



Interconnection Application Options and Process

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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 (RIMS)



Interconnection Overview

Jason Foster, 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
- 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



California ISO Tariff

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 processes:

- **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 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 Three 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
- BPM for Distributed Generation for Deliverability (DGD)

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**

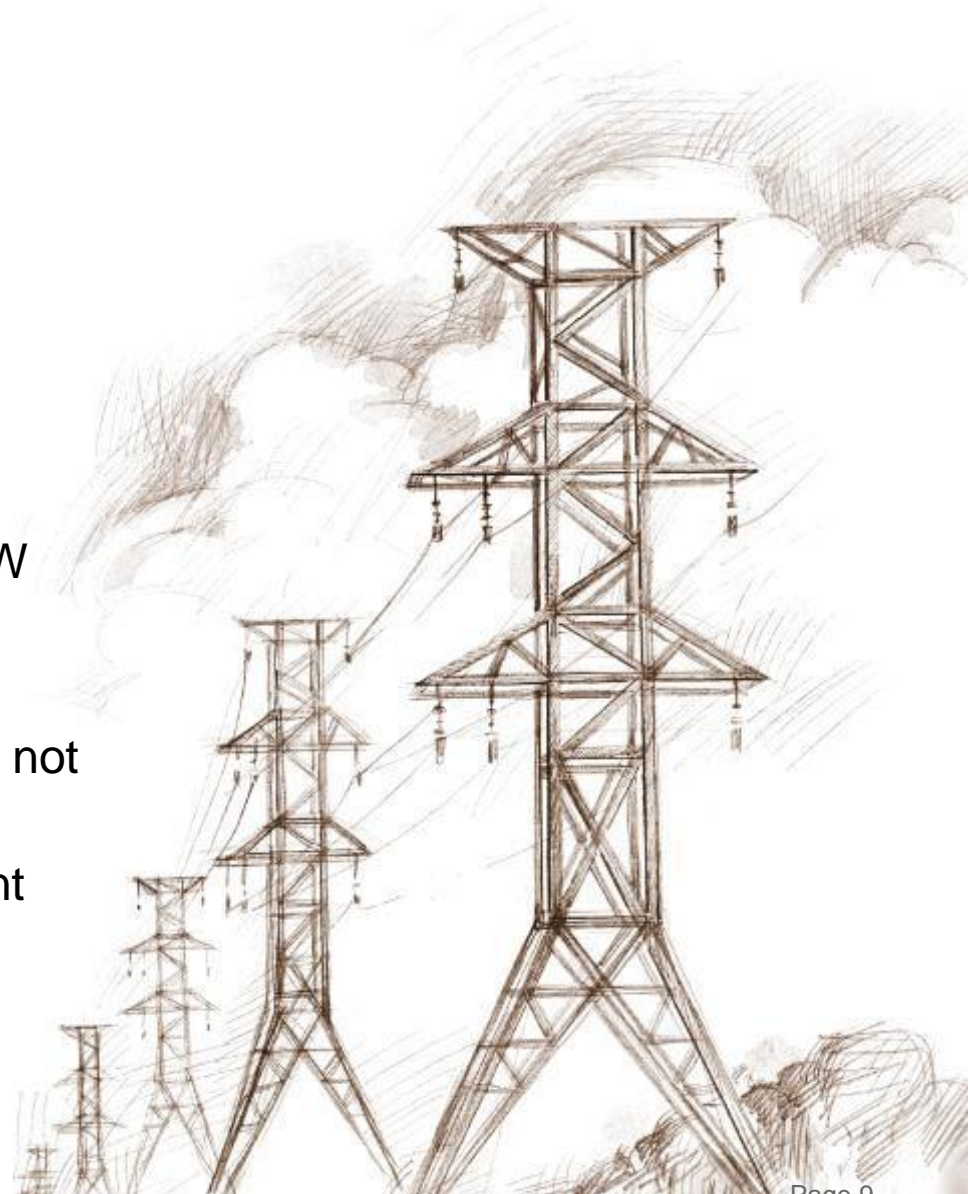
**Utility
interconnection
agreement**

**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**
 - When the cluster process does not accommodate desired COD
 - Must be electrically independent
- **Fast Track Process**
 - 5 MW or less



