Interconnection Application Options and Process

Interconnection Resources Team
Jeff Evans, Jason Foster, Phelim Tavares, Linda Wright
February 22, 2017
Topics

- Interconnection Resource Team
- ISO Tariff and Business Practice Manuals (BPM)
- Application Options, Requirements, and Timelines
- Generator Downsizing Process
- Project Withdrawals
- Electronic Submission of Interconnection Requests (RIMS5)
Interconnection Overview

Jeff Evans, Interconnection Specialist
Interconnection Resources - How we support you!

- Interconnection Customer’s point of contact throughout application and study process
- Facilitates communications between all parties
- Conducts project scoping and study results meetings
- Ensures documentation and project information is up to date in the Resource Interconnection Management System
- General questions, IRInfo@caiso.com
The California ISO operates under the terms and conditions of its FERC-approved tariff:

- Section 25 addresses interconnection of generating units
In addition, appendices of the tariff address generator interconnection:

- **Appendix DD**
  - Generator Interconnection Deliverability Allocation Procedures (commonly known as the GIDAP).

- **Appendix EE**
  - Large Generator Interconnection Agreement for interconnection requests processed under Tariff Appendix DD.

- **Appendix FF**
  - Small Generator Interconnection Agreement for interconnection requests processed under Tariff Appendix DD.
California ISO Tariff-cont.

- The ISO tariff may be modified, amended, or supplemented as needed, subject to the approval of FERC.

- Each section or appendix of the ISO tariff is maintained and updated separately in accordance with FERC orders.

- The ISO 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 rules, procedures, and examples.

Two related BPMs

• BPM for Generator Interconnection Deliverability Allocation Procedures (GIDAP)
  – Current, effective with Cluster 5 and forward

• BPM for Generator Interconnection Procedures (GIP)
  – Applicable only to existing Cluster 4 and earlier projects
Interconnection Process Map

You are here

Transmission-level resource interconnection (using ISO procedures)
ISO interconnection request
ISO interconnection study
ISO interconnection agreement
ISO new resource implementation
Sync date
Trial operations
COD date

Distribution-level resource interconnection (using utility procedures)
Utility interconnection request
Utility interconnection study
Utility interconnection agreement
In parallel (outside of ISO/utility procedures)
Permitting, engineering, procurement, construction
Application Options

• Pre-Application
  – Small project; 20 MW or less

• Cluster study
  – Small project; 20 MW or less
  – Large project; more than 20 MW

• Independent Study Process
  – Similar to cluster

• Fast Track Process
  – 5 MW or less
Application Options-cont.

Pre-Application

• Opportunity for Interconnection Customers with a proposed Small Generating Facility to receive a report of readily available data.

• Requirements
  – $300 Non-Refundable Fee
  – Pre-Application Request Form

• Report includes (as applicable):
  – Electrical configuration of the substation
  – Existing aggregate generation capacity for substation or circuit
  – Existing or known constraints for a proposed Point of Interconnection (POI)
  – Available capacity on substation or circuit likely to serve the proposed POI
## Application Options Summary

<table>
<thead>
<tr>
<th>Study Process</th>
<th>Application Window</th>
<th>Site Exclusivity (SE)</th>
<th>Study Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster</td>
<td>April 1-30</td>
<td>Deposit or Documents ≤20 MW = $100K</td>
<td>$150k</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;20 MW = $250K</td>
<td></td>
</tr>
<tr>
<td>Independent Study Process (ISP)</td>
<td>Anytime</td>
<td>SE Must be demonstrated</td>
<td>$150k</td>
</tr>
<tr>
<td>Fast Track (FT)</td>
<td>Anytime</td>
<td>SE Must be demonstrated</td>
<td>$500 processing fee</td>
</tr>
</tbody>
</table>
# Interconnection Timeline Summary

## Cluster – Two+ years

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<th>Cluster 10 Application</th>
<th>Scoping Meeting</th>
<th>Phase I Study</th>
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## Independent Study Process (ISP) – Eight months without deliverability

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<tr>
<th>ISP Application</th>
<th>Electrical Independence</th>
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<td>Anytime</td>
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<td>&lt;= 20 BD of Study Results</td>
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## Fast Track (FT) – 10 weeks or more

<table>
<thead>
<tr>
<th>FT Application</th>
<th>Initial Review (Screens)</th>
<th>Customer Options Meeting</th>
<th>Supplemental Review</th>
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</thead>
<tbody>
<tr>
<td>Anytime</td>
<td>15 BD from FT Eligibility</td>
<td>10 BD from Determination of Upgrades / Additional Studies Needed</td>
<td>10 BD from Receipt of Review Deposit</td>
</tr>
</tbody>
</table>
And now a word from our lawyer . . .
Site Exclusivity

• Site Exclusivity is a requirement for interconnection service
  – Initially, interconnection customers may provide a deposit
    – $100k/small and $250k/large
• For private land, Site Exclusivity is:
  – (a) Ownership of, a leasehold interest in, or a right to develop property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility; or
  – (b) an option to purchase or acquire a leasehold interest in property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility.
• For public land, please consult Appendix A of the CAISO tariff (“Site Exclusivity”) and 5.1.3 of the BPM for GIDAP
Site Exclusivity-cont.

