



2026 RESOURCE INTERCONNECTION STANDARDS FAIR



August 11, 2026

9am – 4pm

Engagement Best Practices



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The meeting is structured to stimulate open dialogue and engage different perspectives.



The facilitator will provide guidance for comments and questions to ensure a productive flow. Please keep remarks succinct and avoid revisiting points that have already been covered, allowing space for all voices.



Closed Captioning and the Transparency Viewer are available at the bottom of the Webex screen.

Instructions for Raising Your Hand to Ask a Question



Please remember to state your name and affiliation before making your comment. After unmuting, please pause for about two seconds before speaking to ensure your audio connects clearly. Onsite please speak into a microphone only.



If you are connected to audio through your computer or used the 'call me' option, select the raise hand icon located on the bottom of your screen.



If you are connected on the phone line only and not the Webex, dial *3 to be added to the raise hand queue.



You may send questions via chat to all panelists.



If you need technical assistance during the meeting, please send a chat to the event producer at Intellor Events.

RIS Fair Objectives

- Understand the interconnection study process flow
 - Discuss key customer and ISO activities
 - Identify major decision points
 - Understand study milestones
-
- We are not here to question why or debate how the ISO interprets its tariff or performs studies.

Agenda

- 09:00 - 09:15 Welcome
- 09:10 - 10:15 Interconnection Application and Process
- 10:15 - 10:30 Break
- 10:30 - 10:45 NDA
- 10:45 - 11:45 Project Selection & Study Process Overview
- 11:45 - 01:15 Lunch
- 01:20 - 02:05 Study Process Requirements
- 01:40 - 02:00 Withdrawal & Reference Resources
- 02:05 - 02:40 GIA & Retirement
- 02:40 - 03:10 Queue Management
- 03:10 - 03:50 Overall Q & A
- 03:50 - 04:00 Closing



Interconnection Application Process

Julie Balch, Sr. Interconnection Specialist
Daune Wilson, Interconnection Specialist Lead
Linda Wright, Lead Interconnection Specialist
Kaylee Zuberi, Sr. Interconnection Specialist

Interconnection Resources – We're here to support you!

- Interconnection Customer's point of contact throughout application and study process
- Facilitates communications between all parties
- Ensures documentation and project information is up to date in the interconnection management system (RIMS and GRIP)
- General questions, IRInfo@caiso.com



Not
pictured
Mike Ucol



California ISO Tariff

The California ISO operates under the terms and conditions of its FERC-approved tariff:

- Section 25 addresses interconnection of generating units

Cluster 15 and later clusters are processed under the following appendices:

- **Appendix KK**
 - Resource Interconnection Standards (commonly known as the RIS).
- **Appendix LL**
 - Large Generator Interconnection Agreement (LGIA)
- **Appendix MM**
 - Small Generator Interconnection Agreement (SGIA)

California ISO Tariff-cont.

- The CAISO tariff may be modified, amended, or supplemented as needed, subject to the approval of FERC
- Each section or appendix of the CAISO tariff is maintained and updated separately in accordance with FERC orders
- The CAISO tariff governs in case of any inconsistency or ambiguity with, business practice manuals, operating procedures, or interconnection agreements

Business Practice Manuals

ISO Business Practice Manuals (BPMs) provide detailed guidelines, procedures, and examples.

Interconnection Resources Team References the

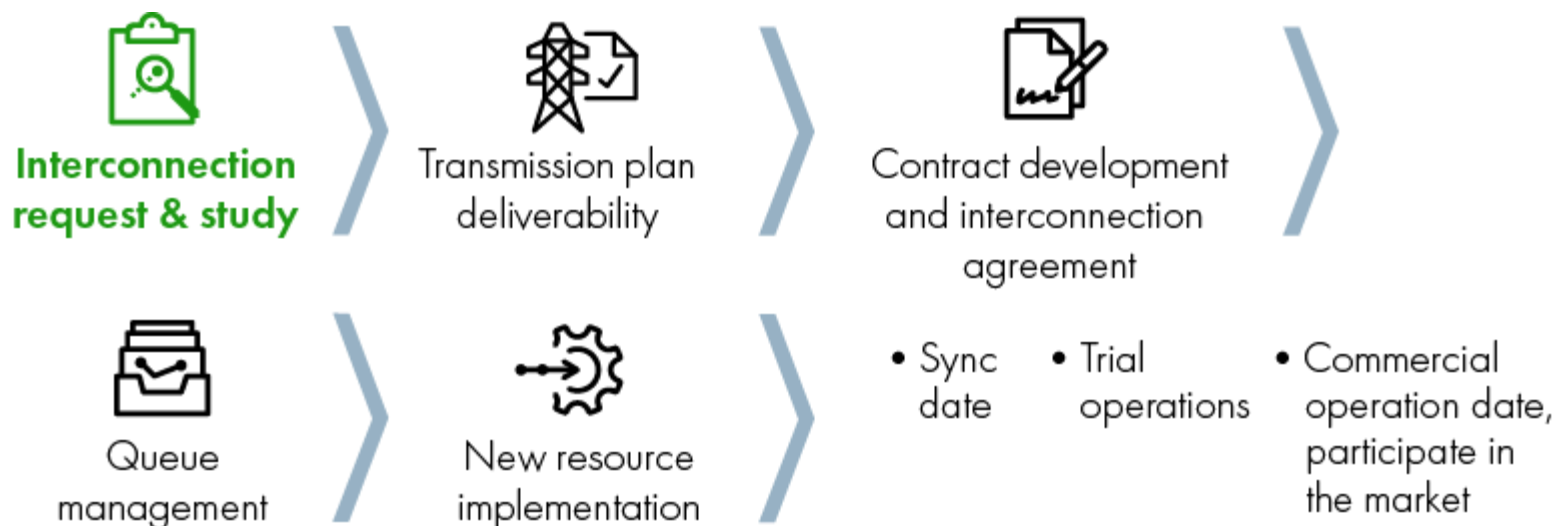
BPM for Resource Interconnection Standards (RIS)

- Applicable to Cluster 15 and future clusters
- Some provisions are applicable to Cluster 14 and prior clusters

BPM for Generator Interconnection and Deliverability
Allocation Procedures (GIDAP)

- Applicable to Cluster 14 and prior clusters

Interconnection Process



Interconnection Request Preparation - pre window opening

- Carefully select POI and voltage level
 - POI considerations will be addressed by ISO Transmission Planning during the project selection and study process overview presentation.
- Assemble interconnection request package requirements
 - Deposits and fees
 - Project information
 - Site control documentation
 - Technical data
 - Scoring information

Project Naming Requirement

Review the [Prohibited Project Name List](#) prior to selecting a name.

NERC COM-002 Requirement

- Duplicated or unacceptable project names will:
 - Cause issues on the operations floor
 - Require changes after the IR submission
- Valid and acceptable project names will:
 - Provide clear and concise communications
 - Provide a smooth transition for each stage of the project lifecycle

Tools

- RIS BPM, Selecting a Project Name
- [Prohibited Project Name List](#) (link)

Deposits and Fees

Deposits and Fees	Additional deposits
Application Fee: \$5,000 Study Deposit: < 80 MW: \$35,000 + \$1,000/MW 80 MW < 200 MW: \$150,000 200 MW: \$250,000 Commercial Readiness Deposit: (to be submitted to the PTO) 2x Study Deposit Fed Wires and ACH transfers. Bank: Wells Fargo Bank N.A. Account Beneficiary: California ISO Routing/ABA Number: 121000248 Account Number: 4122041825	Merchant Option Deposit: (to PTO) Required Merchant Option deposit of \$10,000/MW of all requested deliverable Generating Facility capacity, but not less than \$500,000 or more than \$5,000,000. Regulatory Limitation Site Control Deposit: \$10,000 per MW, subject to a minimum of \$500,000 and a maximum of \$2,000,000 Auction Deposit: (to PTO) = \$ lowest winning bid in zone X project MW @ POI

Deposits and Fees

- Deposits and fees are due at time of submission*
- All payments should be individual and specify the project name and if it is the application fee, study deposit, commercial readiness deposit, merchant deposit, regulatory limitation site control deposit or auction deposit*.
- For example, one project will have three to five financial instruments:
 - Application Fee to the ISO – cash
 - Study Deposit to the ISO – cash
 - Commercial Readiness Deposit* – acceptable financial instruments to PTO
 - Merchant Projects will require an additional deposit - acceptable financial instruments to PTO
 - Regulatory Limitation Site Control deposit to the ISO – cash
- Customers submitting multiple projects should have separate wire transactions. Multiple projects or type of deposits on one wire will be rejected.

*CRD and auction deposits are due by the end of the customer engagement window to PTO

Questions?



Complete Interconnection Request Package

- (i) An interconnection study deposit and application fee
 - (i) Commercial readiness deposit is required by the end of the customer engagement window for accepted applications
- (ii) A completed application in the form of Appendix 1, 2, 3, and Attachment A via GRIP
 - Secretary of State certification and authorized signatory documentation
- (iii) Demonstration of 90% site control or documentation of regulatory limitation and deposit
- (iv) A load flow model
- (v) A dynamic data file
- (vi) A reactive power capability document

-  Complete
-  Missing Information
-  Incomplete

Complete Interconnection Request Package

- (vii) A site drawing
- (viii) A single-line diagram
- (ix) Flat run plot, bump test plot, voltage reference step change test plot, frequency reference step change test, and a voltage ride-through test plot from the positive sequence load flow application
- (x) A plot showing the requested MW at the point of interconnection from the positive sequence load flow application
- (xi) Requested operating assumptions and control technologies description, if applicable
- (xii) All supporting documentation required for the interconnection customer's selections on Appendix 2 (scoring criteria)
- (xiii) If applicable, demonstrate permission to share IC interconnection facilities

Common Issues with Technical Data

- Misalignment between what is entered in the data fields vs other attachments
- Incorrect q_{max} , q_{min} , p_{max} , and p_{min} parameters in models
- Incorrect calculations
- Epc/dyd/SLD missing values
- Reactive power capability issues
- Incorrect sign on positive sequence power factor angle
- GPS coordinates do not match site map
- Incorrect short circuit data

Site Control

- Demonstrated through one of the following:
 - Ownership of the project site
 - Leasehold interest
 - Option to purchase the property
 - Option to acquire a leasehold interest
- Must cover **at least 90% of the acreage** reasonably necessary for the generating facility
- **Minimum land requirements** are provided in the table below
- Projects requiring **less land** than the minimum must submit a **dimensioned engineering diagram** with their site control documentation

Acreage Reasonably Necessary**							
Technology	Solar PV	Solar CSP	Wind	Biomass	BESS	Combustion Turbine	Hydro
Minimum Acres/MW	6	9	30	3	0.06	3	10

*For a generation type not currently listed, provide documentation showing the project has acquired sufficient acreage

**smaller land requirements will be considered with proper documentation of project configuration

Regulatory Limitation – Definition

- **Regulatory limitation** applies when a project developer is awaiting regulatory approval for applications on:
 - Public sites
 - Trust land
 - Land controlled or managed by a federal, state, or local agency
- Applies **only if**:
 - The regulatory process for obtaining site control cannot conclude before the required CAISO milestone, **or**
 - The regulatory approval process depends on the project advancing further in the CAISO interconnection queue
- **Does not apply** if:
 - The project developer failed to submit the required application to the appropriate agency early enough to reasonably obtain site control before CAISO's required site control showing

Regulatory Limitation – Affidavit Requirements

- Describe the applicable **regulatory limitation** preventing site control.
- Document the **land rights process** for the applicable agency.
- Demonstrate the project's **current status** in the land rights process.
- Include **supporting documentation** validating project progress.

