
6090	Ancillary Service Upward Neutrality Allocation
6194	Spinning Reserve Obligation Settlement
6196	Spinning Reserve Neutrality Allocation
6294	Non-Spinning Reserve Obligation Settlement
6296	Non-Spinning Reserve Neutrality Allocation
6594	Regulation Up Obligation Settlement
6596	Regulation Up Neutrality Allocation
6694	Regulation Down Obligation Settlement
6696	Regulation Down Neutrality Allocation
7256	Regulation Up Mileage Allocation
7266	Regulation Down Mileage Allocation
7896	Monthly CPM Allocation

Settlements – Updated formulas

- CG PC Real Time Energy Quantity v5.22
  - Net Load = Gross Load Meter – Excess Behind the Meter Production

- CG CC 6474 Real-Time Unaccounted for Energy Settlement v5.6
  - Unaccounted for Energy Quantity = (Generation Meter + Import Intertie Meter) – (Net Load + Export Intertie Meter + Losses)

NEXT STEPS

EBTMP Milestones

Date	Milestone
July 27 – September 16, 2020	Market Simulation July 27 – Connectivity begins August 24 – Structured testing begins
October 1, 2020	Deployment
January 1, 2021	Production Activation/ Effective Trade Date

Market Sim Scenario #1

Scenario Execution Trade Date(s): TBD	
Scenario #1	Publish Initial Statement and Invoice.
Description	Scheduling Coordinators submit LOAD meter data for Load Resources to produce settlement results. Scheduling Coordinators retrieve bill determinants, submitted LOAD meter data for performed Initial Settlement Statement.
Expected System Outcome	Scheduling Coordinator Meter Entity (SCME) meter data submission from SCME systems to be successfully received, validated, and processed by ISO settlement system.
Anticipated Settlement Outcome	Charge Code 6474 Real-Time Unaccounted for Energy Settlement

Market Sim Scenario #2

Scenario Execution Trade Date(s): TBD	
Scenario #2	Publish ReCalc Statement and Invoice.
Description	Scheduling Coordinators submit EBTMP meter data for the same Load Resources as in Scenario 1 to produce settlement results. Scheduling Coordinators retrieve bill determinants, submitted LOAD and EBTMP meter data for performed Re-Calc Settlement Statement.
Expected System Outcome	Re-Calc Settlement Statement will confirm new UFE/Net Load Meter definition per the EBTMP initiative and tariff revision.
Anticipated Settlement Outcome	Charge Code 6474 Real-Time Unaccounted for Energy Settlement

Market Sim Scenario #3

Scenario Execution Trade Date(s): TBD	
Scenario #3	ISO publishes its EBTMP Performance Report by TAC Area.
Description	ISO publishes its EBTMP Performance Report by TAC Area.
Expected System Outcome	OASIS shall display new "Excess Behind the Meter Production" Report for all 24 hours of a specified trade date on a simulated T+52B timeline (e.g. under an abbreviated market sim calendar). Data presented by TAC Area for each trade hour, and is available for public access and retrieval.
Anticipated Settlement Outcome	Non-Applicable

Market Sim Scenario #4

Scenario Execution Trade Date(s): TBD	
Scenario #4	ISO will calculate monthly TAC charges based on previously submitted daily Gross Load values.
Description	ISO will calculate monthly TAC charges based on previously submitted daily Gross Load values.
Expected System Outcome	Calculate TAC charges for each UDC based upon the Gross Load within that UDC and paid to the relevant PTO.
Anticipated Settlement Outcome	Charge Code 372 High Voltage Access Charge Allocation

Wrap Up

BPMs impacted

4.5 Business Practice Manual (BPM)

BPM	Description of Impact(s)
Definitions & Acronyms	Update definition of Gross Load Add *Excess Behind the Meter Production* *POC: G.Murtaugh, J.Lynn*
Metering	Yes. New EBtMP meter measurement type; SC submission of both Gross Load and EBtMP meter data *POC: G.Murtaugh, J.Lynn*
Market Instruments	Yes. New OASIS EBtMP Performance Report/API *POC: E.Cullado*
Market Operations	Yes. EBtMP Training of Load Forecast Model *POC: A.Motley, A.Javanbakht*
Settlements & Billing Configuration Guides only	Yes. Modified UFE calculation; settle gross load as measured demand for EBtMP resources *POC: J.Lynn*

Summary of changes

- **Market Simulation -** New meter measurement type; New OASIS Report; Settlement of load-based charges for ISO BAA entities.

- **Market Participant Impact –** SCs will be required to input both Gross Load and Excess Behind the Meter Production, as separate measurement types (non-netted), under the same resource ID with respect to new tariff alterations.

Resources – Stakeholder Process Page

- Draft Final Proposal and presentation
- Board of Governors Decision
- Draft Tariff Language

Home>Stay Informed>Stakeholder Processes>Excess behind the meter production
http://www.caiso.com/StakeholderProcesses/Excess-behind-the-meter-production

Resources - Release Planning Page

- Business Requirements (BRS)
- Frequently Asked Questions (FAQ)
- FAQ Gross Load Calculation Example

Home>Stay Informed>Release Planning>Excess behind the meter production implementation
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

Final Questions

For more detailed information on anything presented, please visit our website at:
www.caiso.com

Or send an email to:
CustomerReadiness@caiso.com