Agreements and Queue Management

Infrastructure Contracts and Management
- Joanne Bradley, Queue Management
- Shoukat Ansari, Contract Negotiation
- PJ Topping, Regulatory Contracts

February 27, 2019
Agenda

• 2018 Interconnection Process Enhancements
• Contract Negotiation
• Regulatory Contracts
• Queue Management
2018 Interconnection Process Enhancements (IPE)
2018 IPE Changes

• New Resource Implementation (NRI) requirements
• Suspension requirements
• Timing of fuel type changes
• Elimination of balance sheet financing options
• Energy only conversion cost responsibility
• Post COD modification measures
• Repowering deposit
• Repowering evaluation criteria – BPM change
• Replacing existing generator with energy storage - BPM change
Contract Negotiation

Shoukat Ansari, Senior Contracts Negotiator
Generator Interconnection Agreement (GIA)

• A Project interconnecting to the CAISO Controlled Grid shall execute a 3-party generator interconnection agreement between the Interconnection Customer, the Participating TO and the CAISO.

• The Generator Interconnection Agreement consists of:
  – Pro forma approved by Federal Energy Regulatory Commission
  – Appendices specific to an Interconnection Customer and Generating Facility at a single Point of Interconnection
  – 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 a 2 party agreement with the Participating TO or the UDC.
Generating Unit Conversions to the CAISO Markets

- Qualifying Facilities (QFs) and other existing generators usually convert upon termination or expiration of their power purchase agreements and interconnection agreements based on Section 25.1.2 of CAISO Tariff

- Interconnection Service capacity based on existing operating capacity and historical generation of the generating facility

- An email request to RegulatoryContracts@caiso.com initiates the conversion process
Generating Unit Conversions (Continued)

• Generating Unit Conversions require other Market Agreements and participation in the NRI Process

• 2018 IPE filing with FERC clarifies and requires the NRI process*

• NRI process duration is being reduced from 203 to 84 calendar days around September/October 2019 timeframe
GIA Implications for Transmission Plan Deliverability Allocation Choices

Choose 1

- Park
- Withdraw
- Accept some or all TP deliverability allocation or proceed as Energy Only (EO)
- Seek Transmission Plan Deliverability in next cycle
- Negotiate and Execute GIA

Receive Transmission Plan Deliverability Allocation Results
GIA Tender

- In-Service date (future date)
- Negotiation 120 CD
- Account for milestones leading to construction start 60 CD
- Longest lead facility or network upgrade from study report
- Tender date for GIA (must be a future date)
GIA Tender (Calculation Example)

- In-Service date: April 1, 2022
- 180 CD: 6 months
- Longest lead construction time for interconnection facility or network upgrade: 30 months
- Tender date for GIA: April 1, 2019
GIA Negotiation

• The Participating TO tenders the GIA to the parties

• Contract Negotiators of the three parties negotiate the draft and come to an agreement on a draft

• Participating TO approves the draft and sends to CAISO

• Contract Negotiator does a final check, prepares signing statements, gets information requests from the Participating TO and IC and sends the package to RC
Questions?
Regulatory Contracts

PJ Topping, Contracts Analyst
## GIA Execution Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>CAISO prepares executable document</td>
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<tr>
<td>2.</td>
<td>All parties obtain signatures from authorized representative</td>
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<td>3.</td>
<td>All parties must sign via DocuSign® within 10 Business Days of receipt</td>
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<tr>
<td>4.</td>
<td>All parties receive email notification through DocuSign® when the GIA is fully executed</td>
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<tr>
<td>5.</td>
<td>CAISO reports agreement execution to FERC</td>
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- 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 (MSACAI SOME)
  - 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
Questions?
Queue Management

Joanne Bradley, Lead Queue Management Specialist
Affected Systems

- Affected System
- Potentially Affected System
- Identified Affected System
**Affected System Process**

**Potentially Affected System**
- CAISO invites Potentially Affected Systems to scoping meeting and Phase I results meeting
- Must identify as Identified Affected Systems within 60 calendar days of notification from the CAISO after initial Interconnection Financial Security has been posted.

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

**Impacts Resolved**
- Impacts must be resolved no later than six months prior to the generating unit's Initial Synchronization Date
Upcoming Affected System Outreach

- **Cluster 11**
  - The CAISO will reach out to Potentially Affected Systems after projects post Initial Financial Security (May 2019)
  - Potentially Affected Systems must identify themselves as Identified Affected Systems within 60 days of CAISO notification
  - CAISO will notify Interconnection Customers of their Identified Affected Systems (August 2019)
Modifications to Interconnection Requests

Before Phase II Results Meeting Minutes are published

• Certain changes are allowed without a Material Modification Assessment (MMA) between Phase I and Phase II
• Modification requests are processed by your Interconnection Specialist

After Phase II Results Meeting Minutes are published

• Any modifications require MMA
• Modification requests are processed by QueueManagement@caiso.com
Modification Review Process

- Two very similar processes for modification requests

**Material Modification Assessment process (MMA)**

- For projects prior to declaring COD
- Material if it has an impact on the cost or timing of any other Interconnection Request

**The modification review process**

- Post-COD projects
- Unacceptable if modification is a substantial change to the capacity or electrical characteristics of the project*

* 2018 IPE Update
Interconnection Customer submits request, deposit, and complete technical data

CAISO and Participating TO engineers perform an assessment to identify any material impacts

CAISO responds to the request in writing

Agreement is amended, deposit is reconciled with invoices, and actual cost is paid

• Submit request with justification in writing to QueueManagement@caiso.com

• Modifications requiring technical data take more time for technical data validation

• The deposit amount is $10,000
  – Interconnection Customer will be charged actual costs incurred by the CAISO and Participating TO, and remaining deposit, if any, is returned
Modifications Subject to Commercial Viability