Pre-Applications

- 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



| Study Process | Application Window | Site Exclusivity (SE) | Study Deposits |
|--|--------------------|---|----------------------|
| Cluster | April 1-15 | Deposit or Documents ≤ 20 MW = \$100K > 20 MW = \$250K | \$150k |
| Independent Study Process (ISP) | Anytime | SE Must be demonstrated | \$150k |
| Fast Track (FT) | Anytime | SE Must be demonstrated | \$500 processing fee |

Interconnection Timeline Summary

Cluster 13 – Two+ years

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2nd Posting | Reassessment Result |
|------------------------|-----------------|----------------|-----------------|-------------------------|----------------|------------------|----------------------------------|-------------|---------------------|
| Apr 2020 | ~June 2020 | Jul - Dec 2020 | Jan 2021 | Mar 2021 | May – Nov 2021 | Dec 2021 | Mar 2022 | May 2022 | Aug 2022 |

Independent Study Process (ISP) – Eight months without deliverability

| ISP Application | Electrical Independence | Scoping Meeting | Systems Impact and Facilities Study | Results Meeting | 1 st Posting | Reassessment Result |
|-----------------|----------------------------|---|-------------------------------------|---------------------------|----------------------------|---------------------|
| Anytime | 30 CD from ISP eligibility | Set date within 5 BD of Electrical Independence | <= 120 CD of Study Agreement | <= 20 BD of Study Results | <= 120 CD of Study Results | Aug Annually |

Fast Track (FT) – 10 weeks or more

| FT Application | Initial Review (Screens) | Customer Options Meeting | Supplemental Review |
|----------------|---------------------------|--|--------------------------------------|
| Anytime | 15 BD from FT Eligibility | 10 BD from Determination of Upgrades / Additional Studies Needed | 10 BD from Receipt of Review Deposit |

Site Exclusivity

- 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.

- Common problems with documentation:
 - 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
 - The rights to the land must include the right to develop the proposed project.
 - Not just the right to occupy for the purposes of environmental or other assessments.

Project Naming Requirement

NERC COM-002 Requirement

Stricter requirements for project name selection

- Duplicated or Unacceptable Project Names will:
 - Cause issues on the Operations Floor
 - Not be accepted into RIMS
 - Require changes after the IR submission
- Valid and acceptable project names will:
 - Provide clear and concise communications
 - Provide smoother transition for each stage of the study/project
 - Result in less required project name changes

Tools

- Section 5.2 of GIDAP BPM, Selecting a Project Name
- [Prohibited Project Name List](#) (link)

Cluster Study, Application Process

- **Application Window open April 1st – April 15th**
 - FERC Approval in March 2018
- **Complete Interconnection Request Package**
 - **Submit IR more than 5 BDs early** for opportunity to cure incomplete package
 - ISO has 5 BDs to deem IR Package Complete
 - Day-for-day extension for ISO delays
 - All IR Package elements must be received by April 15.
Packages not deemed complete WILL NOT be studied in Cluster 13.
 - **Funds preferred via Fed Wire**; checks are accepted

Cluster Study, Application Process

Complete Interconnection Request Package must include:

- (i) An Interconnection Study Deposit of \$150,000
- (ii) A completed application in the form of Appendix 1, Word doc
 - a. Including Attachment A, Excel doc
 - b. Study agreement, authorized signatory, & state of incorporation for IC
- (iii) Demonstration of Site Exclusivity or posting of a SE Deposit
- (iv) A load flow model
- (v) A dynamic data file
- (vi) A reactive power capability document
- (vii) A site drawing
- (viii) A single-line diagram
- (ix) A flat run plot and a bump test plot from the positive sequence transient stability simulation application
- (x) A plot showing the requested MW at the Point of Interconnection from the positive sequence load flow application