- Two most common problems:
  - The demonstration of Site Exclusivity, at a minimum, must be through the Commercial Operation Date
  - Most commonly an issue for leases or options to lease
  - The name of the interconnection customer and the name of the lease/option/grant holder do not match
- Must provide an assignment agreement, certified organizational chart, or other documentation to evince that the interconnection customer (as listed on the interconnection request) holds the property interest
Resource Adequacy & Deliverability

• Resource Adequacy (RA) is a CPUC program designed to:
  – Provide sufficient resources to the ISO to ensure safe and reliable operation of the grid in real time
  – Incentivize appropriate siting and construction of new resources to meet future reliability needs

• Deliverability is a resource attribute designated by ISO
  – Required for participation in the Resource Adequacy Program
Deliverability

- Full Capacity
  - Allows a resource to provide Resource Adequacy capacity to meet a load serving entity’s RA requirement.
  - Net Qualifying Capacity (NQC) payments settled bilaterally.

- Energy Only
  - Not eligible for resource adequacy

- Partial Capacity Deliverability Status

Note: Operationally, there is no difference. The dispatch of energy is based on economics; not deliverability status.
Annual Full Capacity Deliverability Option

- **Annual Process**
  - April 1st – April 30th application window
  - Same form as Interconnection Requests

- **Non-refundable $10k study fee**

- **Eligibility**
  - Previously studied for Energy Only
Distributed Generation (DG) Seeking Deliverability

- Annual Process
  - February - July

- Must apply to Utility Distribution Company (UDC)

- Eligibility
  - Wholesale Distribution Access Tariff or CPUC Rule 21

- Business Practice Manual on Distributed Generation for Deliverability
Cluster Process Overview

Jason Foster, Interconnection Specialist
Cluster Study Process Application

• **Application Window** open April 1st – April 30th each year

• **Complete Interconnection Requests must include:**
  – Tariff Appendix DD Appendix 1 (Interconnection Request) and Attachment A to Appendix 1 (technical data)
  – Technical files (i.e. dyd, epc, one-lines, etc.)
  – Study Deposit ($150,000, all projects)
  – Site Exclusivity documents or deposit in lieu of
    • $100,000 small/$250,000 large

• **Funds preferred via Fed Wire;** checks are accepted
Cluster Study Process Application

• Notification of Valid or Invalid Interconnection Request (IR)
  – 10 business days to determine IR validity
  – 20 business days from close of Cluster Application Window to cure deficiencies
  – Cure deficiencies in required timeframe to be included in cluster study

• Queue numbers assigned once IRs for cluster validated

• Queue report is available in RIMS
Cluster Study Process

• Interconnection Requests (IR) submitted April 1st – April 30th each year are studied together

• Study costs shared between projects assigned to same study group

• Two cost components:
  – Network Upgrade costs assigned to projects on pro rata basis, if shared
  – Interconnection Facilities costs are project specific, not shared
## Cluster - Customer Meetings & Studies

<table>
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<tr>
<th>Cluster 10 Application</th>
<th>Scoping Meeting</th>
<th>Phase I Study</th>
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</tr>
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</table>

- **Approximately 2 1/3 years for above timeline with deliverability**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Scoping Meeting</th>
<th>Phase I Study</th>
<th>Phase I Results Meeting</th>
<th>Phase II Study</th>
<th>Phase II Results Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-Service / COD P.O.I.</td>
<td>NU &amp; IF Costs &amp; Timeline</td>
<td>Study Results</td>
<td>Updated NU &amp; IF Costs &amp; Timeline</td>
<td>Updated Study Results</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timing</th>
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<tr>
<td></td>
<td>Within 60 CD of Application Window Closing</td>
<td>Begins July 1</td>
<td>Within 30 CD of Phase I Study Report</td>
<td>Begins May 1</td>
<td>Within 30 CD of Phase II Study Report</td>
</tr>
<tr>
<td></td>
<td>170 CD to Complete</td>
<td></td>
<td>205 CD to Complete</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Planned dates shown. Also applicable to ISP projects with deliverability studied with the cluster.*
Cluster – IC Cost Responsibility

• IC’s maximum set by lower of Phase I and Phase II NU costs

• No maximum for IF costs

• May be impacted by:
  – Appendix B allowed changes (e.g., reduced MWs, deliverability)
  – Deliverability decisions
  – Reassessment study impacts
Cluster - Modifications Between Phase I and II

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- Appendix B (to GISPA study agreement) due 10 business days after Phase I results meeting:
  - Confirms deliverability status & option A/B, scheduled dates, and other data provided in the IR
  - Identifies allowable modifications:
    - Decrease in MW output
    - Modify technical parameters of technology
    - Modify the interconnection configuration
    - POI Change
Cluster - Interconnection Financial Security