ISO Objective

- Support from the IC in understanding of the **agency-specific land rights processes**.
- Provide visibility into the **multiple agency approvals** required for siting projects on public lands.
- Demonstrate project progress and regulatory constraints through clear, well-supported documentation.

Regulatory Limitation Site Control Deposit Option

- Only for projects that cannot obtain site control due to a regulatory limitation
 - Deposit submitted to the ISO
 - \$10,000 per MW, subject to a minimum of \$500,000 and a maximum of \$2,000,000
 - All Site Control deposits are fully refundable
 - IC must submit affidavit describing the regulatory limitation and supporting documentation
 - Supporting documentation must meet all three criteria as described in the BPM

Site Control – Common Issues

- **Insufficient acreage** to meet BPM requirements, or missing documentation supporting a reduced acreage requirement.
- **Site control must extend through the commercial operation date (COD)** at a minimum.
- **Leases and options to lease** often do not demonstrate the required term through COD.
- **Option agreements:** ICs must provide documentation confirming the option has been exercised for the current option period.
- **Name mismatch** between the interconnection customer and the lease holder, option, or grant holder. Must show chain of ownership/leasing rights.
- When names differ, provide documentation demonstrating the property interest, such as:
 - Assignment agreement
 - Certified organizational chart
 - Other documentation linking the interconnection customer (identified in the interconnection request) to the property interest holder.

Shared Interconnection Customer Interconnection Facilitates

At the time of interconnection request

- Submit demonstration of **active negotiation** of a shared facilities agreement by:
 - Provide a **draft agreement, and email correspondence** documenting the exchange of agreement drafts, **or**
 - Demonstrate secure rights to share IC interconnection facilities through the COD.

Within 20 calendar days after the cluster study report meeting

- Submit an **effective executed agreement** demonstrating **secured rights** to share IC interconnection facilities through COD.

Scoring Criteria Documentation

- Applications choosing FCDSR/PCDSR or EOR - reimbursable will be required to enter scoring information
- Commercial Interest points – provided by the LSE or Non-LSE
 - No documentation required from IC, ISO will enter scores as received from LSE or Non-LSE
- Project viability points
 - Engineering design plan – do not submit
 - Submit affidavit with professional engineer stamp instead
 - Expansion points – verified with PTO
 - Description of expansion
 - Executed GIA
 - Notice to proceed
 - Construction activities documentation
- System Need – verified with existing reports
 - Local RA
 - Long lead time resource

Questions?



Application Process

Applications Accepted	Completeness Check	Commercial Interest Affidavits Due	Cluster Study Criteria Evaluation
10/1/2026	10/1/2026	10/16/2026	10/16/2026
10/15/2026	10/22/2026	10/29/2026	11/18/2026

10/1/2026 - 10/15/2026: C16 Application Window

- Customers will submit a complete application via GRIP.
- Application will be reviewed within 5BD and notified of completeness, with opportunities to correct until 1700 PPT 10/15/2026.
- Applications submitted or corrected after 1700 PPT 10/8/2026 will likely not have an additional opportunity to make corrections.
- Incomplete applications will not move forward in the process.

October to November: Cluster Study Intake Criteria Verification

- Applications will be processed according to the cluster study intake criteria.

Application Process

November: Customer Notification

- Customers will be notified if they:
 - Met the cluster study intake criteria and will begin validation
 - Tied during the cluster study intake criteria and need to submit an auction bid
 - Did not meet the cluster study intake criteria and will not be studied

Technical Validation	Auction
11/19/2026	11/19/2026
1/13/2026	12/3/2026

December: Auction Results Communicated

- Auction participants will have 10 BD to submit bids
- Winners will be notified and required to post financial security for their bid to the PTO by the end of the customer engagement window
- Accepted projects will continue the validation process

Application Process

Technical Validation	Study Area Scoping Meeting
11/19/2026	1/4/2027
1/13/2026	1/13/2027

November 2026 to January 2027:

- Applicants will be notified 10BD after satisfying the scoring criteria if their technical data is valid.
- Deficiencies should be corrected and will be re-reviewed within 5BD.
- This process repeats until the end of the engagement window.
- IRs must be valid by the end of the engagement window.
 - Valid IRs must post CRD to PTO before end of customer engagement window
 - Last round of deficiencies will be communicated if received by 1/5/2027
- Invalid IRs will not proceed to the Cluster Study.
- Study Area scoping meetings will be held before the end of the engagement window. Registration and NDA required.

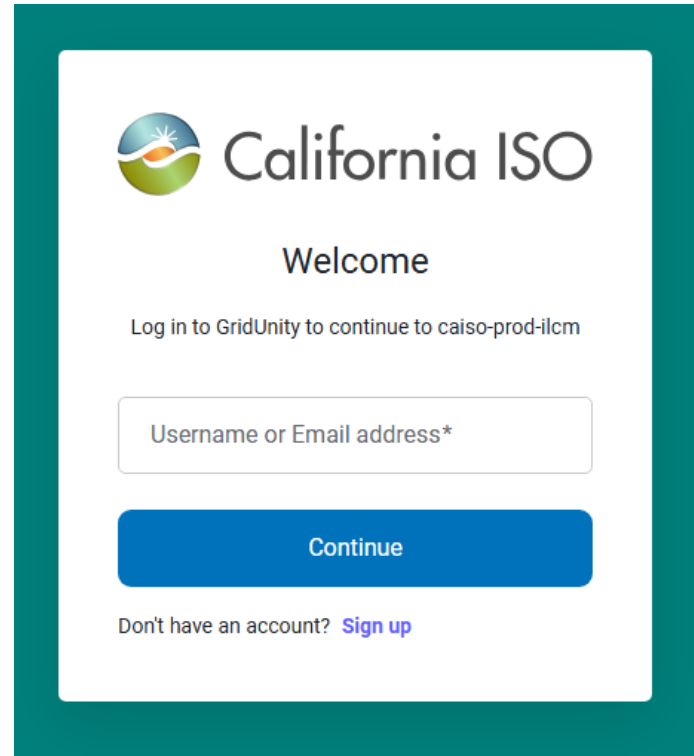
January 2027 Cluster Study Begins

Application Process – WDAT/WDT

- Projects interconnecting to a utility's distribution system seeking deliverability, FCDSR/PCDSR are now required to submit an application in GRIP.
 - Basic project and scoring criteria information (Appendix 2) will be entered in GRIP.
 - WDAT/WDT projects will be scored for acceptance into the current cluster for the deliverability study.
 - WDAT/WDT projects will not submit any funds to the CAISO
- WDAT/WDT applications will follow the same process as ISO interconnecting applications through the close of the customer engagement window.
- Customers will be notified of the outcome after all scoring has been completed.

GRIP

- User Guide
- Application Access
- Company Setup
- Contractors
- Comments

A screenshot of the California ISO login page. The page has a teal border. At the top left is the California ISO logo, which consists of a stylized sun and waves. To the right of the logo is the text "California ISO". Below the logo and text is the word "Welcome". Underneath "Welcome" is the text "Log in to GridUnity to continue to caiso-prod-ilm". There is a text input field with the placeholder text "Username or Email address*". Below the input field is a blue button with the text "Continue". At the bottom of the page is the text "Don't have an account? [Sign up](#)".

California ISO

Welcome

Log in to GridUnity to continue to caiso-prod-ilm

Username or Email address*

Continue

Don't have an account? [Sign up](#)

Submitting an Application in GRIP

- Applications will be submitted and corrected in the Grid Resource Interconnection Portal (GRIP).
- All information from Appendix 1 (Interconnection Application), 2 (scoring criteria), and 3 (Cluster Study Agreement), and Attachment A (excel technical data) will be input in GRIP.
- All supporting documentation must be uploaded where indicated in GRIP.
- Users will not be able to submit an application with incomplete fields or missing documentation.

Submitting an Application in GRIP – Scoring Criteria

- Applications choosing FCDSR/PCDSR or EOR - reimbursable will be required to submit self scores.
- ICs will input scores for each field and attach supporting documentation.
- Scoring documentation may only be submitted during the application window and will not be reviewed until the window closes.
- Any scores that are not supported by the provided documentation will be not be considered. There will be no opportunity to cure.

Auction Process in GRIP

- Projects tied after the cluster study criteria review will be notified to submit a bid via GRIP.
- ICs may submit a single, \$/MW sealed bid in GRIP or withdraw.
- The highest bid(s) will be accepted for the cluster study until the 150% limit is reached.
- Auction winners must post an auction deposit by the end of the customer engagement window to the PTO.
 - The amount will be communicated via GRIP.
- The value of the auction deposit is the product of the dollar value of the lowest winning bid in that study area and the MW capacity of the interconnection customer's own generating facility at the point of interconnection.

Questions?





NDA Overview

Jacqueline Meredith
Sr. Tariff Specialist, Legal

Transmission Planning (TP) NDA

- All participants in scoping meetings need a company TP NDA on file
 - All participating employees also need an Exhibit A on file
- Please submit TP NDA documentation well in advance of the scoping meeting
- Send all correspondence to CAISONDA@caiso.com



Locating the forms

https://www.caiso.com



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Search...



17,288,600

2,913,100

16,273,100

4,700

247,000

38,265,200



Legal and regulatory

Research legal policies, notices as well as ISO contracts and agreements. Business practice manuals and operating procedures are also found here.

Tariff

Regulatory filings and orders

Business Practice Manuals

Legal policies and incorporation

[Contracts and agreements](#)

Compliance

Operating procedures



Contracts and agreements

The ISO enters into agreements with market participants to define the rat ISO in accordance with our tariff. The references below include standard as non-standard forms that generally are specifically negotiated, such as

Western Energy Imbalance Market (WEIM)

[View the WEIM agreements and documents on the WEIM website.](#)

Contracted entity required notifications

- [Guide - Adjacent Balancing Authority, Interconnected Control Area, Agreements \(ABAOA, ICAOA, IBAAOA\)](#) [PDF](#) 01/08/2026, 8:48 AM
- [Entities with an Interruptible Service Contract or similar agreement \(A](#)

Non-disclosure agreements

Non-disclosure agreements

Certain secure planning and market systems data are available upon compliance with the applicable submission instructions and submittal of a non-disclosure agreement. Requesting entities must be members of the Western Electricity Coordinating Council (WECC) or have an approved WECC Confidentiality Agreement prior to requesting access to this data.

Congestion revenue rights full network model non-disclosure agreement and instructions

- [Congestion Revenue Rights Full Network Model Non-Disclosure Agreement Submission Instructions](#) [PDF](#) 07/30/2025, 12:06 PM
- [Congestion Revenue Rights Full Network Model Non-Disclosure Agreement](#) [PDF](#) 11/12/2020, 2:10 PM

Protected data non-disclosure agreement and instructions

- [Protected Data/Market Modeling Data Non-Disclosure Agreement Submission Instructions](#) [PDF](#) 07/30/2025, 12:06 PM
- [Protected Data/Market Modeling Data Non-Disclosure Agreement](#) [PDF](#) 11/12/2020, 2:10 PM

Transmission planning non-disclosure agreement and instructions

- [Regional Transmission Non-Disclosure Agreement Submission Instructions](#) [PDF](#) 07/30/2025, 12:06 PM
- [Regional Transmission Non-Disclosure Agreement](#) [PDF](#) 11/19/2020, 1:57 PM



Interconnection Customers

- If your company already has a TP NDA on file, only additional Exhibit A forms are needed for new participants

- If you are a new entity, provide a completed and combined TP NDA packet:
 - Body of TP NDA
 - All Exhibit A forms
 - One Exhibit B form

- ❖ *If not already a WECC member*, also provide a WECC confidentiality agreement

Working with Consultants

- Consultants must have established clients before signing TP NDA
- If the consultant already has a TP NDA on file
 - Only additional Exhibit A forms are needed
 - Exhibit C updated with new clients
- If the consultant needs a TP NDA on file, a completed and combined TP NDA packet is still required, plus:
 - Client must confirm engagement via email to CAISIONDA@caiso.com
 - Consultant must also provide an Exhibit C noting the client



Tips to streamline NDA process

- On the NDA form, complete the necessary fields
 - “Receiving party” refers to the company name, not an individual
 - Add checkmark on Page 1, under Item #1
 - Provide a signed NDA (page 4)
 - Provide one complete Exhibit A, one per employee
 - Indicate engagement in marketing or not
 - Complete Exhibit B – this correlates to the item marked on page 1
- ❖ All references to the executed agreement date can be left blank.
DocuSign auto populates this date.



