

Settlement User Group

July 22, 2020

10:00 a.m. – 11:00 a.m. (Pacific Time)

Web Conference Information	Conference Call Information
Web Address: <u>https://caiso.webex.com/meet/settlementuser</u>	Dial-in Number: (866) 528-2256
Meeting Number: 961 854 046 Audio connection instructions will be available after	International Dial-in: (216) 706-7052
connecting to the web conference. When prompted, select "Call me" and enter the phone number you will use during	Access Code: 673 78 64
the call. You will be called by the conference shortly.	so who are upable to attend to listen to the recordings

Calls and webinars are recorded for stakeholder convenience, allowing those who are unable to attend to listen to the recordings after the meetings. The recordings will be publically available on the ISO web page for a limited time following the meeting. The recording, and any related transcriptions, should not be reprinted without the ISO's permission.

The recording will be posted on our website and be available for a short period of time until Aug. 5, 2020.

Please mute your phone and do not put it on hold while the discussion is going on in order to eliminate background

mute

noise. There will be an opportunity to ask questions after each topic, but before asking your question,

please state your name and affiliation. Thank you.



Settlement User Group Agenda

Wednesday, July 22, 2020 10:00 a.m. - 11:00 a.m. Pacific Time Topic Presenter Time Welcome and Introduction 10:00 – 10:05 Tyler DuBeshter 10:05 - 11:00 Settlements CRR 1b Post Implementation Deployment Date Fall 2020 – Settlement Release Milestones and Scope Brenda Corona 67 () Q4 2020 - Settlement Release Milestones and Scope Fall Release Market Simulation Settlements Calendar Assad Al-Baijat **Bob Emmert** Settlement Corner: Renewable and energy storage in the ISO generator interconnection queue Customer Readiness Spotlight on: Release Training Information **Cindy Hinman**



CRR 1b Post Implementation

Summary of change:

- **Issue:** CRR options are not receiving adequate payment for their CRR. This issues is due to the netting of notional values across time intervals when the option is in the counter flow vs. flow direction. The CRR option should receive a payment in the flow direction and not receive a payment when the sink exceeds the source.
- Solution: This enhancement will run prior to the CRR1B calculation process. The source and sink MCCs shall be compared for each option CRR and each hour. If the value of sink MCC -source MCC is positive, then the CRR shall be included in the CRR1B calculations for that hour. If the value is zero or negative, then the CRR shall not be included. This shall be an hour by hour comparison. A possible outcome is that an option CRR is considered in CRR1B for some hours but not all hours.
- -This change will be effective **1/1/2019**, **Production deployment 7/27/2020**



Fall 2020 - Settlement Release Milestones

Initial Release Milestones as follows:

- 1st draft technical documentation posted = 5/29
- 1^{st} draft configuration output file + initial release component summary posted = 6/15
 - All fall projects except FERC 841
- 2nd draft technical documentation updates posted = 6/26
 - To include FERC 841 + MSTT
- **Scope change:** IDS project moving to Q4 release with 1/1/2021 effective date
 - IDS Tech Docs have been removed from posted Fall Tech Docs
 - Revised posting will follow Q4 release milestones
- 2^{nd} draft configuration output file + updated release component summary ETA = **7/24**
 - IDS will be removed
 - MSTT cutover simulated week of 8/24
- Fall release market sim
 - connectivity start scheduled for 7/27
 - please stay informed by participating in <u>Release User Group (RUG)</u>
- Pre-production draft configuration output file + release artifacts planned = 9/22
- Production deployment planned = 9/29



Fall 2020 - Settlement Release Scope

Project	Charge Codes/Impacts
Commitment Cost Enhancement Tariff Clarifications Effective Date: 7/1/2020	RAAIM PC
Excess Behind the Meter Production Effective date: 1/1/2021	6046 6474 6788 Ancillary Services PC Measured Demand Over Control Area Excluding MSS Energy PC Measured Demand Over Control Area PC MSS Deviation Penalty Quantity PC MSS Netting PC Real Time Energy Quantity PC ETC TOR CVR Quantity PC





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Fall 2020 - Settlement Release Scope (cont.)