• Posted to PTO as security for project costs
  – Network Upgrades
  – Interconnection Facilities

• Posting formulas
  – Initial – 15% of upgrades with qualifiers
  – Second – 30% of Upgrades with qualifiers
  – Qualifiers include project size
Cluster - Interconnection Financial Security

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### Phase I Study
- 90 CD
- Initial

### Phase II Study
- 180 CD
- Second

**Third**
- No later than start of construction
- May be milestone based

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Interconnection Application Requirements & Options

Page 29

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Affidavits and Other Study Processes

Phelim Tavares, Interconnection Specialist
Allocation of Deliverability

- Affidavit process to allocate deliverability

- Projects are scored and ranked based on selections

- There are minimum requirements in order to be eligible for deliverability
Cluster - Affidavit for Current Queue Clusters

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- Identifies project’s permit, financing, and land acquisition status for deliverability allocation

- Due per Market Notice (mid-November)

- Required for deliverability projects:
  - ISO Cluster and ISP
  - PTO wholesale distribution access tariff (WDAT)

- Not applicable to:
  - Energy only projects
  - Annual full capacity deliverability option
Cluster - Deliverability Allocation

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- Transmission Plan (TP) Deliverability allocation:
  - Cluster and ISP projects with deliverability
  - Mid-March results
  - Determined from most recent Transmission Plan
  - Projects allocated 100 - 0% of requested amount
  - Must meet minimum affidavit criteria (financing & permitting)
Independent Study Process Application

- Can submit an Interconnection Request **ANYTIME**

- Eligibility:
  - Cluster process cannot accommodate desired Commercial Operation Date, with required demonstration of:
    - Financial resources
    - Permitting and regulatory approval
    - Purchase order for gen equipment
    - Point of Interconnection
    - Reliability Network Upgrades
  - Site Exclusivity via documentation only
  - Electrical Independence
  - Deliverability Assessment included as part of next Cluster study
# Independent Study Process - Customer Meetings & Studies

## Table of Independent Study Process

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### Purpose

- Facility Loadings
- Instability, Short Circuit, Voltage, & Reliability Issues
- Prior System Studies
- Short Circuit, Stability, & Power Flow Analysis
- IF & RNU Costs and Timeline
- Study Report
- Needed Studies
- Study Results
- Cost Responsibility for Upgrades

### Timing (Deliverability not included)

- Scheduled within 5 BD of Notification of Electrical Independence
- Completed within 120 CD after Execution of Study Agreement.
- 20 BD after System Impact and Facilities Study Report Provided to IC

- Approximately 8 months for above timeline through Results Meeting
Independent Study Process - Interconnection Financial Security

ISP (non-deliverability portion)

System impact & facility study report

120 CD

Initial

Second
- No later than start of construction
- May be milestone based

- Deliverability Portion follows the Cluster Timeline
Independent Study Process - Interconnection Financial Security

• Posted to PTO as security for assigned project costs

• Network Upgrades vs. Interconnection Facilities
  – No ADNUs
  – Large (>20 MW) vs. small (<= 20 MW) formulas

• Cost Responsibility is established in the System Impact and Facilities study for Energy Only

• Deliverability portion is set forth in Phase I and Phase II study
Independent Study Process - Repayment & GIA

• Same repayment rules for Network Upgrades apply as for Cluster projects

• GIA is tendered and executed as Energy Only. If applicable, amended for deliverability upon completion of deliverability assessment
Fast Track Study Process Application

- No larger than 5 MW with Energy Only status
- Submit Interconnection Request at any time
  - $500 non-refundable processing fee
- Eligibility
  - Site Exclusivity via documentation only
  - Must pass all screens
- Customer Meetings, if required
  - Customer Options
  - Supplemental Review
Fast Track Timelines and Meetings

<table>
<thead>
<tr>
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<th>Customer Options Meeting (if needed)</th>
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- Approximately 10 weeks or more for above timeline

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<tr>
<td></td>
<td>If IR cannot be approved with minimal costs, or a supplemental study, or other additional studies</td>
<td>Determines whether the facility can continue to qualify for interconnection under the FT process</td>
</tr>
</tbody>
</table>

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<td>Scheduled within 10 BD of determination that IR cannot be approved without modifications at minimal cost.</td>
<td>IC will agree to a review within 15 BD of the offer.</td>
</tr>
</tbody>
</table>
Fast Track-Cost Responsibility

- Financial Security is usually not required unless costs are identified in the supplemental review.
- Costs identified in the Customer Options Meeting or Supplemental Review.
  - Facility modifications
  - Modifications to the Participating TO’s electric system
Annual Downsizing Opportunity

• Downsizing process opportunity- reduce existing project MW size
  – Apply annually, Oct 15 – Nov 15
  – Separate Downsizing request application
  – $60K study deposit
  – Project must be in good standing
  – Commercial Operation Date Requirements
• Included in the annual reassessment and downsizing study
Reassessments

- Annual downsizing and reassessment study:
  - Issued in July of every year
  - Phase I base case updated for Phase II study
  - Shows the impacts of downsized projects, results of TP Deliverability, and withdrawals
Withdrawals, Refunds, and Recovery
RIMS 5 App & Study Module

Linda Wright, Interconnection Specialist
Withdrawals, Refunds, and Recovery

IC may withdraw at any time.