Tips to streamline NDA process

- Send new NDA in one complete packet, in order:
 - Body of NDA
 - Exhibit A forms
 - Exhibit B
 - Exhibit C (if applicable)
- Don't forget the WECC Confidentiality agreement – located inside the instructions
 - Submit as a separate document



References:

- TP NDA template:
https://www.caiso.com/documents/regionaltransmissionnon_disclosureagreement.pdf
- TP NDA instructions (includes WECC agreement template):
https://www.caiso.com/documents/regionaltransmissionnon_disclosureagreementsubmissioninstructions.pdf
- User Access Administrator (UAA) guide:
<https://www.caiso.com/systems-applications/user-access-administrator-uaa#uaa-guide>
- UAA-related questions: UAARquest@caiso.com
- General questions: CAISONDA@caiso.com

Questions?





California ISO

Project Selection and Study Process Overview

Vera Hart, Regional Transmission Engineer Lead

Project Selection and Study Process Overview

- C16 Study Timeline Summary
- POI-Constraint Mapping
- Restricted POIs
- Deliverability Reservation
- Evaluation of Line POI
- Interconnection Studies
 - Cluster Study
 - Re-Study
 - Facilities Study
 - TPD
- Heat Map data

C16 Study Timeline Summary

Cluster 16																
Process		Customer Engagement Window			Cluster Study	Cluster Study Report Issued	Cluster Study Report Meeting	Annual Reassessment / Cluster Restudy	Reassessmen t/Cluster Restudy Report Issued	Reassessme nt/Cluster Restudy Report Meeting	Interconnec tion Facilities Study	Draft Interconnec tion Facilities Study Report Comment Period	Final Interconnect ion Facilities Study Report	Interconnect ion Facilities Study Report Meeting	TP Deliverabilit y Affidavits	Annual Deliverabili ty Retention Affidavit
	Process Timeframe	10/16/2026-1/13/2027			1/14/2027-7/15/2027			7/26/2027-1/7/2028			1/14/2028-9/22/2028					
Subprocess		Technical Validation	Auction	Study Area Scoping Meeting									May be extended by 15 BD			
Black Dates - Controlled by CAISO tariff	Start	11/19/2026	11/19/2026	1/4/2027	1/14/2027	6/12/2027	6/14/2027	7/26/2027	12/22/2027	12/23/2027	2/14/2028	6/13/2028	7/13/2028	8/24/2028		
	End	1/13/2026	12/3/2026	1/13/2027	6/12/2027		6/25/2027	12/22/2027		1/7/2028	6/12/2028	7/12/2028	8/23/2028	9/22/2028	3/15/2029	3/15/2029
Milestone Timeframe				10 BD	150 CD		Within 10 BD of Issuing Cluster Study Report	Within 180 CD of Cluster Study Report Meeting or 150 CD Following Notificaiton		Within 10 BD of Issuing Reassessme nt/Cluster Restudy Study Report	120 CD	30CD	Within 30 BD (15+15) of comments received	Within 30 CD of issuing Final Interconnect ion Facilities Study Report		
Tariff Appendix KK Section Number(s)		3.5.2.1, 3.5.2.2	4.1.2	6.1.2	6.6	6.6, 6.7	6.7	3.6.1.2, 7.4, 7.5	7.4.1	7.4.1	8.5	8.5	8.5	8.7	8.9	8.9.3

[RIS Process Timeline](#)

POI-Constraint Mapping

Data Package

Transmission capability estimate inputs for CPUC integrated resource plan - Jul 15, 2026

[Topics](#) / [Generation and transmission](#) / [Transmission](#) / [Transmission planning](#) / [Transmission capability information provided to the CPUC](#)

/ [Transmission capability estimate inputs for CPUC integrated resource plan - Jul 15, 2026](#)

5 documents

Filter table contents by title...



5 of 5 results

TITLE	TYPE	POSTED
Attachment B2 - Deliverability constraint boundary diagrams 2026 6.81 MB		07/24/2026, 11:14 AM
Attachment B1 - Constraint mapping 2026 IPE 4.17 MB		07/24/2026, 11:14 AM
Attachment A - Transmission Capability Estimates for use in the CPUC IRP Process 2026 43.16 KB		07/24/2026, 11:14 AM
Cluster 16 Zonal Intake Limits for Energy Only 238.25 KB		07/22/2026, 7:59 AM
Transmission capability estimates - White Paper - 2026 903.80 KB		07/15/2026, 3:56 PM

2026 Constraint Mapping Data

Final determination interconnection study area (zone) as TPD or Merchant zone

Copy of “Estimated FCDS Capability Based on On-peak Study Resource Output (MW)” in the July 2026 version of the Tx Capability Estimates provided to CPUC. For sources and assumptions behind these estimates, please refer to the corresponding Tx Capability Estimates White Paper.

TPD allocated within the non-operational resources counted towards the Transmission Plan Capability.

Difference between the Transmission Plan Capability and Allocated TPD. 150% of these capacities will be used in the project selection process within the cluster 16 intake process.

All substation POIs

[illegible]

Walkthrough of 2026 Constraint Mapping Data

Example 1 (for illustration purpose only)

PG&E NGBA	TPD ZONE					
PG&E GBA	TPD ZONE					
PG&E FRESNO	TPD ZONE					
PG&E KERN	TPD ZONE					
POI Name/Short Description (Point of Delivery to CAISO-Controlled Grid for WDATs, etc.) & kV	Interconnection Study Area	Number of Constraints	Collinsville-Tesla 500 kV Area Constraint	Bellota Area Constraint	Bay Area Constraint	Tesla-Westley 230kV Area Constraint
Transmission Plan Capability			4198	0	1392	1166
Allocated TPD			4046	0	1392	1166
Available TPD			152	0	0	0
1-Number of POI behind Constr			231	24	26	30
CONTRA COSTA 115 kV	PG&E GBA	3	√	√		

Project in a TPD zone, proposing to connect at a POI which is behind at least one constraint with zero available TPD will not move forward to the intake process.

Example 2 (for illustration purpose only)

[illegible]

Project in a TPD zone, proposing to connect at a POI which is behind no constraint with zero available TPD will move forward to the intake scoring process. A projects potential for TPD is limited to the constraint with the lowest amount of available capacity, 152 MW in this example.

Restricted POIs

Reminder regarding restricted substations for new generation interconnection

- Interconnection Customers are responsible to be aware of PTO restrictions.
- Cluster 16 Restricted POI Information on CAISO Web
 - [cluster-16-restricted-point-of-interconnection-poi-information.pdf](#)

PG&E Substations Interconnection Advisory – Fault Duty Limitations

PG&E

2. Fault Duty Limitations

Certain substation buses have reached the ultimate fault duty limitation of 63 kA and no longer have physical space for bus reactors to correct the fault duty. Projects with POIs that are within sufficient electrical distance to the substations in Table G2 to contribute more than 100 Amps of fault current may require significant mitigations in order to be considered feasible.

Note: The 500kV system is operated at nominal 525kV voltage level.

Table G2

List of Substations that With Significant Fault Duty Constraints

Metcalf 115kV	Newark 230kV
Metcalf 230kV	Pittsburgh 115kV
Metcalf 500kV	Pittsburgh 230kV
Midway 115kV	Tesla 115kV*
Midway 230kV	Tesla 230kV*
Midway 500kV	Tesla 500kV*
Newark 115kV	Los Esteros 115kV

* - Mitigation Plan is in Flight. However, fault duty margins are unknown.

3. Proximity Limitations

Certain situations, based on case-by-case, may require PG&E to stipulate a switching station location based on asset utilization of near-by switching stations, long-term maintenance and operating costs, overlapping cluster requests and good engineering judgement. When an Interconnection Customer proposes to interconnect to a line, PG&E will determine whether a new switching station is required and will select its location based on existing substations or switching stations and their relative proximity.

PG&E Substations that Cannot Accept New POI's – Space Limitations

4. Space Limitations

Certain substation locations have been fully built out and no longer have the physical space in the surrounding area to accommodate substation expansions. The substation locations shown in table G2-A1 can no longer accommodate new POI requests. To clarify, POIs in table G2-A1 can only be requested if the generation site has an existing POI at that location and thus will not require any substation expansion. The substation locations shown in table G2-A2 can entertain new POI requests with complex upgrades and increased timelines (See table note).

Table G2-A1

List of Substation Buses that Cannot Accept New POIs based on Space/Land Restrictions

Cottle 230kV	Moss Landing 500kV
Diablo Canyon 500kV	Santa Teresa 115kV
Diablo Canyon 230kV	Schulte 115kV
Ignacio 60kV	Weber 60kV
Ignacio 115kV	Delevan 230kV
Los Esteros 115kV	Milpitas 115kV
Martin 115kV	Wheeler Ridge 115kV

Note: The list in Table G2-A1 includes only previously studied POIs from generation interconnection studies and publicly available CAISO Cluster 15 queue dated April 2021.

PG&E Substations Interconnection Advisory – Complex Upgrades

Table G2-A2

List of Substation Buses that Can Entertain New POIs with Complex Upgrades

Ignacio 230kV	Tranquillity 230kV
Lakeville 60kV	Weber 230kV
Lakeville 115kV	Wheeler Ridge 70kV
Lammers 115kV	Metcalf 115kV
Los Esteros 230kV	Metcalf 230kV
Oakland C 115kV	Metcalf 500kV
Pittsburgh PP115kV	Midway 115kV
Pittsburgh PP 230kV	Newark 115 kV

Note: - The above table is added on Q1/2026. This list includes only previously studied POIs from generation interconnection studies and require complex upgrades for interconnection. Complex upgrades may include, but are not limited to: Rebuild/conversion of existing bus, GIS (Gas Insulated Substation) addition, relocation of existing equipment to enable expansion, acquisition of property known to be difficult, etc.

SCE Substations Preliminary list of restricted C16 POIs

Mesa 500 kV

- The 500kV switchrack has a very limited number of positions
 - Due to the physical layout, any new 500kV generation tie-lines would have to cross over the existing lines which is a reliability risk
 - Remaining positions are reserved for future potential 500kV reliability and/or policy driven projects
 - There is no room for UG 500kV facilities

Lugo 500 kV

- QC15 studies have shown there are no available positions or room for expansion
 - Lack of available SCD margin which have triggered the need for large scale transmission upgrades. These upgrades have already identified that generation project must interconnect to the new Lugo 500kV Collector Station
 - Approved transmission projects in flight and/or in planning stages have shown that terminating any new 500kV generation tie-line is not possible.

SCE Substations Interconnection Restricted

Vincent 500 kV

- No room to expand to the west to accommodate additional positions
 - The western side of the substation is reserved for future 500kV reactive support and currently houses two 500kV capacitors
- No room to the east to expand (The remainder of the substation is close to the edge of the drop-off against a hill)
- One remaining position that appears to be available on the southern side of the substation is reserved for a future SCE 500kV T/L
- SCD issues exist at this substation. SCE is evaluating mitigations to address.