Cluster Study, Application Process

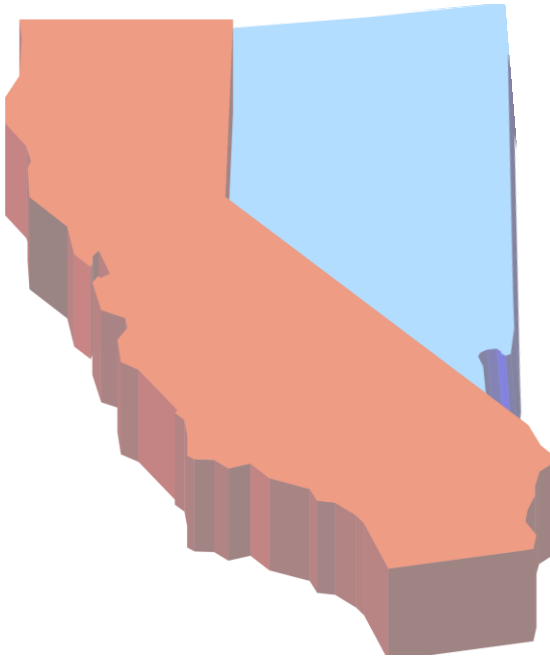
- Validation & Deficiencies Cure of Interconnection Request (IR)
 - ISO has 10 business days to determine IR validity (initial review)
 - ISO has 5 BDs to respond IR validity (subsequent Reviews)
 - Day-for-day extension for ISO delays until May 31
 - ICs do not have response timeline requirements
- June 30th cut-off to cure all deficiencies
 - Plus any extensions due to ISO delay
 - Cure deficiencies in required timeframe to be included in cluster study
- Once all applications are validated:
 - Queue numbers assigned
 - Queue report is available in RIMS

Questions?

Cluster, Independent Study, and Fast Track Process Overview

Phelim Tavares, Sr. Interconnection Specialist

Cluster Study Process



- Interconnection Requests (IR) submitted April 1st – April 15th 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

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2nd Posting | Reassessment Result |
|------------------------|-----------------|----------------|-----------------|-------------------------|----------------|------------------|----------------------------------|-------------|---------------------|
| Apr 2020 | ~June 2020 | Jul - Dec 2020 | Jan 2021 | Mar 2021 | May – Nov 2021 | Dec 2021 | Mar 2022 | May 2022 | Aug 2022 |

- Approximately 2 years for above timeline with deliverability

| | Scoping Meeting | Phase I Study * | Phase I Results Meeting * | Phase II Study * | Phase II Results Meeting * |
|---------|---|---|---|---|--|
| Purpose | In-Service / COD P.O.I. Transmission system | NU & IF Costs & Timeline Study Report | Study Results Cost Responsibility for Upgrades | Updated NU & IF Costs & Timeline Study Report | Updated Study Results Cost Responsibility for upgrades |
| Timing | No later than June 30 | Begins July 1 170 CD to Complete | Within 30 CD of Phase I Study Report | Begins May 1 205 CD to Complete | Within 30 CD of Phase II Study Report |

*Planned dates shown. Also applicable to ISP projects with deliverability studied with the cluster.

Cluster – IC Cost Responsibility

- Generally, IC's maximum set by lower of Phase I and Phase II Network Upgrades (NU) costs
- No maximum for Interconnection Facilities (IF) costs
- May be impacted by:
 - Appendix B allowed changes
 - Reduced MWs
 - Deliverability decisions
 - Reassessment study impacts
- Updated cost responsibility definitions will be covered in the second presentation that covers the study results

Cluster - Modifications Between Phase I and II

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2nd Posting | Reassessment Result |
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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, project milestone dates, and other data provided in the IR
 - Identifies allowable modifications:
 - Decrease in MW output
 - Modify technical parameters of technology
 - Modify the interconnection configuration
 - Point of Interconnection (POI) Change