Project	Charge Codes/Impacts
Energy Storage and Distributed Energy Resources Phase 3B (ESDER 3B) Effective date: 10/1/2020	Spin Non Spin No Pay Quantity PC RUC No Pay Quantity PC RTM Net Amount PC
Market Settlement Timeline Transformation Effective date: 1/1/2021	6474* 64740* Real Time Energy Quantity PC* Settlements and Billing Main Body *These are design only. Configuration Guide change not expected for these charge codes but will be reflected have daily initial runs that include UFE (CC 6474, 64740), MSS Deviation Penalties (CC 1407, 2407), EIM Transfers and EIM Bid Cost recovery uplift allocation.
Automated Dispatch System (ADS) User Interface (UI) Replacement	No Settlement configuration impact; MRI-S only: ADS data will only be available for 30 days, Market participants will need to download and store this data beginning 10/1/2020.





Fall 2020 - Settlement Release Scope (cont.)

6011 6460 6470 6470 6471 6472 6473 6474 6475 6482 6488 6824 7070 Requested Adjustment 7077 Effective date: 10/1/2020 7081 64600 64700 64700 64700 64700 64720 7087 64600 64700 64720 64720 64700 64720 64720 64720 64720 64720 64720 64720 64720 64740 64750 IFM Net Amount PC Real Time Energy Quantity PC Real Time Energy Quantity PC RUC Net Amount PC	Project	Charge Codes/Impacts
	Requested Adjustment	6460 6470 6474 6475 6482 6488 6824 7070 7071 7071 7077 7081 7087 64600 64700 64700 64740 64750 IFM Net Amount PC RTM Net Amount PC RTM Net Amount PC REAL Time Energy Quantity PC





Winter 2020 – Q4 Settlement Release Milestones

Initial Release Milestones as follows:

- 1st draft technical documentation to post = **8/10**
- 1^{st} draft configuration output file + initial release component summary to post = 8/24
- 2nd draft technical documentation updates to post = **10/2**



^{*}Q4 2020 - Settlement Release Scope

Project	Charge Codes/Impacts
Intertie deviation settlement –	6455 (Terminated)
implementation (IDS)	6457 (Terminated)
Effective date: 1/1/2021	6456 (New) 6458 (New)
	System Resource Deemed Delivered Energy Quantity PC
	6011
	6790
Day Ahead Nodal Pricing Model	6947
(NPM) Project	6630
	6636
Effective Date: 1/1/2021 for listed Charge Codes	6637
(PacifiCorp data will start to flow on 1/15/2021)	4515
	4560
	4575
	NPM PC
Asymmetrical Wheeling	RT Energy Quantity PC
Effective Date: 1/1/2021	Real Time Congestion PC
	Note does not include all projects- settlements only
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Fall Release Market Simulation Settlements Updates

- Connectivity is scheduled to run from week of 7/27 to 8/7
- Phase 1 Structured scenarios will run week of 8/10 8/21; Unstructured from week of 8/24 to 9/4
- Phase 2 Structured scenarios will run week of 8/24 9/4; Unstructured from week of 9/7 to 9/18
- <u>Market Simulation Plan</u>
- Market Simulation Settlements Calendar

MarketSim@caiso.com

Project	Schedule
Excess Behind the Meter Production Effective date: 1/1/2021	Structured Scenarios: Week of 8/24/2020 Unstructured Scenarios: Week of 9/7/2020
Market Settlement Timeline Transformation Effective date: 1/1/2021	Structured Scenarios: Week of 8/24/2020 Unstructured Scenarios: Week of 9/7/2020
Energy Storage and Distributed Energy Resources Phase 3B (ESDER 3B) Effective date: 10/1/2020	Structured Scenarios: Week of 8/10/2020 Unstructured Scenarios: Week of 8/24/2020
FERC Order No. 841 – Requested Adjustment Effective date: 10/1/2020	Structured Scenarios: Week of 8/10/2020 Unstructured Scenarios: Week of 8/24/2020



Note does not include all projects- settlements configuration changes only ISO Internal Use Page 10