SCE Substations Interconnection Advisory

Windhub 220 kV

- While it might be difficult for a project to interconnect into the switchrack based on a number of challenges that have been encountered for recent projects which have required work including undergrounding 220kV T/Ls, interconnection may or may not be possible. Any requests to interconnect into this substation will be at the customers risk and may include relocation of subtransmission and/or

transmission facilities, undergrounding, and/or expansion of the switchrack.

Deliverability Reservation

Errata to Table 1-1 (Deliverable Resources and Resource Locations) of the Board-approved 2025-2026 Transmission Plan.

Resource type and Location	Base Portfolio		Deliverability reservation
	2035	2040	
Out-of-State Wind			
Wyoming wind (Eldorado)	3,000 MW	3,000 MW	1,500 MW
Wyoming wind (Tesla)	0 MW	1,707 MW	0 MW
Idaho wind (Harry Allen)	1,100 MW	1,100 MW	1,100 MW
New Mexico Wind (Palo Verde)	3,099 MW	3,099 MW	3,099 MW
New Mexico Wind (Mead) ¹⁴	350 MW	350 MW	350 MW
Offshore Wind			
Offshore wind (North Coast - Humboldt 500 kV)	1,607 MW	1,607 MW	1,607 MW
Offshore wind (Central Coast - Diablo 500 kV)	2,924 MW	2,924 MW	2,924 MW
Long Duration Energy Storage (LDES)			
LDES (Bellota)	310 MW	310 MW	310 MW
LDES (Gregg)	140 MW	140 MW	140 MW
LDES (Sycamore Canyon)	409 MW	409 MW	409 MW
LDES (Whirlwind)	400 MW	400 MW	400 MW
Geothermal - Out-of-CAISO			
Geothermal (Imperial Irrigation District)	655 MW	655 MW	655 MW
Geothermal (IPP & IPP Utah) ¹⁵	90 MW	90 MW	90 MW
Geothermal (Mead) ¹⁵	45 MW	45 MW	45 MW
Geothermal (Summit) ¹⁵	40 MW	40 MW	40 MW
In-state Geothermal added in Constraint Mapping			
Beatty 230 kV	400 MW	400 MW	400 MW
Cloverdale 115 kV	28 MW	28 MW	28 MW
Eagle Rock (PG&E) 115 kV	22 MW	22 MW	22 MW
Fulton 230 kV	54 MW	54 MW	54 MW
Geysers 17 230 kV	20 Mw	20 MW	20 MW

Treatment of deliverability reservation within the POI-Constraint Mapping is explained in READ_ME tab.

1. The transmission plan capability, allocated TPD and available TPD are based on the resource-type specific output assumptions that are used in deliverability studies rather than the resources' installed capacity.
2. The transmission plan capability and available TPD have been calculated after modeling as imports and effectively reserving deliverability for out-of-CAISO long lead-time generation resources specified in the Table 1-1 of the 2025-2026 Transmission Plan.
3. Reserved deliverability at the locations and amounts as identified in the Table 1-1 of the 2025-2026 Transmission Plan are included in the transmission plan capability and allocated TPD .
4. Future reservations at the locations and amounts as identified in the Table 1-1 of the 2025-2026 Transmission Plan are included in the available TPD.
5. The available TPD also includes in-state geothermal reservation at the following locations and amounts as included in the CPUC base portfolio for 2025-2026 TPP: 400 MW at Beatty 230 kV, 28 MW at Cloverdale 115 kV, 22 MW at Eagle Rock (PG&E) 115 kV, 54 MW at Fulton 230 kV and 20 MW at Geysers 17 230 kV.

Information on Intake and Scoring of Long Lead Time Projects for C16

1. Will interconnection applications at POIs with TPD reservations shown in the [Errata to Table 1-1 of the Board-approved 2025-2026 Transmission Plan](#) be accepted even if it shows zero in the C16 POI constraint matrix.

- Yes, as long as the project's technology and POI align with the POI's capacity reservation criteria. Projects with capacity greater than the reserved amount will be considered for the POI, but no ADNUs will be considered in the interconnection studies to allow the MW greater than the reservation to become deliverable.

2. Will 150% be applied to the TPD reservation amounts?

- No, the intake process will only accept projects seeking to utilize the reserved LLT capacity at a given POI up to the specific capacity amount that is reserved at that POI.

Information on Intake and Scoring of Long Lead Time Projects for C16

3. How is scoring implemented for projects at POIs with TPD reservations? If there is only one eligible project within the reserved MW, is it accepted regardless of score? Or does it need to compete with projects under shared constraints?

- Projects with a technology that has capacity reserved for a specific POI will only compete with other such projects for that reservation. Once the capacity reservation is fully utilized, a lower scoring project not chosen could compete with other projects at that POI for any unreserved capacity that may exist.

Example 1

Reservation: 100 MW of pump hydro at POI1

POI1 available TPD (with 150%): 200 MW

Cluster 16 submissions at POI1

Project 1: 300 MW pump hydro

Project 2: 100 MW battery

Result: Project 1 is in, Project 2 is not

Example 2

Reservation: 100 MW of pump hydro at POI1

POI1 available TPD (with 150%): 200 MW

Cluster 16 submissions at POI1

Project 1: 150 MW pump hydro

Project 2: 100 MW battery

Result: Both Project 1 and Project 2 are in

Information on Intake and Scoring of Long Lead Time Projects for C16

4. Is there any flexibility in the definition of POIs eligible for the TPD reservations.

No; to be eligible to take advantage of the capacity reservations at a POI listed in TPP Table 1.1, to qualify for Long Lead Time resource intake points, and to take advantage of the reserved capacity for a given technology in the TPD allocation process, the project must be at the locations shown in Errata to Table 1-1 of the Board-approved 2025-2026 Transmission Plan. Its POI cannot be close or nearby, it must be at the specific POI.

5. Please confirm that projects are not eligible for the merchant pathway when applying at a POI in a TPD zone that shows zero capacity.

That is correct. Merchant projects are only accepted in a Merchant zone.

Evaluation of Line POIs in Intake Process

Evaluation of Line POIs for FCDS projects in Intake

For constraint mapping purposes, line POIs could fall behind one of these situations:

Both ends of the line have zero available TPD	The project will not be selected
Both ends of the line have available TPD and are behind same set of constraints	The project will be mapped to the same constraint
Both ends of the line have available TPD and are behind different set of constraints, or only one end of the line has available TPD	The POI will be evaluated using one of the below approaches

There are two approaches for evaluating line POIs within the intake process:

- 1) Dfax against known constraint:
In this approach, the C16 projects with line POIs will be added to the case with small (0.01 MW) capacity and will be tested to check their dfax against all constraints reported in the constraint mapping. However, if the dfax at both ends of the line can be determined based on previous studies, then the dfax of the requested POI can be estimated based on the distance from the two ends of the line.
- 2) Direction of majority power flow:
A fictitious bus will be injected at the point of interconnection on the line and dfax on both sides of the interconnection will be calculated. The project will be assigned to the substation in the direction of higher dfax for the intake screening purpose.

The ISO plans to use 2025 TPD master base cases for this purpose. The ISO will also include 2025-2026 TPP approved policy projects, consistent with the assumptions outlined in the Transmission Capability Estimate White Paper.

Interconnection Studies

Cluster Study January to June (150 Days)

- For those projects that meet eligibility criteria and move to the cluster study, the cluster study will:
 - Evaluate impact of Interconnection requests received during the application Window
 - Assess the Point of Interconnection selected by each Interconnection Customer and potential alternatives to evaluate potential efficiencies in overall transmission upgrades costs
 - Provide Cost Estimate for Local Deliverability Network Upgrades (LDNU), Reliability Network Upgrades (RNU), Conditionally Assigned Network Upgrades (CANU), and identify Precursor Network Upgrades (PNU)
 - Preliminarily Identify required Interconnection Facilities (IF)
 - Provide Cost Estimate for ADNUs in Merchant study zones only
 - Establish non-binding Current Cost Responsibility (CCR) ,Maximum Cost Responsibility (MCR) ,Maximum Cost Exposure (MCE) until the issuance of the interconnection Facility Study report

Reassessment/ Restudy July to January (180 Days)

- The CAISO will perform a reassessment after each Cluster Study.
- The reassessment will evaluate the impacts on those Network Upgrades identified in previous interconnection studies and assumed in the Cluster Study of:
 - Interconnection Request withdrawals occurring after the completion of the Interconnection Studies for the immediately preceding Queue Cluster;
 - Downsizing requests from Interconnection Customers pursuant to Section 6.7.2.3;
 - the performance of earlier queued Interconnection Customers with executed GIAs with respect to required milestones and other obligations
 - changes in TP Deliverability allocations or Deliverability Status;
 - the results of the TP Deliverability allocation from the prior Interconnection Study cycle; and,
 - transmission additions and upgrades approved or removed in the most recent TPP cycle.
 - CANUs may become ANUs or they may change to PNUs
 - For Pre-C16 projects An Interconnection Customer shall also be eligible for an adjustment to its Maximum Cost Responsibility for Network Upgrades if a reassessment undertaken pursuant to this Section 7.4 reduces its estimated cost responsibility for Network Upgrades by at least twenty (20) percent and \$1 million, as compared to its current Maximum Cost Responsibility for Network Upgrades based on its Interconnection Studies or a previous reassessment.

Reassessment and Restudy July to January (180 Days) continued

- If one or more Interconnection Customers withdraw from the Cluster or are deemed withdrawn pursuant to Section 3.8 of this RIS, the CAISO will conduct a Cluster Restudy as part of the annual reassessment. If the CAISO determines a Cluster Restudy is not necessary, the CAISO will notify Interconnection Customers in the Cluster that a Cluster Restudy is not required and the CAISO will provide an updated Cluster Study Report within thirty (30) days of such determination.
- The scope of any Cluster Restudy will be consistent with the scope of an initial Cluster Study pursuant to Section 6.2 of this RIS. The results of the Cluster Restudy will be combined into a single report (Cluster Restudy Report). The CAISO will hold a meeting with the Interconnection Customers in the Cluster (Cluster Restudy Report Meeting) within ten (10) Business Days of simultaneously furnishing the Cluster Restudy Report to each Interconnection Customer in the Cluster Restudy and publishing the Cluster Restudy Report on the CAISO Website.

Facilities Study January 2028 (120 days after executed IF Study Agreement)

- The Interconnection Facilities Study will be performed on a clustered basis.
- The Interconnection Facilities Study will specify and provide CCR, MCR and MCE to implement the conclusions of the Cluster Study Report
- The Interconnection Facilities Study will also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment;
- The nature and estimated cost of any the Participating TO's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection;
- An estimate of the time required to complete the construction and installation of such facilities.

Transmission Plan Deliverability

- After the Interconnection Facilities Study reports are issued, the CAISO will perform the allocation of the TP Deliverability to Deliverable Option Generating Facilities that meet the eligibility criteria set forth in Section 8.9.2, and Merchant Option Generating Facilities that did not require ADNUs in their Interconnection Studies. The TP Deliverability available for allocation will be determined from the most recent Transmission Plan.
- Updated base case will be utilized which includes the most recently approved TPP projects modeled.
- Allocation is based on scores
- Once a Generating Facility is allocated TP Deliverability, the facility will be required to comply with retention criteria specific in Section 8.9.3 in order to retain the allocation.