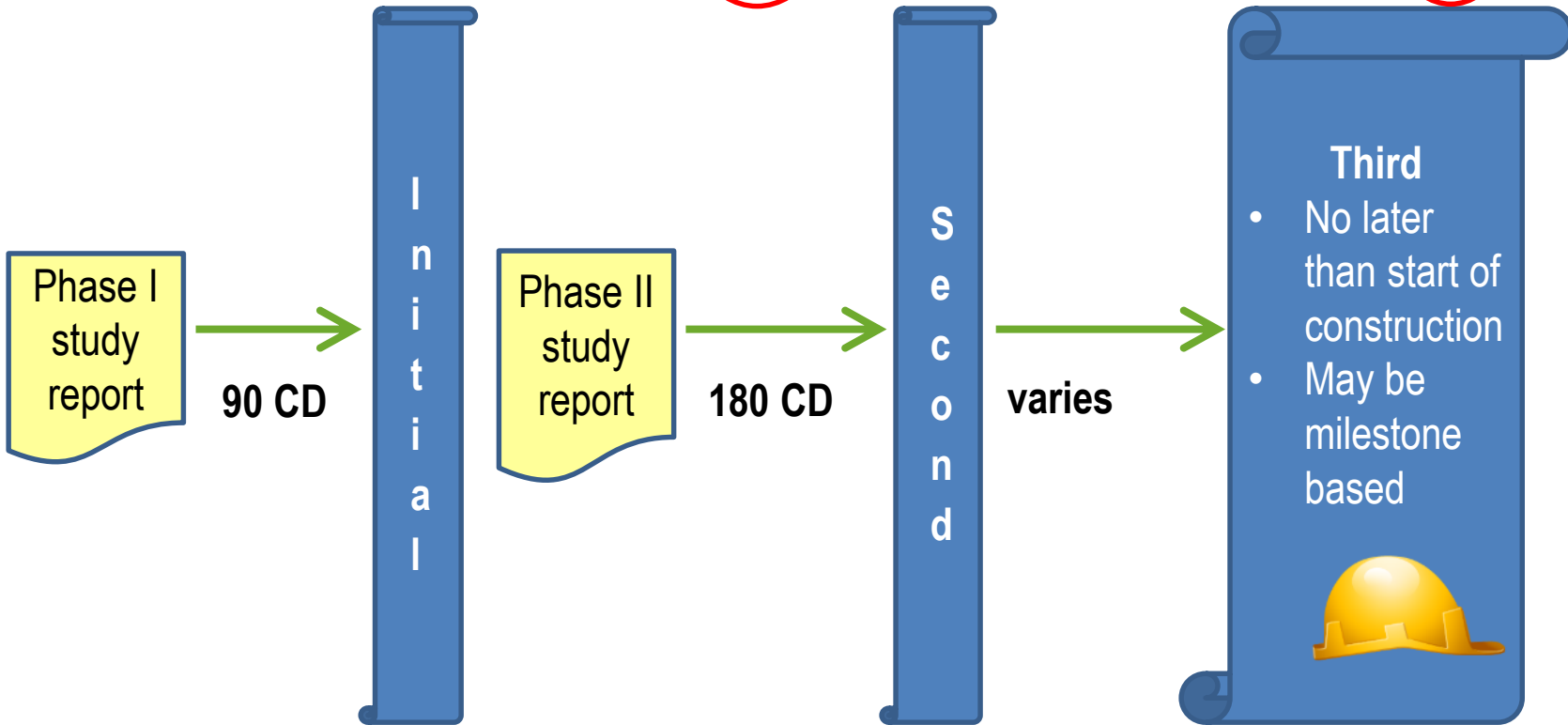
Cluster - Interconnection Financial Security

- 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 (initial posting only)
 - Minimums
 - Maximums



Cluster - Interconnection Financial Security

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2 nd Posting | Reassessment Result |
|------------------------|-----------------|----------------|-----------------|-------------------------|----------------|------------------|----------------------------------|-------------------------|---------------------|
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Independent Study Process Application

- Can submit an Interconnection Request anytime, however it is advantageous to submit the applications anytime between November and March
- Eligibility:
 - Demonstrate cluster process cannot accommodate desired Commercial Operation Date, and provide evidence of the following:
 - 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