• Projects requesting to extend their Commercial Operation Date (COD) beyond 7 years or modifications to projects that have already exceeded the 7 years are subject to Commercial Viability Criteria*

  – Criteria includes permitting, power purchase agreement status, site exclusivity, and GIA status
  – Failure to meet criteria results in conversion to Energy Only deliverability status
  – Limited exemption for no power purchase agreement
    • One year delay for conversion to Energy Only

* 2018 IPE Update
• Criteria can no longer be met with balance sheet financing*
• Power purchase agreement must reflect the point of interconnection, capacity, fuel type, technology, and site location of project*
• Energy Only conversion will result in a reduction to cost responsibility only if assigned upgrades are eliminated*
• Fuel type modifications after the 7 year timeline are prohibited*
  – Modifications to add storage are not considered fuel-type modifications

* 2018 IPE Update
Modifications to Add Energy Storage

- Projects may request to add energy storage to their Interconnection Request or operating Generating Facility
  - Energy storage addition does not alter the approved Net-to-Grid MW capacity
  - If a project is wholly replaced or increasing the Net-to-Grid MW then a new Interconnection Request is required
  - If an energy storage modification request is denied, the CAISO will work with the Interconnection Customer to identify how much energy storage might be acceptable

- If an existing Generating Facility that has added energy storage is retiring, an assessment will determine if the energy storage can continue to operate*

* 2018 IPE Update
Modifications to Add Energy Storage contd.

- Energy storage may request deliverability if energy storage can meet the resource adequacy requirements.
- Project must retain the maximum deliverability associated with the maximum on-peak exceedance level used in the most recent Deliverability Assessment.
  - Example: 100 MW Solar project proposes to replace 20 MW with energy storage, resulting in 80 MW solar and 20 MW energy storage. The exceedance value for Solar is 90% and has 90 MW of associated Deliverability.

Options for splitting deliverability:

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<tr>
<th>Solar (90% exceedance value)</th>
<th>Energy Storage (100% exceedance value)</th>
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<tbody>
<tr>
<td>Option 1: 70 MW &amp; PCDS</td>
<td>20 MW &amp; FCDS</td>
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<tr>
<td>Option 2: 72 MW &amp; PCDS</td>
<td>18 MW &amp; PCDS</td>
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On October 19, 2016, the CAISO posted a technical bulletin for “Implementation of Hybrid Energy Storage Generating Facilities”

Covers master file modelling, metering and telemetry, interconnection and resource ID selection

Suspension

- LGIAs include suspension rights for a period of up to 3 years
- Suspension notifications should be sent to QueueManagement@caiso.com and the PTO
- Notifications should include the effective date of the suspension and good faith estimate of how long a suspension will last*
- A material modification assessment will be required if milestone dates are changing*
  - If material impacts can be mitigated the suspension can be approved
- Suspension does not apply to shared upgrades

* 2018 IPE Update
Repowering Requests

- Repowering is for existing generating facilities, including QFs, that wish to make changes that are not substantial
  - Facilities who propose substantial changes must enter Generation Interconnection and Deliverability Allocation Procedures (GIDAP)
  - 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

- Affidavit to QueueManagement@caiso.com initiates the request
  - Information provided in the affidavit is subject to audit by the CAISO

- Study deposit is $50,000*

* 2018 IPE Update
Queue Management

GIA Milestone tracking

• Interconnection Customers must meet the project milestones in their GIA to be in good standing
  – Deliverability may not be reserved for projects not in good standing

• Interconnection Customers provide quarterly project progress reports to Queue Management after the GIA is effective
Queue Management cont.

- Prior to Initial Synchronization and COD Queue Management verifies contract obligations have been met
  - Upgrades
  - Inverters
  - Affected Systems
  - Asynchronous Obligations
  - MW values in GIA, PGA, and Master File
  - WECC Path Rating and Progress Report Policies and Procedures

- Upon verification, Queue Management provides approval in the New Resource Implementation (NRI) process
Queue Management cont.

• All reliability network upgrades and pre-cursor transmission projects must be in-service prior to initial synchronization date

• Limited Operation Studies
  – Can be used to evaluate if system can support early, energy-only interconnection before network upgrades and interconnection facilities are complete
  – The study is paid for by the Interconnection Customer
  – Only within 5 months of Initial Synchronization
  – Submit request to QueueManagement@caiso.com
  – Results of the study determine the operating capability of the project
Commercial Operation for Markets (COM)

- Block implementation in advance of COD of the project
- CAISO acknowledges wind and solar block construction and ability to energize
- Portion of project is allowed to bid into CAISO markets while remaining portion is testing or under construction
- Resource adequacy eligibility requirements
  - Qualifying capacity must be obtained from the CA Public Utilities Commission
  - Obligated to meet all tariff and resource adequacy requirements (bid, penalty, etc.)
  - Reliability network upgrades must be completed
COM versus Phasing

COM
- Requested in the NRI Process
- Allows participation in the market prior to COD of the entire project

Phasing
- Identified in GIA
- Allows portions of the project to have various COD dates
Resources

- Contracts and agreements
- 2018 IPE Stakeholder Initiative
- QF Affidavit Template
  https://www.caiso.com/Documents/AffidavitTemplate.doc
- Potentially Affected System Contact List
  http://www.caiso.com/Documents/GeneratorInterconnectionProcedures_AffectedSystemsContactList.xls
- Repowering Affidavit Template
  http://www.caiso.com/Documents/RepoweringAffidavitTemplate_20141002.doc
- Quarterly Status Report Template
Thank you!

- If you have any further questions on the content in this presentation, please send them to

  RegulatoryContracts@caiso.com or QueueManagement@caiso.com
Questions?