Heat Map Data

FERC Order No. 2023

Points of Interconnection Heatmap

- You can access the heatmap at
 - <https://www.caiso.com/poi-heatmap/>
- The heatmap has been updated to include the Cluster 15 and 2025 TPD study scenarios
- For additional information please refer to the FAQ document or contact regionaltransmission@caiso.com
 - <https://www.caiso.com/documents/points-of-interconnection-heatmap-frequently-asked-questions.pdf>

Questions?



Cluster Study

- Cluster Study report meetings by study area
 - Registration required
- Customer Requirements
 - CRD held must be 5% of reliability network upgrade costs, CCR
 - Postings made to PTO
 - Demonstrate continued site control in GRIP
 - Demonstrate secured rights to use third party interconnection facilities through COD in GRIP

Cluster Study	Cluster Study Report Issued	Cluster Study Report Meeting	5% Commercial Readiness Dep; Continued Site Ctrl; Shared Gen-tie
1/14/2027-7/15/2027			
1/14/2027	6/12/2027	6/14/2027	6/26/2027
6/12/2027		6/25/2027	7/15/2027

Annual Reassessment/Cluster Restudy

Annual Reassessment/ Cluster Restudy	Reassessment/Cluster Restudy Report Issued	Reassessment/Cluster Restudy Report Meeting	Issue Interconnection Facilities Study Agmt incl Appendix B Technical Data	Return Agmt, Apdx B; 10% Commercial Readiness Deposit and demo of 100% Site Control
<i>7/26/2027-1/7/2028</i>				
7/26/2027	12/22/2027	12/23/2027	1/14/2028	1/15/2028
12/22/2027		1/7/2028		2/13/2028

- Reassessment/Cluster Restudy report meetings by study area
 - Registration required
- Customer Requirements
 - Sign Facilities study agreement 30 days after receipt
 - Submit Appendix B to confirm project milestone dates and other data provided in the IR via GRIP
 - CRD held must be 10% of reliability network upgrade costs, CCR
 - Postings made to PTO
 - Demonstrate 100% site control in GRIP

Appendix B Data Sheet Modifications

- Reduce ISC 15%
- Reduce fuel type 15%
- Add battery less than 5 MW; no increase to ISC; DS unchanged
- Change transformer impedance
- Change generator transformer – case by case
- Anything not listed above is not permitted

Accepted on
Appendix B



- Changes to POI
- Share gen-tie with another project
- Combine projects
- Add fuel type other than battery
- Modify fuel types
- Convert to EO
- Changes to study pathway used in scoring

Not Accepted
on Appendix B



- Changes that do not require a power flow study, bus flow study or short circuit analysis.
- All other allowed changes will be reflected in the next year's reassessment.

Reflected in
Facilities
Study Report



Modifications intended to reduce cost responsibility may not be realized

Interconnection Facilities Study

Interconnection Facilities Study	Draft Interconnection Facilities Study Report Comment Period	Final Interconnection Facilities Study Report	Interconnection Facilities Study Report Meeting
<i>1/14/2028-9/22/2028</i>			
		May be extended by 15 BD	
2/14/2028	6/13/2028	7/13/2028	8/24/2028
6/12/2028	7/12/2028	8/23/2028	9/22/2028

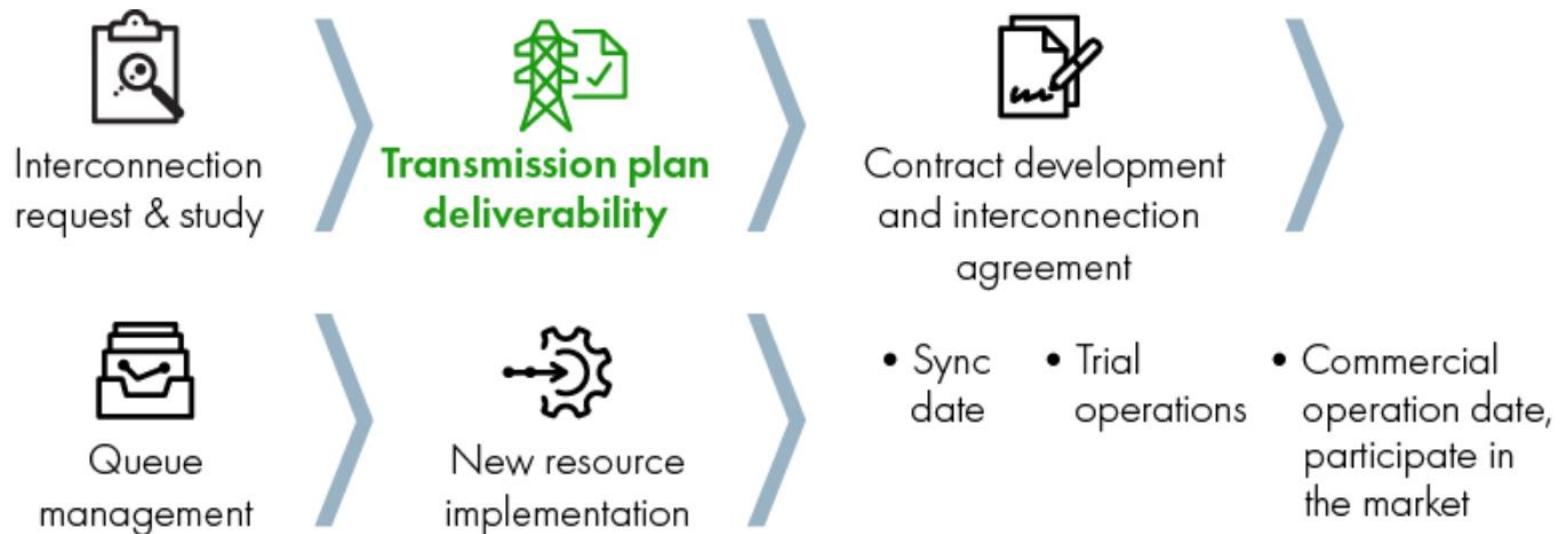
- Interconnection facilities study report meetings by customer and PTO
- Customer Requirements
 - Provide comments on draft interconnection facilities study report via GRIP

Questions?



Interconnection Process Map

Transmission plan deliverability



Seeking Transmission Plan Deliverability Allocations

- Eligible projects may seek an allocation of TPD by submitting an application with substantiating documentation for either allocation group
 - PPA group (first priority) – meet existing PPA eligibility requirements*
 - Conditional group*
- Only projects submitting a seeking request will be studied for a TPD allocation.
- The 2027 process will be like the 2025 process taking into account the different allocation groups

*Energy only capacity will be considered FCDSR/PCDSR capacity within each allocation group

Accepting or Declining a TPD Allocation

- After the TPD allocation study concludes. Results will be communicated to requestors.
- IC's must decide whether to accept the allocation (whole or partial), decline allocation or withdraw within 7 CD.
- An additional deposit will be required from IC's with PPAs that are not
 - With an LSE meeting its own CAISO RA obligation
 - Either directly or indirectly if the agreement has at least a one-year term.
 - Due to CAISO 30 CD after receipt of the TPD allocation
 - \$10,000 per MW of allocated TPD, no less than \$500,000

Questions?



Withdrawals

IC may withdraw at any time.



GRIP



or

E-mail



ISO may withdraw an IR if the IC fails to adhere to Tariff requirements

Commercial Readiness Withdrawal Penalty

Timing of Withdraw (Section 3.8.1)	Amount of Penalty
During the Cluster Application Window	\$5K Application fee is non-refundable
a) During Cluster Study or after Cluster Study Report Meeting and prior to Reassessment or Interconnection Facilities Study if no Reassessment	The penalty is the greater of their Study Deposit or two (2) times its actual allocated study costs whichever is greater
b) During Reassessment or after Reassessment Report Meeting and prior to Interconnection Facilities Study	The penalty is the greater of their Study Deposit or 5% of the estimated NU
c) During Facilities or after Facilities Report Meeting and prior to GIA execution or filed unexecuted GIA	The penalty is the greater of their Study Deposit or 10% of the estimated NU
d) GIA has been executed or has requested to be filed unexecuted and all other requirements have been met, but does not reach Commercial Operation	The penalty is the greater of their Study Deposit or 20% of the estimated NU

Withdrawals

- To withdraw a project in GRIP go to the ACTIONS tab
- If the Interconnection Customer withdraws its Interconnection Request or is deemed withdrawn prior to the commencement of the initial Cluster Study, the Interconnection Customer will not be subject to a Withdrawal Penalty.
- Otherwise the withdrawal penalty is the greater of the Study Deposit or two (2) times its actual allocated study costs

- **Example 1: Study Deposit: \$250K (200 MW)**
 - Cluster Study Cost: \$60,522.58 (2x \$121,045.16)
 - \$250K study deposit is the greater of the two
 - IC is invoiced for the allocated study costs of \$60,522.58. The invoice is for the actual study costs
- **Example 2: Study Deposit: \$57K (22 MW)**
 - Cluster Study Cost: \$ 35,669.67 (2x \$71,339.34)
 - \$71,339.34 2X the study costs is the greater of the two
 - IC is invoiced for \$50,009.01
(penalty \$71,339.34 + Study Costs \$35,669.67 less \$57K study deposit)

Auction Deposit Forfeiture

Timing of Withdraw (Section 4.1.2)	Amount of Forfeiture
Prior to commencement of the Cluster Restudy or Interconnection Facilities Study if no Restudy	15%
Commencement of Cluster Restudy, the end of Cluster Study or prior to commencement of Interconnection Facilities Study	30%
Commencement of Interconnection Facilities Study and prior to execution or filing of an unexecuted GIA	50%
Executed or filed unexecuted GIA	100%



Merchant Zone Commercial Readiness Deposit Forfeiture

Timing of Project (Section 4.2)	Amount of Forfeiture
Prior to close of the Customer Engagement Window	0%
After Customer Engagement Window	50%

Questions?



Resources

Generator Interconnection Webpage

[Generator interconnection | California ISO \(caiso.com\)](#)

ISO Generator Interconnection Queue

<https://www.caiso.com/documents/cluster-15-interconnection-requests.xlsx> (Cluster 15 and later)

<https://rimspub.caiso.com/rimsui/logon.do> (Cluster 14 and prior)

Participating Transmission Owner:

Financial Security Instruments and Per Unit Cost Guides

[Interconnection request and study | California ISO \(caiso.com\)](#)

Resource Interconnection Standards Fair Presentations

[Generator interconnection | California ISO \(caiso.com\)](#)

Resources

Tariff Section 25

<https://www.caiso.com/documents/section-25-interconnection-of-generating-units-and-facilities-as-of-dec-17-2024.pdf>

Tariff Appendix KK (RIS)

<https://www.caiso.com/documents/appendix-kk-resource-interconnection-standards-as-of-jun-25-2025.pdf>

Business Practice Manual for RIS

<https://bpmcm.caiso.com/Pages/default.aspx>

Restricted Substations

<cluster-16-restricted-point-of-interconnection-poi-information.pdf>

<https://www.caiso.com/documents/pg-e-information-on-points-of-interconnection-poi-availability-for-cluster-16.pdf>

Resources

RIS Process Timeline

<https://www.caiso.com/documents/resource-interconnection-standards-interconnection-study-timeline.xlsx>

GRIP

<https://www.caiso.com/documents/grid-resource-interconnection-process-grip-user-guide.pdf>

<https://www.caiso.com/documents/grid-resource-interconnection-portal-grip-faq.pdf>

<https://grip-external.caiso.com/login>

Questions?