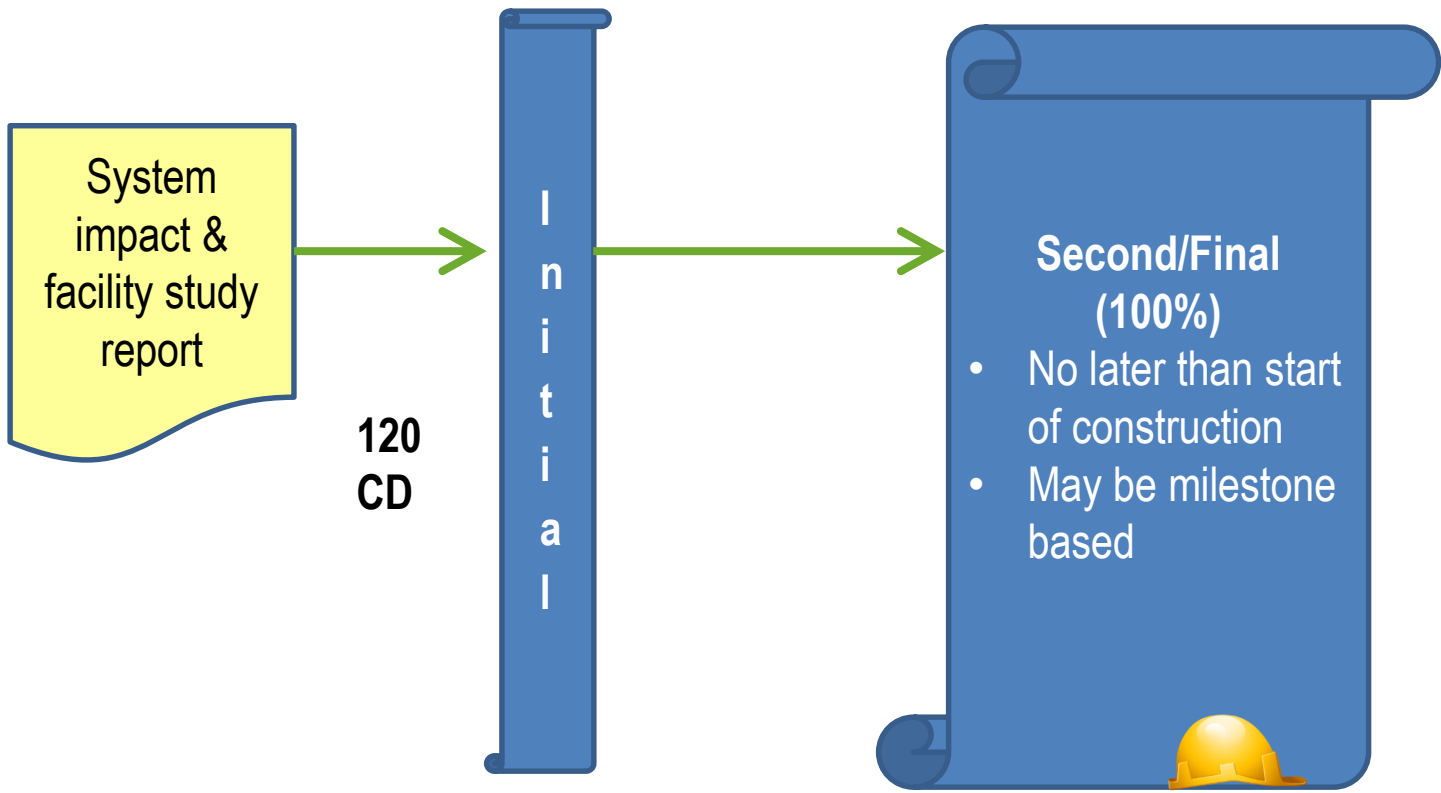
| ISP Application | Electrical Independence | Scoping Meeting | Systems Impact and Facilities Study | Results Meeting | 1 st Posting | Reassessment Result |
|-----------------|----------------------------|----------------------------------|-------------------------------------|---------------------------|----------------------------|---------------------|
| Anytime | 30 CD from ISP eligibility | 30 CD of Electrical Independence | <= 120 CD of Study Agreement | <= 20 BD of Study Results | <= 120 CD of Study Results | Aug Annually |

- Approximately 8 months for above timeline through Results Meeting

| | Scoping Meeting | System Impact and Facilities Study | Results Meeting |
|--------------------------------------|--|--|--|
| 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 |

Independent Study Process-Interconnection Financial Security

ISP
(non-deliverability
portion)



- Deliverability Studies follow the Cluster Timeline

Independent Study Process- Interconnection Financial Security

- Posted to PTO as security for assigned project costs
- Network Upgrades and Interconnection Facilities costs
 - 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