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

Email or Written Notice
Withdrawals, Refunds, and Recovery (Cont.)

Effects on study deposit

Scoping Meeting for Cluster and ISP projects

100% of Unused Portion

Phase I for Cluster System Impact and Facilities Study for ISP Results Meeting

Difference between study deposit and greater of costs incurred or one-half of study deposit to a max of $100K ($50K for projects 20 MW or less)

No Refund
Financial Security for Interconnection Facilities

- Release of entire posted amount, except any amounts necessary to pay for costs incurred or irrevocably committed.
Withdrawals Refunds and Recovery (Cont.)

Financial Security for Network Upgrades for Cluster and ISP projects

• 100% at risk unless conditions for partial recovery are met

• Most common reasons for partial recovery are failure to secure:
  – Permits
  – Power Purchase Agreements
Withdrawals Refunds and Recovery (Cont.)

**Initial Posting**

**Second Posting**

**Construction**

Formula for non-refundable portion: Lesser of IFS (plus any other provided security plus any separately provided capital):

less all costs and expenses incurred or irrevocably committed, OR

minus the lesser of 50% of posted value or $10K/MW ($20K/MW after second posting)
Withdrawals Refunds and Recovery (Cont.)

Withdrawal between the first posting and the deadline for the second posting for a cluster project

Example 1:
Project size: 100 MW
Interconnection Financial Security (IFS) posted for Network Upgrades (NUs): $20M

50% of posted amount or $10K/MW, whichever is less is calculated:
50% of $20M = $10M
$10K x 100 MW = $1M

The lesser amount, $1,000,000 is deducted from the posted security.
$20M (deposit)
- 1M ($10K/MW)
$19M Recovered by IC
Withdrawals Refunds and Recovery (Cont.)

Withdrawal between the first posting and the deadline for the second posting for a cluster project

**Example 2:**
1,250 MW project
IFS posted for NUs: $20M
50% of posted amount or $10K/MW, whichever is less is calculated:
50% of $20M = $10M
$10K x 1,250 MW = $12.5M

The lesser amount, $10M is deducted from the posted security.

$20M (deposit)
- 10M (50%)

$10M Recovered by IC
Withdrawals Refunds and Recovery (Cont.)

Withdrawal between the second posting and the commencement of construction activities a cluster project

Example 1:
Project size: 100 MW
IFS posted for NUs: $20M

50% of posted amount or $20K/MW, whichever is less is calculated:
50% of $20M = $10M
$20K x 100 MW = $2M

The lesser amount, $2M is deducted from the posted security.
$20M (deposit)
- 2M ($20K/MW)
$18M Recovered by IC
Withdrawal between the second posting and the commencement of construction activities a cluster project

Example 2:  
Project size: 1,000 MW  
IFS posted for NUs: $20M

50% of posted amount or $20K/MW, whichever is less is calculated:  
50% of $20M = $10M  
$20K x 1K MW = $20M

The lesser amount, $10M is deducted from the posted security.  
$20M (deposit)  
- 10M (50%)  
$10M Recovered by IC
Electronic Interconnection Request Submission

• Resource Interconnection Management System (RIMS) is a secure web-based database application

• Electronic submission of Interconnection Requests accomplished via a user interface from the ISO website

• RIMS5 User Guide is available on-line

• Access to RIMS is established by the ISO’s Access and Identity Management (AIM) system
New Request

First Name: 

Last Name: 

Email: 

Confirm Email: 

Requested Project Name: 

Request Type: Select One

Register

Retrieve Request

Registration Code: 

Submit

Queue Viewing Instructions

1. Click on "Reporting" tab in top left corner of this screen
2. Once you are on the report dashboard, use scroll bar on bottom to view information on the right side of the report screen
3. Use Action Toolbar icons at top left of report dashboard to customize the view. Expand the following section to view the details.

   Action Toolbar

4. Export the report to Excel to further evaluate data
5. Link to more information: RIMSS User Guide for App & Study Module

App & Study Module (Interconnection Request)

CAISO Queue Interconnection Requests are tracked in the App & Study Module. Click here for process guidance and forms. Please select the "Interconnection Request" request type at the left to submit this type of project.

1. Fill in the "New Request" section above to receive a registration code via email that will allow you to upload an Interconnection Request or Project Details Form and associated documents. This only needs to be done once for each project to be submitted.