Fall Release Market Simulation Settlements Calendar

Calendar		CMRI		Publish Initial Statement	Meter Data Due T+4B		Publish Recalc Statement	Meter data due for T+70B	Publish Recalc Statement	
Day	Day	T+1B		T+4B	Statement	Publish Initial statement T+6B	T+8B	statement	T+9B	Publish Market Invoice
			Submit Meter Data by T+3B 18:00 for T+9B Initial	T+3B Initial. Estimated by DReAMS. No Meter Data submission	Submit Meter Data by T+4B 18:00 for Recalc	T+9B Initial. Includes Estimation		Submit Meter Data by T+6B 18:00 for Recalc	T+70B Recalculation	
				INITIAL (Current MSTT)	Current MSTT	INITIAL (New MSTT)	RECALC1 (Current MSTT)	New MSTT	RECALC (New MSTT)	
27-Jul-20	Monday									
28-Jul-20	Tuesday									
	Wednesday	28-Jul								
30-Jul-20	Thursday	29-Jul								
31-Jul-20	Friday									
01-Aug-20	Saturday									
02-Aug-20	Sunday									
03-Aug-20	Monday			28-Jul	28-Jul					
04-Aug-20	Tuesday			29-Jul	29-Jul					
05-Aug-20	Wednesday	4-Aug		Monthly Initial 28-Jul - 29-Jul						Daily Initial 28-Jul, 29-Jul Monthly Initial 28-Jul - 29-Jul
06-Aug-20	Thursday	5-Aug								,
07-Aug-20	Friday						28-Jul			
08-Aug-20	Saturday									
09-Aug-20	Sunday									
10-Aug-20	Monday			4-Aug	4-Aug		29-Jul			
11-Aug-20	Tuesday			5-Aug	5-Aug		Monthly Recalc 28-Jul - 29-Jul			
12-Aug-20	Wednesday			Monthly Initial 4-Aug - 5-Aug	-					Daily Recalo 28-Jul, 29-Jul Monthly Recalo 28-Jul - 29-Jul
		11-Aug								Daily Initial 4-Aug, 5-Aug Monthly Initial 4-Aug - 5-Aug
13-Aug-20	Thursday	12-Aug								
14-Aug-20	Friday						4-Aug			



Fall Release Market Simulation Settlements Calendar (cont.)

Calendar	_	CMRI		Publish Initial	Meter Data Due T+4B	Publish Initial statement	Publish Recalc Statement	Meter data due for T+70B	Publish Recalc Statement	
Day	Day	T+1B		Statement	Statement	T+6B	T+8B	statement	T+9B	Publish Market Invoice
			Submit Meter	T+3B Initial. Estimated						
			Data	by DReAMS. No Meter	Submit Meter Data	T+9B Initial. Includes		Submit Meter Data		
			by T+3B 18:00 for	Data submission	by T+4B 18:00 for Recalc	Estimation		by T+6B 18:00 for Recalc	T+70B Recalculation	
28-Aug-20	Friday		25-Aug				18-Aug			
29-Aug-20	Saturday									
30-Aug-20	Sunday									
31-Aug-20	Monday		26-Aug				19-Aug			
01-Sep-20	Tuesday						Monthly Recalc 18-Aug - 19-Aug			
	Wednesday	1-Sep				25-Aug		25-Aug		
03-Sep-20	Thursday	2-Sep				26-Aug		26-Aug		
04-Sep-20	Friday		1-Sep			Monthly Initial 25-Aug - 26-Aug				
05-Sep-20	Saturday									
06-Sep-20	Sunday									
07-Sep-20	Monday					ISO H	loliday			
08-Sep-20	Tuesday		2-Sep						25-Aug	
09-Sep-20	Wednesday									Daily Initial 25-Aug, 26-Aug
										Monthly Initial 25-Aug - 26-Aug
										Daily Recalc 18-Aug, 19-Aug
									26-Aug	Monthly Recalc 18-Aug - 19-Aug
10-Sep-20	Thursday					1-Sep		1-Sep	Monthly Recalc 25-Aug - 26-Aug	
11-Sep-20	Friday					2-Sep		2-Sep		
12-Sep-20	Saturday									
13-Sep-20	Sunday									
14-Sep-20	Monday					Monthly Initial 01-Sep - 02-Sep				
15-Sep-20	Tuesday									
16-Sep-20	Wednesday									Daily Initial 01-Sep , 02-Sep
										Monthly Initial 01-Sep - 02-Sep
										Daily Recalc 25-Aug, 26-Aug
									1-Sep	Monthly Recald 25-Aug - 26-Aug
17-Sep-20	Thursday								2-Sep	
18-Sep-20	Friday								Monthly Recald 01-Sep - 02-Sep	Daily Recald 01-Sep , 02-Sep
										Monthly Recald 01-Sep - 02-Sep
19-Sep-20	Saturday									
20-Sep-20	Sunday									