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

PASS
FAIL



Fast Track Timelines and Meetings

| FT Application | Initial Review (Screens) | Customer Options Meeting | Supplemental Review |
|----------------|---------------------------|--|--------------------------------------|
| Anytime | 15 BD from FT Eligibility | 10 BD from Determination of Upgrades/Additional Studies Needed | 10 BD from Receipt of Review Deposit |

- Approximately 10 weeks or more for above timeline

| | Customer Options Meeting (if needed) | Supplemental Review (if needed) |
|---------|---|--|
| Purpose | If IR cannot be approved with minimal costs, or a supplemental study, or other additional studies | Determines whether the facility can continue to qualify for interconnection under the FT process |
| Timing | Scheduled within 10 BD of determination that IR cannot be approved without modifications at minimal cost. | IC will agree to a review within 15 BD of the offer. |

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

Questions?

Transmission Plan Deliverability Allocation and Other Study Processes

Matt Chambers, Sr. Interconnection Specialist

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 RA Program
 - Not to be confused with firm transmission service
 - Deliverability status does not guarantee that a project will avoid curtailment due to transmission congestion

Deliverability Statuses

- Full Capacity Deliverability Status (FCDS)
 - Allows a resource to provide RA Capacity to meet a Load Serving Entity's RA requirement
 - Net Qualifying Capacity payments settled bilaterally
- Energy Only Deliverability Status
 - Not eligible to provide RA Capacity
- Partial Capacity Deliverability Status
 - Only a fraction of generating facility capacity is Deliverable

Note:

- Operationally, no difference between Deliverability statuses
- The dispatch of energy is based on economics; not Deliverability Status

TP Deliverability Allocation Process: Affidavits

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2nd Posting | Reassessment Result |
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- Projects requesting FCDS must submit affidavit to be eligible for Deliverability allocation. Applies to:
 - Cluster, ISP, and PTO WDAT studied by ISO for Deliverability in current cluster
 - Parked projects
 - Energy Only projects seeking Deliverability from existing and approved transmission facilities
- Market Notice will specify due date (typically due early December)
- Projects must, at a minimum, select an allocation group and attest to current financing, permitting and land acquisition statuses
- Allocation groups will establish priority if insufficient Deliverability

TP Deliverability Allocation Group Descriptions

| Allocation Group | Deliverability Status | Commercial Status (PPA or shortlisting must require Deliverability) | Can Build DNU's for Allocation? | Allocation Rank |
|------------------|--|--|---------------------------------|---------------------------|
| 1 | Current Cluster Phase 2 Study / Parked | (i) Executed or reg-approved PPA; OR (ii) LSE serving its own load | Yes | Allocated 1 st |
| 2 | Current Cluster Phase 2 Study / Parked | (i) Shortlisted in a RFO/RFP; OR (ii) Negotiating a PPA | Yes | Allocated 2 nd |
| 3 | Current Cluster Phase 2 Study | Proceeding without a PPA | Yes | Allocated 3 rd |

- Group 1: Must provide copy of executed PPA
- Group 2: Confirmation of shortlisting and terms on RFO/RFP required; or Terms of PPA and counterparty confirmation required
- Group 3: Projects proceeding to construction even if unable to secure PPA
 - Must accept allocation or WITHDRAW
 - Project will be converted Energy-Only if unable to comply with strict rules designed to limit time in Queue

TP Deliverability Allocation Group Descriptions

| Allocation Group | Deliverability Status | Commercial Status | Can Build DNUs for Allocation? | Allocation Rank |
|------------------|---|---|--------------------------------|---------------------------|
| 4 | (i) Converted to Energy-Only; OR (ii) Energy-Only projects that achieved Commercial Operation Date | Executed or regulator-approved PPA requiring FCDS | No | Allocated 4 th |
| 5 | (i) Converted to Energy-Only; OR (ii) Energy-Only projects that achieved Commercial Operation Date | Shortlisted in a RFO/RFP or Negotiating a PPA | No | Allocated 5 th |
| 6 | Converted to Energy-Only | Commercial Operation Date achieved | No | Allocated 6 th |
| 7 | Energy-Only | Commercial Operation Date achieved | No | Allocated 7 th |