2. Once a registration code is received, paste it into "Registration Code" field to upload required project files.
Electronic Interconnection Request Submission (cont’d)

New Request

First Name: Linda
Last Name: Wright
Email: lwright@caiso.com
Confirm Email: lwright@caiso.com
Requested Project Name: New Project Name
Request Type: Interconnection Request
Register

Retrieve Request

Registration Code: 
Submit
Electronic Interconnection Request Submission (cont’d)

Here are the details of your project registration

Project Name : New Project Name
Registration Code : 16AS207_3CN58S_PEDWAW_1OKFI6

Please click on the link below to upload supporting documents
http://caiso.com/rims_public
Electronic Interconnection Request Submission (cont’d)

New Request

First Name: 

Last Name: 

Email: 

Confirm Email: 

Requested Project Name: 

Request Type: Interconnection Request

Register

Retrieve Request

Registration Code: 16AS207_3CN58S_PEDWAW_1OKFI6

Submit
## Interconnection Application Requirements & Options

### Electronic Interconnection Request Submission (cont’d)

**Project Name:** New Project Name

**Uploaded Files**

<table>
<thead>
<tr>
<th>Document Type</th>
<th>File Name</th>
<th>Uploaded Status</th>
<th>Uploaded Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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**Inventory of Documents to Upload**

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Project Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix DD Appendix 1 - Interconnection Request</td>
<td>All</td>
</tr>
<tr>
<td>Attachment A to Appendix 1 - Generating Facility Data</td>
<td>All</td>
</tr>
<tr>
<td>Evidence of Site Exclusivity, including names, addresses, and contact information of site owner(s)</td>
<td>All</td>
</tr>
<tr>
<td>Site drawing to scale</td>
<td>All</td>
</tr>
<tr>
<td>Single-line diagram</td>
<td>All</td>
</tr>
<tr>
<td>Plot of generator terminal voltage vs field current</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Block diagram of excitation system</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Load Flow Model (*.eps)</td>
<td>All</td>
</tr>
<tr>
<td>Dynamic Model (*.dyd)</td>
<td>All</td>
</tr>
<tr>
<td>Google Map (*.imz) showing project site</td>
<td>SCE project only</td>
</tr>
<tr>
<td>Manufacturers Specifications (optional)</td>
<td>Optional</td>
</tr>
<tr>
<td>Reactive Power Curve (optional)</td>
<td>Optional</td>
</tr>
<tr>
<td>Storage Supplemental Data Sheet (sheet supplied to IO after initial IR submission)</td>
<td>Storage</td>
</tr>
<tr>
<td>Other</td>
<td>As needed</td>
</tr>
</tbody>
</table>

**Save As Draft**

By checking this box, you understand that electronic submission is not considered a complete and/or valid Interconnection Request until the CAISO provides acknowledgement within ten (10) Business Days of receipt that the Interconnection Request, which includes the timely receipt of study deposit funds, is deemed complete and/or valid pursuant to CAISO Tariff Appendix DD Section 3.5.2. In the event that the CAISO identifies any deficiencies in the interconnection request, you will have an opportunity to cure pursuant to Appendix DD Section 3.5.2.2.

**Submit Registration for Validation**
Electronic Interconnection Request Submission (cont’d)

Attachment A to Appendix 1
Evidence of Site Exclusivity
Single-line diagram
Dynamic Model
Google Map
Site drawing to scale
Gen Terminal Voltage vs Field Current
Block Diagram of Excitation System
Load Flow Model
Manufacturers Specifications
Reactive Power Curve
Storage Supplemental Data Sheet
Other Documents
Electronic Interconnection Request Submission (cont’d)

INTERCONNECTION REQUEST

Project Name: New Project Name

Uploaded Files

<table>
<thead>
<tr>
<th>Document Type</th>
<th>File Name</th>
<th>Uploaded Status</th>
<th>Uploaded Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment A to Appendix 1</td>
<td>New Project Name IR.docx</td>
<td>SUCCESS</td>
<td>02/17/2016 18:05</td>
<td>Delete</td>
</tr>
<tr>
<td>Evidence of Site Exclusivity</td>
<td>New Project Name Site Exclusivity.docx</td>
<td>SUCCESS</td>
<td>02/17/2016 18:03</td>
<td>Delete</td>
</tr>
</tbody>
</table>

Save As Draft

Submit Registration for Validation

02/18/2016 11:46:43 Your registration request has been submitted successfully.
Accessing RIMS

Once RIMS access is established via AIM, those provisioned access to a project will be able to:

• See screens that detail the project and its progress

• Access uploaded documents

• Upload documents

• View IC, ISO and PTO contact information
<table>
<thead>
<tr>
<th><strong>Resource Summary</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Name:</strong> Cluster Project - TEST</td>
</tr>
<tr>
<td><strong>Queue Position:</strong> 1A</td>
</tr>
<tr>
<td><strong>Queue Date:</strong></td>
</tr>
<tr>
<td><strong>Project Cost Code:</strong></td>
</tr>
<tr>
<td><strong>Study Type:</strong> Queue Cluster Process</td>
</tr>
<tr>
<td><strong>Cluster Number:</strong> C9</td>
</tr>
<tr>
<td><strong>PTO:</strong> OTHER</td>
</tr>
<tr>
<td><strong>Affected PTO:</strong> OTHER</td>
</tr>
<tr>
<td><strong>POI:</strong> Otay Mesa Switchyard 230 kV</td>
</tr>
<tr>
<td><strong>Voltage Level (kV):</strong> 145</td>
</tr>
<tr>
<td><strong>Project Status:</strong> WITHDRAWN</td>
</tr>
<tr>
<td><strong>Reason For Withdraw:</strong> None</td>
</tr>
<tr>
<td><strong>Project Status Date:</strong> 10/20/2016</td>
</tr>
<tr>
<td><strong>QM Project Standing:</strong></td>
</tr>
<tr>
<td><strong>Requested Deliverability:</strong> Full Capacity</td>
</tr>
<tr>
<td><strong>Current Approved Net MW:</strong> 100</td>
</tr>
<tr>
<td><strong>Comments:</strong> my comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Interconnection Request Info</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact First Name:</strong> RIMS</td>
</tr>
<tr>
<td><strong>Contact Last Name:</strong> Tester05</td>
</tr>
<tr>
<td><strong>Contact Title:</strong> Director</td>
</tr>
<tr>
<td><strong>Signature Date:</strong> 03/21/2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Current Interconnection Customer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interconnection Customer (Legal Name):</strong></td>
</tr>
<tr>
<td><strong>Company Type:</strong> Limited Liability Company</td>
</tr>
<tr>
<td><strong>State Incorporated:</strong> California</td>
</tr>
<tr>
<td><strong>Parent Company:</strong> Parent Company</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Project Location</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address:</strong></td>
</tr>
<tr>
<td><strong>City:</strong></td>
</tr>
<tr>
<td><strong>State:</strong> California</td>
</tr>
<tr>
<td><strong>County:</strong></td>
</tr>
<tr>
<td><strong>Zip Code:</strong> 11111</td>
</tr>
<tr>
<td><strong>Latitude:</strong> 1234.22</td>
</tr>
<tr>
<td><strong>Longitude:</strong> 1234.33</td>
</tr>
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</table>
# Available RIMS Screens

- Equipment Configuration
- Deliverability
- Project Details
- Documents
- Project Contacts
- Project Specific Audit Log
## Equipment Configuration

<table>
<thead>
<tr>
<th>General Description</th>
<th>NEW/EXISTING Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>equipment configuration comments with updates</td>
<td></td>
</tr>
</tbody>
</table>

### Fuel Type and Generation Type

<table>
<thead>
<tr>
<th>Generator Type</th>
<th>Fuel Type</th>
<th>Net MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>Water</td>
<td>55</td>
</tr>
<tr>
<td>Wind Turbine</td>
<td>Wind</td>
<td>222</td>
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</tbody>
</table>

### Other Generation and Fuel Type

<table>
<thead>
<tr>
<th>Other Generator Type</th>
<th>Other Fuel Type</th>
<th>Net MW</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>other gen type</td>
<td>other fuel type</td>
<td>444</td>
<td>other comments</td>
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### Project Milestones

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<tr>
<th>Type</th>
<th>In Service Date</th>
<th>Trial Operation Date</th>
<th>COD Date</th>
<th>Term of Service</th>
<th>Send COD date change Notification</th>
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</thead>
<tbody>
<tr>
<td>IR</td>
<td>01/01/2016</td>
<td>02/01/2016</td>
<td>03/01/2016</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>CURRENT</td>
<td>01/01/2016</td>
<td>02/01/2016</td>
<td>03/01/2016</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>FINAL</td>
<td>11/01/2016</td>
<td>11/01/2016</td>
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<td>12</td>
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### Downsizing Requests

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<tr>
<th>Date Received</th>
<th>Original MW Size</th>
<th>Post Downsizing MW</th>
<th>Deposit Date</th>
<th>Withdrawn Date</th>
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</table>

© Copyright 2017 California ISO
Deliverability

Requested Deliverability

- Full Capacity

- Check box to send status notification

Annual Full Capacity Deliverability

<table>
<thead>
<tr>
<th>Received Date</th>
<th>Study Cluster</th>
<th>Assigned MW</th>
<th>Allocation Date</th>
<th>Percentage (%)</th>
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</table>

TPD Affidavit

<table>
<thead>
<tr>
<th>Affidavit Type</th>
<th>Date Received</th>
<th>Valid</th>
<th>Score</th>
<th>Comments</th>
<th>Allocation Detail (MW)</th>
<th>Accepted (MW)</th>
<th>parked (MW)</th>
<th>Energy Only (MW)</th>
<th>Withdrawn (MW)</th>
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<tr>
<td>Allocation</td>
<td>10/01/2016</td>
<td></td>
<td>11</td>
<td></td>
<td>22</td>
<td>33</td>
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### Interconnection Request