IRInfo@caiso.com



Interconnection Agreements and Retirement Scenarios

Infrastructure Contracts and Management

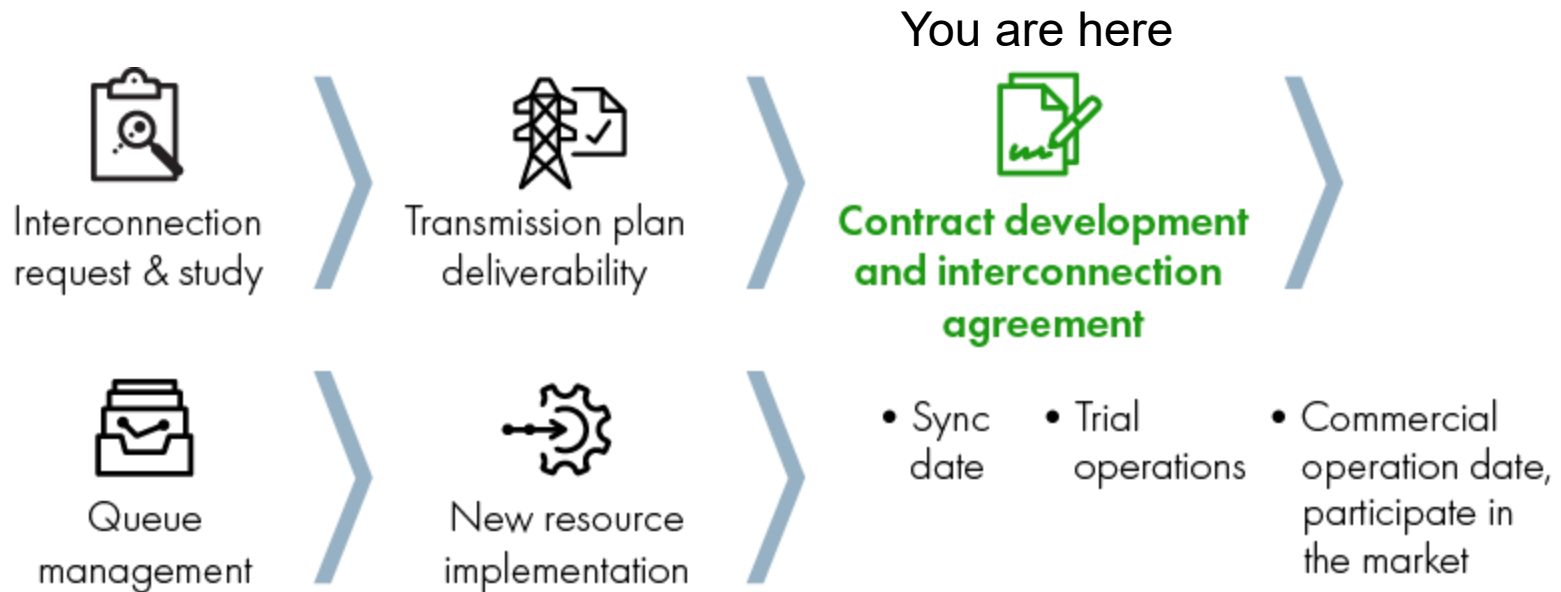
Janessa Zucchetto, Sr. Contracts Negotiator

Eric East, Lead Contracts Negotiator

Brittany Shaw, Contracts Analyst

August 11, 2026

Interconnection Process Map



Cluster 15 GIAs

Generator Interconnection Agreement (GIA)

- The CAISO will apply the Order No. 2023 tariff revisions beginning with Cluster 15
- The new revisions will be implemented in a new tariff appendix, Appendix KK – the Resource Interconnection Standards (“RIS”)
- A project interconnecting to the CAISO controlled grid shall execute a Generator Interconnection Agreement (GIA) between the interconnection customer, the participating transmission owner, and the CAISO
- The GIA consists of:
 - Pro forma approved by Federal Energy Regulatory Commission
 - Appendix LL (LGIA) and Appendix MM (SGIA)
 - Appendices are specific to an interconnection customer
 - The GIA is specific to an interconnection customer and its generating facility and may cover more than one resource ID and CAISO queue position
- A Project interconnecting to the non-CAISO controlled grid may execute an agreement with the participating transmission owner or the utility distribution company

GIA Tendering & Negotiation

- **Tendering**

- Within thirty (30) Calendar Days after the IC submits facility study comments or after IC notifies TP that it will not provide comments, TP shall tender a draft LGIA, together with draft appendices.
- Interconnection Customer shall execute and return the LGIA and completed draft appendices within thirty (30) Calendar Days, unless (1) the sixty (60) Calendar Day negotiation period has commenced, or (2) LGIA execution, or filing unexecuted, has been delayed to await the Affected System Study Report.

- **Negotiations**

- TP and IC shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report.
- If IC requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request.
- Unless otherwise agreed by the Parties, if IC has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute Resolution procedures within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed withdrawn.
- If the Interconnection Customer has not received its Affected System Study prior to the date it would be required to execute its GIA (or request that its GIA be filed unexecuted), the CAISO will, upon request of the Interconnection Customer, extend this deadline to thirty (30) calendar days after the Interconnection Customer's receipt of the Affected System Study Report, or two hundred and ten (210) calendar days after the tendering of the GIA and appendices, whichever is earlier.

GIA Execution Timeline Options

Path 1: Normal GIA Drafting Path

Stage	Owner	Window	Trigger / Start
PTO Drafts GIA	PTO	30 CD	IC comments on IFS Report or provides notice that no comments are necessary
60-Day Negotiation Period (§ 13.2 exception)	All parties	Up to 60 CD	Commencement of good-faith negotiation
Docusign & Execution of GIA	All Parties	≤ 10 Business Days	Receipt of executed final GIA document, concurrence and information sheets

Path 2: Unexecuted Filing Path

Stage	Owner	Window	Trigger / Start
PTO Drafts GIA	PTO	30 CD	IC comments on IFS Report or provides notice that no comments are necessary
60-Day Negotiation Period (§ 13.2 exception)	All parties	Up to 60 CD	Commencement of good-faith negotiation
IC Elects Unexecuted Filing	IC	Up to 50 CD after tendering	
PTO Files GIA with FERC	PTO		Receipt of request form IC to file unexecuted

Path 3: Affected System Path

Stage	Owner	Window	Trigger / Start
PTO Drafts GIA	PTO	30 CD	IC comments on IFS Report or provides notice that no comments are necessary
60-Day Negotiation Period (§ 13.2 exception)	All parties	Up to 60 CD	Commencement of good-faith negotiation
Affected system delay	IC	30 CD after receipt of affected systems report or 210 CD after tender of GIA	IC requests delay due to affected systems

Article 5.16 LGIA Appendix LL – Suspension Rights

- **Construction Activities Eligible for Suspension**
 - Interconnection Facilities
 - Network Upgrades
 - Distribution Upgrades
- **Customer Obligations**
 - Submit suspension request with start and end date
 - Pay PTO costs incurred before and during suspension, including demobilization and restart costs.
 - Request additional assessments for any extension or shortening of the suspension period.
- **Key Limitations**
 - Project must maintain achievable COD
 - Milestone evaluation will be completed, and MMA may be required for COD extension
 - Failure to restart within that timeframe may result in LGIA termination.
 - Interconnection customer must continue funding Shared Network Upgrades

CRD/GIA Deposits

Order No. 2023 Implementation Considerations

FERC Order No. 2023 established new financial security requirements; however, several implementation details are not expressly addressed in the pro forma LGIA and are currently being evaluated.

Areas Under Evaluation

- Post-GIA Execution Security
 - Administration of CRD and GIA Deposit following execution of the LGIA
 - Relationship between the GIA Deposit and remaining construction security requirements
- Withdrawal Security
 - How withdrawal penalty security is maintained after GIA execution
 - Interaction between remaining CRD amounts and withdrawal obligations
- Construction Security
 - Timing and mechanics for collection of additional Network Upgrade security
 - Avoiding duplicate or overlapping security requirements while maintaining adequate protection
- Shared Generator-Related Network Upgrades (Shared GRNUs)
 - Application of financial security requirements where Network Upgrades are shared among multiple Interconnection Customers
 - Allocation and administration of security responsibilities

Current Status

- CAISO is collaborating with Participating Transmission Owners to develop a consistent implementation approach.
- Any implementation guidance will be consistent with the CAISO Tariff and Business Practice Manuals.
- Stakeholder communications will be provided as implementation is finalized.

GridUnity GIA Automation

Why Automation?

- Order No. 2023 significantly shortened GIA drafting and negotiation timelines.
- Larger cluster sizes require a more efficient and scalable agreement development process.
- Automation allows parties to focus resources on negotiations rather than document preparation.

What is Automated?

- Generation of project-specific GIA appendices from study and project data.
- Population of technical exhibits, milestone information, and project-specific details.
- Standardized agreement formatting and document assembly.

Benefits

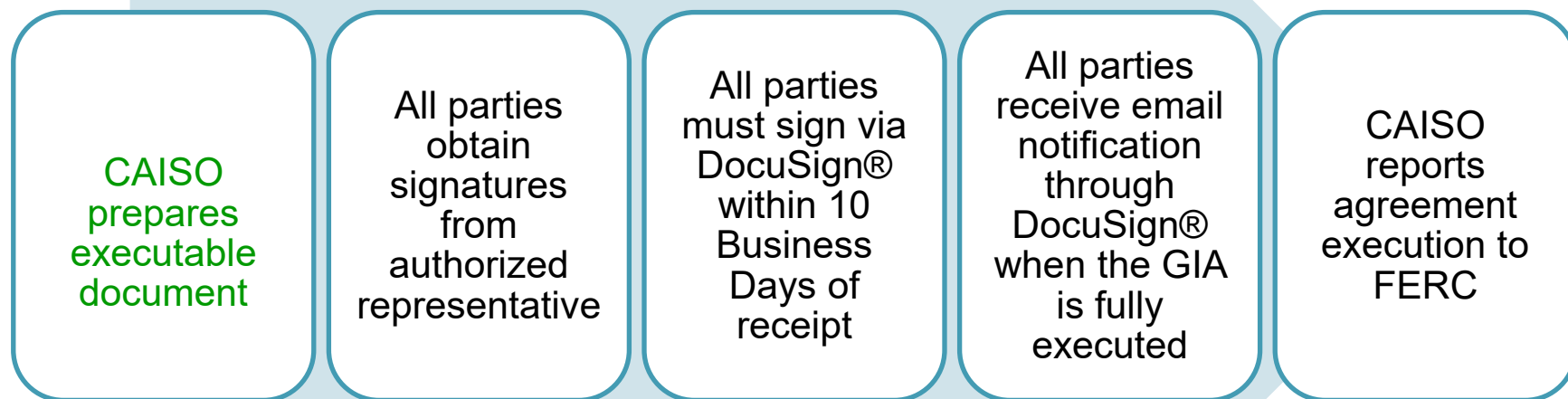
- Reduces manual drafting effort and administrative errors.
- Accelerates GIA preparation while maintaining quality and tariff compliance.
- Allows Contract Negotiators to focus on project-specific negotiations and customer issues.