- Must submit a seeking TP Deliverability affidavit and \$60,000 study deposit as described in Market Notice

TP Deliverability Allocation Results

| Cluster 13 Application | Scoping Meeting | Phase I Study | Phase I Meeting | 1 st Posting | Phase II Study | Phase II Meeting | Transmission Plan Deliverability | 2nd Posting | Reassessment Result |
|------------------------|-----------------|----------------|-----------------|-------------------------|----------------|------------------|----------------------------------|-------------|---------------------|
| Apr 2020 | ~June 2020 | Jul - Dec 2020 | Jan 2021 | Mar 2021 | May - Nov 2021 | Dec 2021 | Mar 2022 | May 2022 | Aug 2022 |

- Transmission Plan (TP) Deliverability allocation:
 - Determined from most recent Transmission Plan and eligible projects seeking Deliverability
 - Projects may be allocated 0% - 100% of requested amount
 - Deliverability allocation results released to all eligible projects requesting FCDS in mid-March
 - Within seven calendar days of results notice, IC must confirm how to proceed via customer options form (accept allocation, decline, park, etc.)

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

Annual Downsizing Opportunity

- Reduce existing project MW size for projects in the CAISO queue
 - Apply annually, Oct 15 – Nov 15
 - Separate downsizing request application
 - \$60K study deposit
 - Meet the eligibility requirements:
 - Project must be in good standing
 - Included in the annual reassessment and downsizing results study



Reassessments

- Annual downsizing and reassessment study report:
 - Shows the impacts of downsized projects, results of TP Deliverability, and withdrawals in the CAISO queue
 - Any active project that has complete the Phase II study and is impacted and/or submitted a request through the Annual Downsizing will receive this report
 - Issued around late July each year

Questions?

Withdrawals, Refunds, and Recovery

Julie Balch, Interconnection Specialist

Withdrawals, Refunds, and Recovery

IC may withdraw at any time.



Email



or

Written
Notice



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

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 \$75K



No Refund

Withdrawals, Refunds and Recovery (Cont.)

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

- On 2/19/19 FERC approved CAISO's proposed removal of all conditions for partial IFS recovery
- All projects qualify for recovery of 50% of IFS postings for NUs upon withdrawal
 - Less any irrevocably committed funds by PTO towards any NUs

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 initial 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 initial 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 for 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

Withdrawals Refunds and Recovery (Cont.)

Withdrawal between the second posting and the commencement of construction activities for 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

Questions?

RIMS App & Study Module

Linda Wright, Sr. Interconnection Specialist

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 CAISO website
- RIMS5 User Guide is available on-line
- Access to RIMS is established by the CAISO's Access and Identity Management (AIM) system

https://rimspub.caiso.com



California Independent System Operator Corporation [US] https://rimspub.caiso.com/rims5/logon.do



Resource Interconnection Management System



New Request

Reporting

New Request

First Name:

Last Name:

Email:

Confirm Email:

Requested Project Name:

Request Type:

Register

Retrieve Request

Registration Code:

Submit

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.

Resource Interconnection Management System (RIMS) is the CAISO's system for tracking several different interconnection processes at the CAISO. A training presentation for RIMS is available [here](#).

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: [RIMS5 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.

Electronic Interconnection Request Submission (cont'd)

New Request

First Name:

Last Name:

Email:

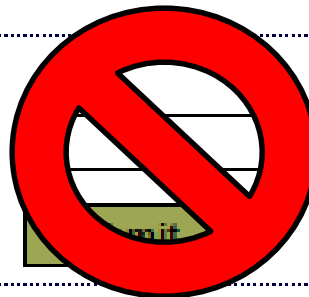
Confirm Email:

Requested Project Name:

Request Type:

Retrieve Request

Registration Code:



Electronic Interconnection Request Submission (cont'd)



Wed 2/17/2016 5:37 PM

rims-noreply@caiso.com

CAISO Project Registration - New Project Name

o  Wright, Linda

Action Items

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:



Retrieve Request

Registration Code:

Electronic Interconnection Request Submission (cont'd)

INTERCONNECTION REQUEST

Project Name: New Project Name

| Uploaded Files | | | | |
|----------------|-----------|-----------------|---------------|---------|
| Document Type | File Name | Uploaded Status | Uploaded Date | Comment |