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<tr>
<th>Checklist Item</th>
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<th>Status Date</th>
<th>History</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Interconnection Request Form</td>
<td>Received</td>
<td>03/24/2016</td>
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<td>0 Comments</td>
</tr>
<tr>
<td>Attachment A to Appendix 1</td>
<td>Received</td>
<td>03/24/2016</td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Study Deposit</td>
<td>Received</td>
<td>10/24/2016</td>
<td></td>
<td>0 Comments</td>
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<td>Site Exclusivity</td>
<td>Documents</td>
<td>10/24/2016</td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>PTO IR Review</td>
<td>Valid Received from PTO</td>
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<td>2 Comments</td>
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<td>IR Package</td>
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<td>PTO Engagement Letter</td>
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<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Scoping Meeting</td>
<td></td>
<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Scoping Meeting Minutes</td>
<td></td>
<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Point of Interconnection</td>
<td></td>
<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Study Agreement</td>
<td></td>
<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>IR Tab Status</td>
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<td></td>
<td>0 Comments</td>
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### Phase I Checklist

<table>
<thead>
<tr>
<th>Checklist Item</th>
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<th>History</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Phase I Study Report</td>
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<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Phase I Study Results Meeting</td>
<td></td>
<td></td>
<td></td>
<td>0 Comments</td>
</tr>
<tr>
<td>Phase I Study Meeting Minutes</td>
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<td></td>
<td>0 Comments</td>
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<tr>
<td>Appendix B</td>
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<td></td>
<td></td>
<td>0 Comments</td>
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<tr>
<td>Phase I Tab Status</td>
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<td></td>
<td>0 Comments</td>
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### Study Costs

**Project Status:** WITHDRAWN

**Amounts Invoiced as of:** 02/21/2017

**Project Billing**

- **Project Cost Code:**
  - **Project Name:** Cluster Project - TEST
- **Study deposit:**

**To Date Cost**

- Invoiced by PTO:
- Accrued by ISO:
- **Total:**

- Study Refund to IC:
- Invoice to IC:
- Payment from IC:

### Cluster Study Charges

<table>
<thead>
<tr>
<th>Scoping Meeting</th>
<th>Phase I Study</th>
<th>Phase II Study</th>
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</thead>
<tbody>
<tr>
<td>PTO Charges</td>
<td>ISO Charges</td>
<td>Total Charges</td>
</tr>
<tr>
<td>PTO Charges</td>
<td>ISO Charges</td>
<td>Total Charges</td>
</tr>
<tr>
<td>PTO Charges</td>
<td>ISO Charges</td>
<td>Total Charges</td>
</tr>
</tbody>
</table>

### Uploaded Invoice

- **Document Group:** INVOICE
- **Document Type:** Invoice
- **File Name:** invoice.pdf
- **Sharepoint Link:**
- **Uploaded Status:** SUCCESS
- **User:** HXU
- **Uploaded Date:** 03/31/2016
### Uploaded Files

<table>
<thead>
<tr>
<th>Document Group</th>
<th>Document Type</th>
<th>File Name</th>
<th>Sharepoint Link</th>
<th>Uploaded Status</th>
<th>User</th>
<th>Uploaded Date</th>
<th>Comment</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR</td>
<td>Dynamic Data</td>
<td>dynamic_model.dyd</td>
<td>![File Link]</td>
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<td>HXU</td>
<td>03/31/2016</td>
<td>0 Comments</td>
<td>Delete</td>
</tr>
<tr>
<td>IR</td>
<td>Attachment A to Appendix 1</td>
<td>AS_IR_FORM_Cluster_v4(1).docx</td>
<td>![File Link]</td>
<td>SUCCESS</td>
<td>RTester05</td>
<td>03/23/2016</td>
<td>0 Comments</td>
<td>Delete</td>
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<td>RTester05</td>
<td>03/24/2016</td>
<td>0 Comments</td>
<td>Delete</td>
</tr>
<tr>
<td>IR</td>
<td>Map</td>
<td>google_map.kmz</td>
<td>![File Link]</td>
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<td>03/24/2016</td>
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<tr>
<td>IR</td>
<td>Other Documents</td>
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<td>HXU</td>
<td>03/31/2016</td>
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<td>IR</td>
<td>Other Documents</td>
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<td>IR</td>
<td>Site Exclusivity</td>
<td>site_exclusive.txt</td>
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<td>03/24/2016</td>
<td>0 Comments</td>
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<td>IR</td>
<td>Storage Supplemental Data Sheet</td>
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<td>HXU</td>
<td>03/31/2016</td>
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<tr>
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<td>HXU</td>
<td>10/31/2016</td>
<td>0 Comments</td>
<td>Delete</td>
</tr>
</tbody>
</table>

[Upload Project Files]
Sorry, you don't have access to this page

Type your message here

Send request
## Project Contacts

The Project Manager for your project is:

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Type</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haitao Xu</td>
<td>ISO Project Manager</td>
<td>ISO Admin</td>
<td><a href="mailto:hxu@caiso.com">hxu@caiso.com</a></td>
<td>(916) 802-0875</td>
</tr>
</tbody>
</table>

Please contact the Project Manager first for project inquiries and activities.