Regulatory Contracts Agreement Execution and Changes

Brittany Shaw, Contracts Analyst

RegulatoryContracts@caiso.com

GIA Execution Process



- Agreement are distributed for execution via email through **DocuSign**.
- Final version of executed GIA is available for parties to download or print
- DocuSign Account is not mandatory in order to use their service

Market Agreements

- Terms for participating in CAISO markets
 - Participating Generator Agreement (PGA) or Net Scheduled Participating Generator Agreement (NSPGA)
 - Participating Load Agreement (PLA) (e.g., pumps, pump-generating, energy storage)
 - Meter Service Agreement for a CAISO Metered Entity (MSACAIOME)
 - Meter Service Agreement for Scheduling Coordinators (MSASC)
 - Scheduling Coordinator Agreement (SCA)

Contract Changes

Submit requests to RegulatoryContracts@caiso.com

Changes to Customer Information

- Assignments to affiliates and non affiliates
 - Assignee must meet the PTO's Interconnection Financial Security ("IFS") posting requirements
- Entity Name changes only
- Ownership changes

Required Documentation (varies on type of change)

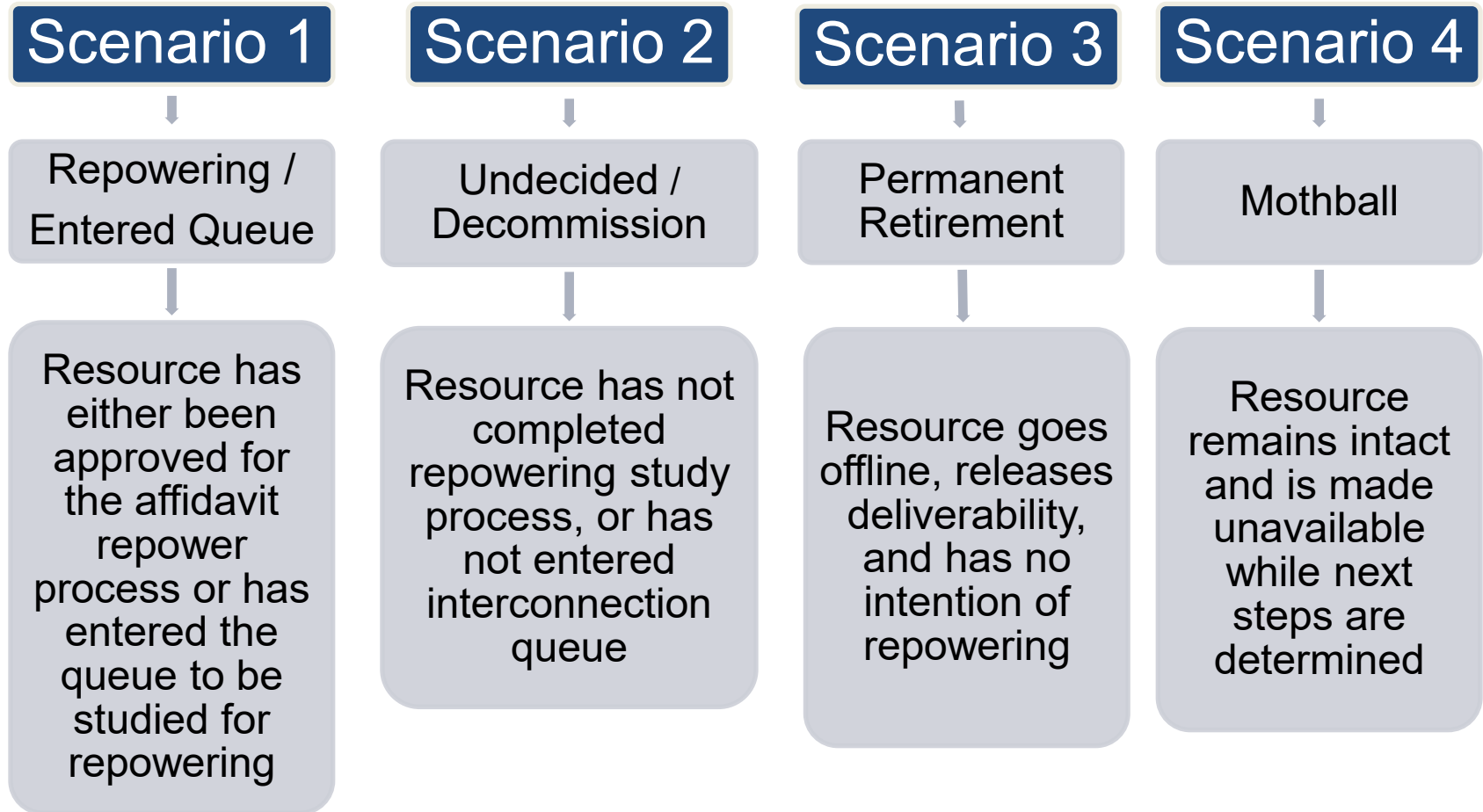
- Secretary of State certificate
- Proof of ownership
 - Sale agreement
 - Membership interest agreement

Contract Changes

****NEW** Updates to GIA and Market Agreement Contacts**

- **Interconnection Customer Representative:** An employee of the interconnection customer (agreement holder) or the parent company of the interconnection customer (legal entity).
- **Co-Tenant Manager:** A representative authorized to manage shared or jointly owned generating facilities under a co-tenancy GIA.
- **Primary Contact:** The designated individual responsible for managing communications, authorizations and coordination under the contract and serving as the main point of contact for all contract-related matters.
- **Alternate or Secondary Contact:** The designated individual who receives copies of all communications on contract-related matters and acts on behalf of the Primary Contact when and as authorized.

Resource Retirements – Scenarios



Resource Retirements

CAISO
receives
notarized
*Notice of
Retirement or
Mothball
Affidavit*

Deliverability
Study
Assessment
results are
available
within 90
calendar days

Depending on which scenario the retirement falls under, the generator owner *may* have specific actions to take upon approval of the retirement request.

Retirement requests must be submitted to
RegulatoryContracts@caiso.com at least 90 calendar
days prior to effective date.

Resource Retirements – Affidavit for Retirement

Notice of Generating Unit Retirement or Mothball Affidavit

- Affidavit will be reviewed by Regulatory Contracts for completion and accuracy.
- Regulatory Contracts cannot begin processing the retirement request until this notice is received completed and notarized.
- Regulatory Contracts reserves the right to request further information in order to process the retirement request.



Notice of Generating Unit Retirement or Mothball

Including Rescission of Retirement or Mothball

This is a notification of the retirement or mothballing of a Generating Unit in accordance with Section 41 of the CAISO Tariff and the CAISO BPM for Generator Management. An electronic copy of this completed form should be sent to the CAISO at RegulatoryContracts@caiso.com.

The CAISO may request additional information as reasonably necessary to support its review of planned non-operations.

Legal Owner of the Generating Unit: _____

Legal Owner's state of organization or incorporation: _____

Name of Scheduling Coordinator: _____

Identity of Generating Unit(s) Subject to Retirement/Mothball (Resource Name, Resource ID): _____

Category of Retirement: _____

Reason for retirement: _____

Pursuant to the terms of the CAISO Tariff, Owner hereby certifies that:

[] In accordance with the Business Practice Manual for Generator Management, it is retiring the Generating Unit effective _____ [month], _____ [day], _____ [year]. The Generating Unit does not have a contract for Resource Adequacy Capacity for [check one or both] _____ the current year and/or _____ the upcoming year, it is uneconomic for the Generating Unit to remain in service for such year(s), and the decision to retire is definite unless the CAISO procures the Generating Unit, the Generating Unit is sold to an unaffiliated third-party, a third-party contracts with the Generating Unit for Resource Adequacy purposes, or the Generating Unit obtains some other contract.

[] In accordance with the Business Practice Manual for Generator Management, it is retiring the Generating Unit effective _____ [month], _____ [day], _____ [year]. The Generating Unit does not have a contract for Resource Adequacy Capacity for [check one or both] _____ the current year and/or _____ the upcoming year, it is retiring the Generating Unit for reasons other than it is uneconomic for the unit to remain in service during such year(s).

Owner is retiring the Generating Unit for the following reason(s) (state with specificity the reason for retiring the unit):

Resources

- Contracts and agreements
<http://www.caiso.com/rules/Pages/ContractsAgreements/Default.aspx>
- Generating unit conversion process
<http://www.caiso.com/participate/Pages/ResourceInterconnectionGuide/default.aspx>
- Reliability Requirement information
<http://www.caiso.com/planning/Pages/ReliabilityRequirements/Default.aspx>
- Business Practice Manual for Generator Management
[https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator Management](https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator%20Management)
- Notice of Generating Unit Retirement or Mothball Affidavit
<http://www.caiso.com/Documents/Notice-GeneratingUnitRetirement-Mothball.docx>
- Announced Retirement and Mothball List:
<http://www.caiso.com/Documents/AnnouncedRetirementAndMothballList.xlsx>

The CN / RC teams thank you!

If you have any further questions, please contact us at:

RegulatoryContracts@caiso.com

Queue Management

Ryan Cox, Senior Queue Management Specialist

LaShea Moses, Queue Management Specialist

Agenda

- QM Responsibilities and Overview
- Modifications
- Limited Operation Studies
- Repowering
- TP Deliverability
 - Retention
 - Commercial Viability
- Affected System Coordination
- Initial Synchronization and Commercial Operation

Queue Management Responsibilities

- Maintain an accurate Queue of viable Projects
- Enforce Tariff, BPM, & GIA policy as Projects proceed through development
- Assist Projects toward achieving commercial operation within the bounds of the Tariff
- Prior to Initial Synchronization and COD, Queue Management verifies GIA obligations have been met

Queue Management Overview

- Part of Infrastructure Contracts and Management
 - Regulatory Contracts
 - Contract Negotiators
- Project management responsibility after Generator Interconnection Agreement (GIA) execution
- Project modification management after Facilities Study
- Coordination with New Resource Implementation (NRI)



Modifications to Interconnection Requests

Before Facilities Study Results

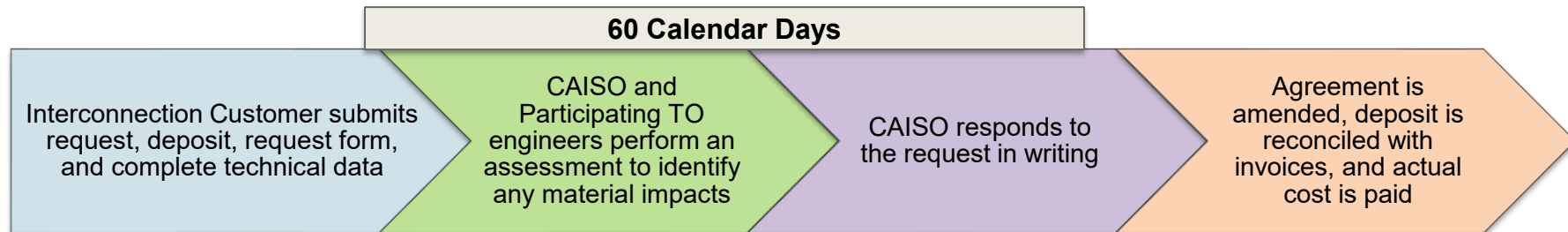
- Certain changes are allowed without a Material Modification Assessment (MMA) before Facilities Study
- Modification requests are processed by your Interconnection Specialist (the Interconnection Resources team)

After Facilities Studies are published

Modifications

- There are many types of modification requests that can be submitted:
 - **Material Modification Assessments (MMA)**: Used for pre-commercial operation modifications to queued projects
 - **Post-COD Modifications**: Used for modifications to generators after they achieve commercial operation
 - **Permissible Technological Advancements (PTA)**: Used for smaller changes that can usually be processed more quickly, like aligning a COD with a PPA
 - **Construction Sequencing**: projects have a cumulative 6 month period to extend their COD when construction activities take longer than expected.
- For most modifications, the best place to start is with the [Modification Request Form](#), located in the Queue Management section of the CAISO website. This form and any other applicable documentation will need to be submitted to the Queue Management Inbox.