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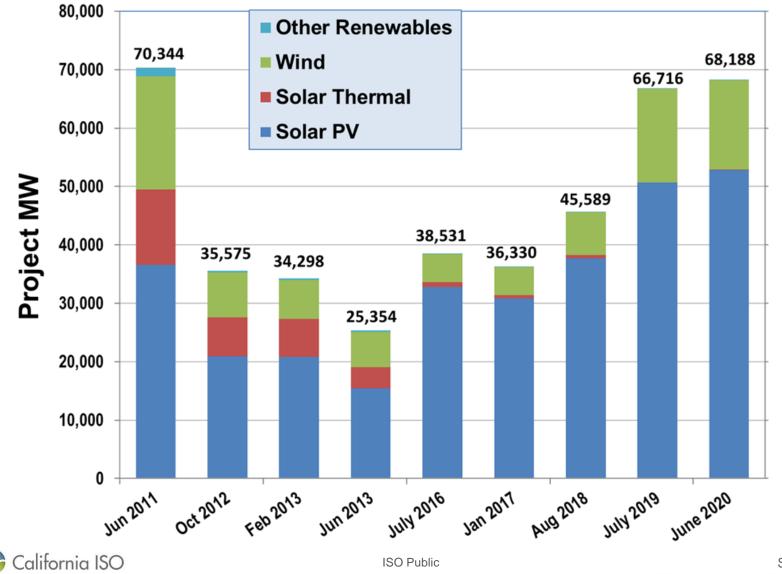


Renewable and energy storage in the ISO generator interconnection queue

Bob Emmert Sr. Manager, Interconnection Resources

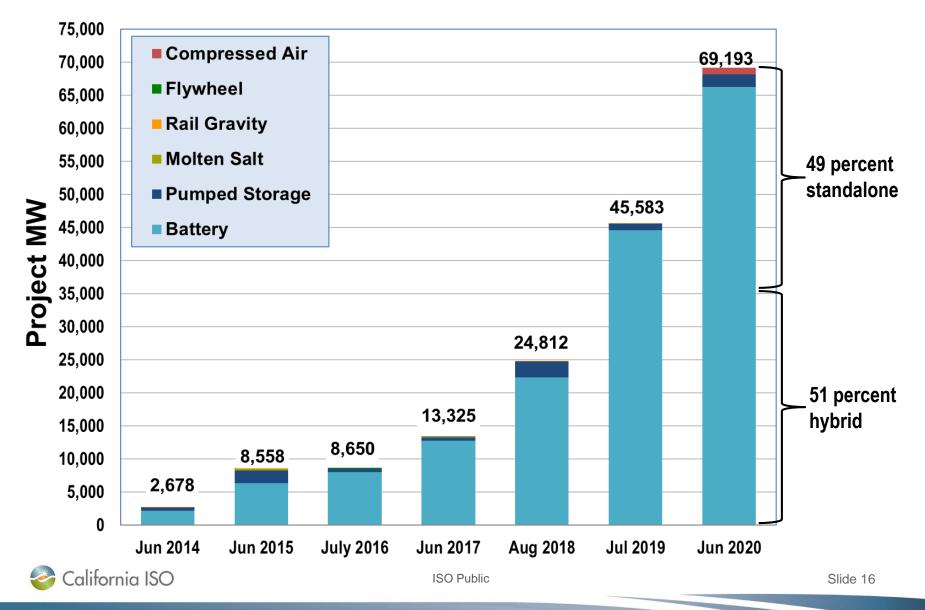
ISO Public

Renewable capacity in ISO queue



Slide 15

Energy storage capacity in ISO queue



Queue statistics

- 68,188 MW renewable energy (stand alone or hybrid)
 - 39% have completed the study process, 61% are being studied
- ➢ 69,193 MW of energy storage
 - 33,653 MW stand alone storage (all types)
 - 35,540 MW storage as a component of a hybrid project

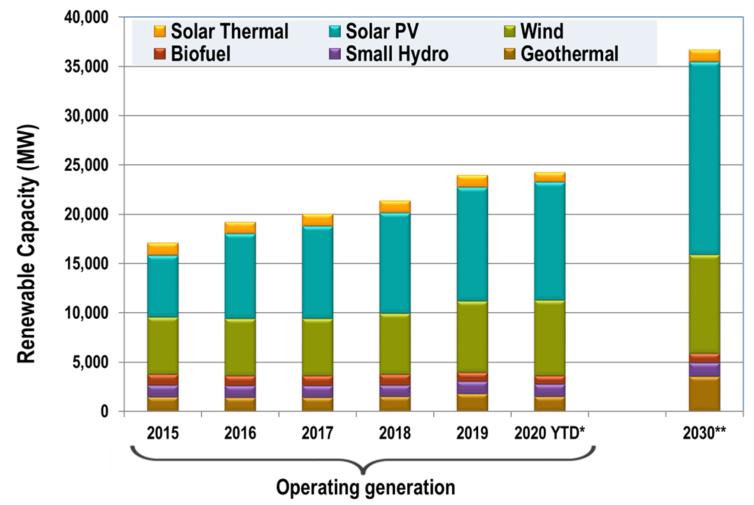
By Type:

- 66,218 MW battery
- 1,907 MW pumped storage
- 1,024 MW compressed air
- 44 MW other
- New cluster 13
 - 147 projects
 - 31,384 MW, renewable
 - 32,302 MW energy storage



ISO Public

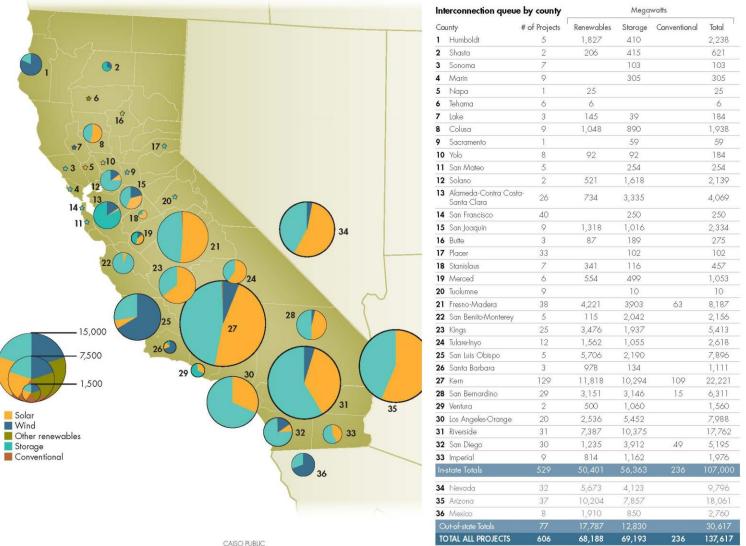
Current and projected renewable generation capacity in operation within the ISO





* All online resources that are not in test mode, including those yet to achieve full commercial operation. ** Estimate of renewable capacity build-out to meet the 2030 60% RPS requirement (based on CPUC 2019 Unified Resource Adequacy and Integrated Resource Plan, BASE portfolio, transmitted to CAISO for the 2019-2020 TPP).

Queue Map – Conventional & Renewables



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We are requesting topics

Upcoming Topics	Previous Topics	Published Knowledge Articles
 Real Time Storage No Pay Hybrid Policy Fall Release Projects 	 Storage- <u>Link</u> Bid Cost Recovery - <u>Link</u> FERC 841- requested adjustments - <u>Link</u> 	 After-the-Fact EIM Manual Dispatches from ISO systems Validate Mitigated prices in DA, RTPD (FMM) and RTD Calculation of meter data for TG resources Energy Transfer System Resource (ETSR) -New

Submit topics to us: <u>twitter.com/isosettlements.com</u>





ISO Computer Based Training Programs

Visit caiso.com **Learning Center** web page to access our training calendar, register for courses and find other informational resources: <u>http://www.caiso.com/participate/Pages/LearningCenter/default.aspx</u>

Computer Based Training	g – Settlements		Webinars	
There are more than <u>30</u> cor website covering:	nputer based training modules on the ISO		ISO Customer Readin have cancelled in per	
RC Customer Settlements	http://www.caiso.com/CBT/RC-Settlements/index.html		trainings	
Energy Settlements Validation Practice	http://www.caiso.com/CBT/EnergySettlementsValidation/story.html		ISO Training Workshop (Day 3 Settlements)	August 18 – 20, 2020
Settlement Validation Practice	http://www.caiso.com/CBT/Settlements%20Validation%20Practice /story_html5.html	ŀ	Welcome to the ISO	October 15,
Commitment Costs	http://www.caiso.com/CBT/CommitmentCosts-CBT/story.html		Webinar	2020
Settlements foundational concepts (EIM)	https://www.westerneim.com/CBT/Settlements%20Foundational% 20Concepts/Settlements-FoundationalConcepts.html		New initiatives training coulearning center web page	rses on the
Metering Overview	http://www.caiso.com/CBT/MeteringOverview/MeteringOverview.h tml			
Settlements Process	http://www.caiso.com/CBT/SettlementsProcess/story_html5.html			-