## CAISO Contacts

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Type</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haitao Xu</td>
<td>ISO Engineer</td>
<td>ISO Admin</td>
<td><a href="mailto:hxu@caiso.com">hxu@caiso.com</a></td>
<td>(916) 802-0875</td>
</tr>
<tr>
<td>Judy Brown</td>
<td>ISO Interconnection Specialist</td>
<td>ISO Admin</td>
<td><a href="mailto:jbrown@caiso.com">jbrown@caiso.com</a></td>
<td>916-608-7862</td>
</tr>
<tr>
<td>Raeann Quadro</td>
<td>ISO Queue Management</td>
<td>ISO Admin</td>
<td><a href="mailto:rquadro@caiso.com">rquadro@caiso.com</a></td>
<td>(916) 749-8392</td>
</tr>
</tbody>
</table>

## External Contacts (from AIM)

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Type</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
<th>Address 1</th>
<th>Address 2</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
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</thead>
</table>

## Notification Contacts

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Contact Type</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
<th>Address 1</th>
<th>Address 2</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
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</thead>
<tbody>
<tr>
<td>John</td>
<td>Smith</td>
<td>IC Primary</td>
<td>notification</td>
<td><a href="mailto:jsmith@abc.test">jsmith@abc.test</a></td>
<td>123-4567</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susie</td>
<td>Queue</td>
<td>PTO Engineer</td>
<td>notification</td>
<td><a href="mailto:susie@email.test">susie@email.test</a></td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Planning to submit an Interconnection Request in Cluster 10?

- Submit IR early
  - Establish your RIMS5 IR registration and access for your team
  - RIMS5 could reject your IR form for incomplete or invalid information
  - More time to resolve IR data deficiencies
Acronyms

ADNU – Area Delivery Network Upgrade
BD – Business Day
BPM – Business Practice Manual
CD – Calendar Day
COD - Commercial Operation Date
FC – Full Capacity (deliverability status)
FT – Fast Track
GIA – Generator Interconnection Agreement
IC – Interconnection Customer
IF – Interconnection Facility
IFS – Interconnection Financial Security
IR – Interconnection Request
ISO – Independent System Operator
ISP – Independent Study Process
LDNU – Local Delivery Network Upgrade
NRI – New Resource Interconnection
NU – Network Upgrade
PCDS – Partial Capacity Deliverability Status
POI - Point of Interconnection
PTO – Participating Transmission Owner
RNU – Reliability Network Upgrade
TP – Transmission Plan
WDAT – Wholesale Distribution Access Tariff
@ Helpful Links

Affidavit for Cluster 5 and Later Queue Clusters seeking Transmission Planning Deliverability
http://www.caiso.com/Documents/AffidavitTemplate-Cluster5-LaterQueueClustersSeekingTPDeliverability.doc

Appendix B to Generator Interconnection Study Process Agreement
http://www.caiso.com/Documents/AppendixB-GeneratorInterconnectionStudyProcessAgreement.doc

Business Practice Manuals (BPM)
  o Generator Interconnection and Deliverability Allocation Procedures (GIDAP)
  o Generator Management

Deliverability Allocation Customer Options Form
http://www.caiso.com/Documents/DeliverabilityAllocationCustomerOptionsForm.doc

Energy Storage Roadmap
@ Helpful Links

Generator Interconnection and Deliverability Allocation Procedures Cluster Process Summary

GIDAP Customer Guidelines

Generator Interconnection Webpage
http://www.caiso.com/planning/Pages/GeneratorInterconnection/Default.aspx

Interconnection Request and Generating Facility Data
(Tariff Appendix DD Appendix 1 – IR, and Attachment A to Appendix 1 – Technical Data)

ISO Generator Interconnection Queue
http://www.caiso.com/Documents/ISOGeneratorInterconnectionQueueExcel.xls

Participating Transmission Owner financial security instruments
http://www.caiso.com/planning/Pages/GeneratorInterconnection/GeneratorInterconnectionApplicationProcess/Default.aspx
Helpful Links

Participating Transmission Owner per unit costs
http://www.caiso.com/planning/Pages/GeneratorInterconnection/GeneratorInterconnectionApplicationProcess/Default.aspx

Resource Interconnection Fair Webpage
http://www.caiso.com/informed/Pages/MeetingsEvents/PublicForums/Default.aspx

Sample IR/Tech Data

Tariff Section 25

Tariff Appendix DD (GIDAP)

Technical Bulletin: Reassessment Process Reallocation of Cost Shares for Network Upgrades and Posting