Modification Review Process



- Modification timeline is 60 days, but requests involving technical data take more time for technical data validation
- The deposit amount is \$30,000
 - Please note project name and ‘for MMA’ on the wire transfer
 - Interconnection Customer will be charged actual costs incurred by the CAISO and Participating TO, and remaining deposit, if any, is returned
- In the event a facility reassessment is required, an additional 60 days may be required to complete the assessment

TP Deliverability - Retention

- Each year, the Queue Management team coordinates with Interconnection Resources to manage the TPD Retention Process
- Projects in **Group B** or **Group D** must demonstrate that they have met the requirements to retain their TP Deliverability (PPA)
- Once an executed PPA has been provided, no future demonstration is required **for TPD retention**

TP Deliverability – Retention Changes

- 2027 will be the last year that TPD Retention is processed under the current methodology, with Groups A-D and associated Requirements
- Even if the TP allocation was received in the latest allocation cycle, all retention requirements must be completed in 2027 for Group B and Group D allocations
- After 2027, the only Retention will be for Projects that are in the Conditional Allocation Group
 - Failure to retain will result in the Project automatically reseeking, unless they have used up their three opportunities

Commercial Viability Criteria (CVC) to retain TPD

- If a Project's COD is or will be beyond 7 years in Queue, it must demonstrate that it meets CVC requirements
- These requirements include having a GIA in good standing, site exclusivity, applied for all governmental permits, and an executed PPA
- Once a Project demonstrates that it meets the CVC requirements, it **must demonstrate annually** that it continues to meet CVC
- This demonstration is typically due at the same time as the annual TP Deliverability Retention (2026 was an exception since there was no Retention requirement)

Commercial Viability Criteria Changes

- IPE 5.0 approved on August 4th, and includes changes to the CVC process
- The changes apply to all modifications submitted August 5th or later
- All Projects, including Energy Only Projects, are now subject to the seven-year limitation, and must meet CVC otherwise
- Failure to meet CVC will result in Projects being Withdrawn
 - Projects will **no longer** be converted to Energy Only

Deliverability Transfers

- Customers may request to transfer deliverability to energy storage additions or other generating units located at the same Point of Interconnection (POI) and voltage level
- The deliverability transfer cannot result in a deliverability amount that exceeds the maximum output at POI associated with the projects
- The Project which is receiving deliverability from a transfer must meet the retention and CVC requirements of the transferring Project
- The Transferring Project must withdraw or downsize after the Deliverability Transfer, unless it can provide an Energy Only PPA for the amount transferred
- To request a deliverability transfer, send the [Deliverability Transfer Request](#) form to QueueManagement@caiso.com either as its own request or as part of an MMA

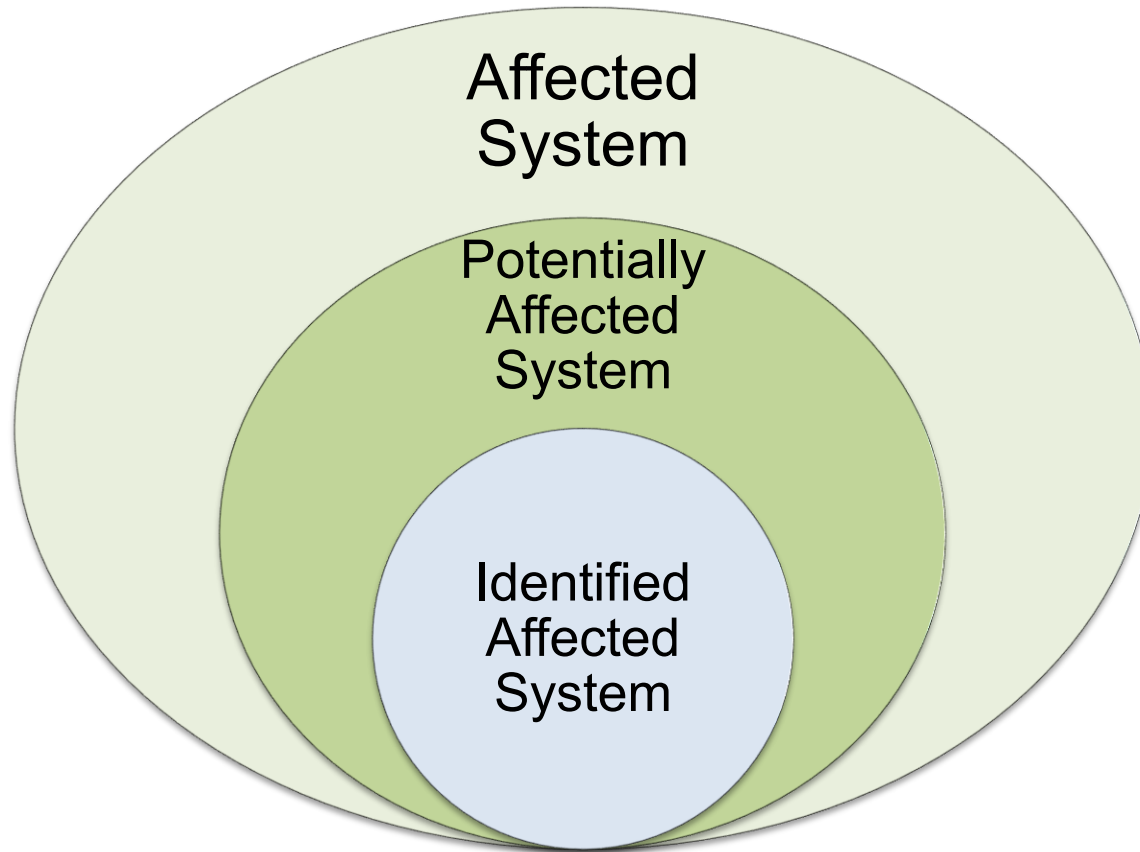
Limited Operation Studies

- A LOS is used to determine the extent to which a Project may achieve initial synchronization and/or commercial operation for markets (COM) prior to the completion of network upgrades
 - All network upgrades must be in-service prior to the Project achieving its Commercial Operation Date “COD”
- Limited Operation Studies
 - The study requires a \$10,000 deposit from the Interconnection Customer
 - May be requested no sooner than 9 months prior to the requested Initial Synchronization Date
 - Submit request to QueueManagement@caiso.com

Repowering Requests

- Repowering is for existing generating facilities, including QFs, that wish to make unsubstantial changes
 - Facilities who propose substantial changes must submit an Interconnection Request through the Queue Cluster Study process
 - Substantiality is determined based on impact of changed electrical characteristics as outlined in the Generator Management BPM
- Must utilize the same fuel source and point of interconnection
 - Energy storage can be considered the same fuel source
 - May require a facilities study with the Participating TO
- Repowering Affidavit and technical data can be submitted to queuemanagement@caiso.com
 - Information provided in the affidavit is subject to audit by the CAISO
- Study deposit is \$50,000

Affected Systems



Affected System Process

Potentially Affected System

- CAISO invites Potentially Affected Systems to scoping meeting and Cluster Study meetings
- Potentially Affected Systems must self-identify as an Identified Affected System within 60 calendar days of notification from the CAISO after Commercial Readiness Deposits

Identified Affected system

- CAISO will notify Interconnection Customer of their Identified Affected Systems
- Interconnection Customer to affirmatively contact the Identified Affected System operators and address system impacts

Impacts Resolved

- Impacts must be resolved no later than six months prior to the generating unit's Initial Synchronization Date

Initial Synchronization and Commercial Operation

- Projects also need to complete both tabs of the [Queue Management Status Report](#) and submit it to Queue Management 3 months prior to Synch
- Prior to Initial Synchronization and COD, Queue Management verifies GIA obligations have been met
 - Upgrades
 - Inverters
 - Affected Systems
 - Asynchronous Obligations
 - MW values in GIA, PGA, and Master File
 - **No Financial Shortfalls**

Thank you!

If you have any further questions, please contact us at:

QueueManagement@caiso.com

REGISTRATION IS OPEN

2026 STAKEHOLDER SYMPOSIUM

Welcome reception - Oct. 5

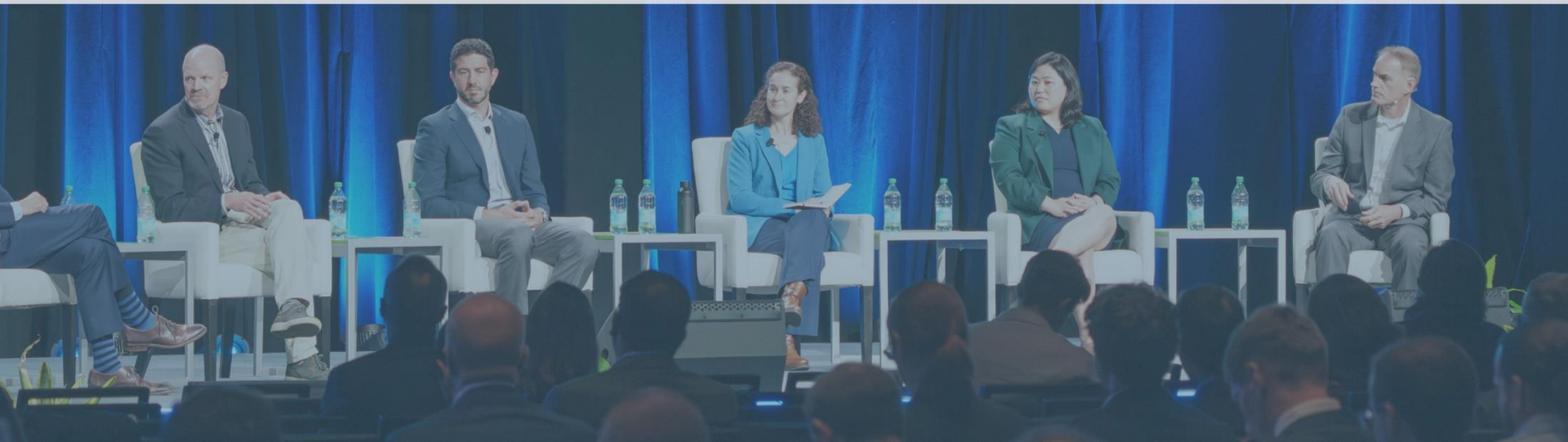
at Kimpton Sawyer Hotel, Sacramento, CA

Symposium program - Oct. 6

SAFE Credit Union Convention Center
Sacramento, CA

Visit: <https://www.caiso.com/meetings-events/events/stakeholder-symposium>

SPONSORSHIP OPPORTUNITIES AVAILABLE



New Resource Implementation (NRI) Forum

Oct. 7, 2026, 9a.m. - 4p.m.



- Please save the date for the upcoming New Resource Implementation Forum being held at the California ISO. The forum is designed for CAISO Balancing Authority Area, New Resource Implementation developers and consultants to review current processes and highlight upcoming changes.
- Overview and updates on current New Resource Implementation (NRI) processes
- Guidance on upcoming changes and implementation requirements
- Interactive discussion and optional office hours for project-specific questions with the NRI team
- Virtual and In-Person Attendance
Registration Reminder:
If you plan to attend, [please register by end of day Sept. 30, 2026.](#)

Interconnection Customer User Group

The Interconnection Customer User Group bi-weekly call provides an opportunity for CAISO interconnection customers to discuss industry questions and concerns regarding infrastructure policies and processes, including transmission planning and development, interconnection, deliverability, and contracting. This group will meet every other Tuesday from 1 - 2 p.m.

What topics will be covered?

- Agendas will generally be industry-driven.
- Topic suggestions submitted by email to ykopylovalford@caiso.com or ISOStakeholderAffairs@caiso.com.

Who should attend?

- This call is open only to CAISO Interconnection Customers and state agency representatives.
- Attendees must pre-register for the recurring meeting - [Interconnection Customer User Group Registration Link](#)