CustomerReadiness@caiso.com



Release Training Information for Settlements

Project	Current Training Dates
EIM Enhancements 2020	8/17/2020
Intertie Deviation Settlement	9/29/2020
Hybrid Resources Phase 1	3 rd quarter before Market Sim
Project	Past Training Dates
Excess Behind the Meter Production	7/21/2020
Market Settlement Timeline Transformation	7/20/2020
FERC 841 – Requested Adjustments	7/15/2020
Energy Storage and Distributed Energy Resources 3B	6/22/2020
Commitment Costs and Default Energy Bid Enhancements	10/8/2019
ADS UI Replacement Training Part 1	6/11/2020









Next SUG: August 5, 2020

Contact for questions & agenda requests: settlementuser@caiso.com

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Settlement References

- Knowledge Articles
- New EIM Settlements Training Resources
- ISO Settlements Twitter Page
- Ways to Participate in Settlements
- SUG meeting calendar for 2020



Knowledge Articles

CAISO has posted **Knowledge Articles** for FAQs in CIDI.

To access the articles in CIDI, you either:

Option 1: Type in the keyword "**Identify**" in the search field to pull up the article, or

Option 2: Click on the **Knowledge Articles** tab, and then click the **Settlements and Metering** category link to pull up a list of the Settlements related articles.

	rnia ISO	Help Center	Knowledge articles	Cases	Subm
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Posted Knowledge Articles to date:

- RC rate location
- RC Informational Statement
- RC services charge
- 2019 prorated RC charge
- Payment calendar
- ED-DPMIN
- After-the-Fact EIM Manual Dispatches from ISO systems
- Validate Mitigated prices in DA, RTPD (FMM) and RTD -New
 - Calculation of meter data for TG resources -New



New EIM Settlements Training Resources

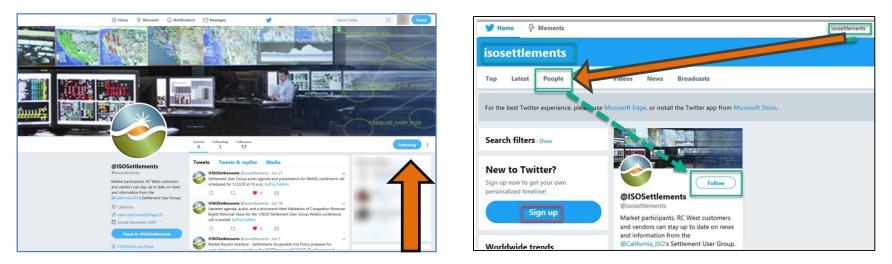
New Train-the-Trainer toolkit

- PowerPoint, participant guide, skill assessment and key, learning activity, training admin documents, etc.
- Available through Accellion
- Recording of EIM Settlement Train-the-Trainer recording available on Accellion in Toolkit
- Email us (<u>CustomerReadiness@caiso.com</u>) for registration or Accellion access information



ISO Settlements Twitter

- Settlement related updates
- Market sim updates
- Note: Will not replace any existing media communications
- Please take the opportunity to follow <u>@ISOSettlements on Twitter</u> by downloading the Twitter application to **any mobile device**
- Twitter feed can be accessed on **any web browser**
- No account required to view the Twitter feed and posts



Ways to participate in settlements

- ISO Settlements Twitter Page
 - <u>https://twitter.com/isosettlements</u>
- Visit the Settlements page
 - <u>http://www.caiso.com/market/Pages/Settlements/Default.aspx</u>
- Attend web conference meetings
 - Settlement User Group (SUG) bi-weekly meetings
 - Settlement only status updates
 - Initiative status with settlement updates
 - <u>http://www.caiso.com/StakeholderProcesses/</u>
 - System change with settlement updates on independent releases
- BPM PRR Change Management monthly web meeting
 - Settlement and Billing BPM status updates
 - <u>http://bpmcm.caiso.com/Pages/default.aspx</u>
 - <u>http://www.caiso.com/rules/Pages/BusinessPracticeManuals/Default.aspx</u>
 - <u>http://www.caiso.com/Documents/ISO-AcronymList.pdf</u>



Settlement User Group Calendar

2020

Market Services

Settlement User Group Meetings

Note: dates subject to change; for the latest information please visit the Calendar on www.caiso.com.

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Meeting

Agenda posted

Holiday

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Settlement User Group

Thank you for participating in our call





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