Upload Project Files



Inventory of Documents to Upload

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

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

NOTE: The Interconnection Request form found on the Generation Interconnection webpage is the **ONLY** version that is compatible with the electronic submission process

Electronic Interconnection Request Submission (cont'd)

Upload Project Files

Please add comments after upload
Select a Document Type:
Attachment A to Appendix 1 ▼

Choose File No file chosen

Upload Project Files

Please add comments after upload
Select a Document Type:
Attachment A to Appendix 1 ▼

- Attachment A to Appendix 1
- 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

Upload Cancel

Electronic Interconnection Request Submission (cont'd)

INTERCONNECTION REQUEST

Project Name: New Project Name

| Uploaded Files | | | | | |
|------------------------------|--|-----------------|------------------|--------|------------|
| Document Type | File Name | Uploaded Status | Uploaded Date | | Comment |
| Attachment A to Appendix 1 | New Project Name IR.docx | SUCCESS | 02/17/2016 18:05 | Delete | 0 Comments |
| Evidence of Site Exclusivity | New Project Name Site Exclusivity.docx | SUCCESS | 02/17/2016 18:03 | Delete | 0 Comments |

Upload Project Files

Save As Draft

By checking this box, you understand that the electronic submission is not considered a complete and/or valid Interconnection Request until the CAISO provides acknowledgement within the [redacted] 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

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

RTESTER01

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, CAISO and PTO contact information

▼ Resource Summary

Project Name: Cluster Project - TEST

Queue Position: 1A

Queue Date:

Project Cost Code:

Study Type: Queue Cluster Process

Cluster Number: C9

PTO: OTHER ▼

Affected PTO: OTHER ▼

POI: Otay Mesa Switchyard 230 kV

Cf

Voltage Level(KV): 145

Project Status: WITHDRAWN ▼

Che

Reason For Withdraw: None ▼

Project Status Date: 10/20/2016

QM Project Standing:

Requested Deliverability: Full Capacity

Current Approved Net MW: 100

Cf

Comments: my comments

Interconnection Request Info

Contact First Name: RIMS

Contact Last Name: Tester05

Contact Title: Director

Signature Date: 03/21/2016

Current Interconnection Customer

Interconnection Customer(Legal Name):

Company Type: Limited Liability Company

State Incorporated: California ▼

Parent Company: Parent Company

Project Location

Address: Address

City: City County: County

State: California ▼ Zip Code: 11111

Latitude: 1234.22 Longitude: 1234.33

Available RIMS Screens

▶ Equipment Configuration

▶ Deliverability

▶ Project Details

▶ Documents

▶ Project Contacts

▶ Project Specific Audit Log

General Description

equipment configuration comments with updates

NEW/EXISTING Generation

- New Generation Facility
- Existing Generation Facility

Fuel Type and Generation Type



| Generator Type | Fuel Type | Net MW |
|----------------|-----------|--------|
| Hydro | Water | 55 |
| Wind Turbine | Wind | 222 |

Other Generation and Fuel Type



| Other Generator Type | Other Fuel Type | Net MW | Comments |
|----------------------|-----------------|--------|----------------|
| other gen type | other fuel type | 444 | other comments |

Project Milestones



| Type | In Service Date | Trial Operation Date | COD Date | Term of Service | Send COD date change Notification |
|---------|-----------------|----------------------|------------|-----------------|-----------------------------------|
| IR | 01/01/2016 | 02/01/2016 | 03/01/2016 | 10 | |
| CURRENT | 01/01/2016 | 02/01/2016 | 03/01/2016 | 10 | |
| FINAL | 11/01/2016 | 11/01/2016 | 11/01/2017 | 12 | |

Downsizing Requests








| Date Received | Original MW Size | Post Downsizing MW | Deposit Date | Withdrawn Date |
|---------------|------------------|--------------------|--------------|----------------|
| | | | | |

▼ Deliverability and Transmission Implementation Details

Requested Deliverability

Annual Full Capacity Deliverability

| Received Date ▲ | Study Cluster | Assigned MW | Allocation Date | Percentage (%) |
|-----------------|---------------|-------------|-----------------|----------------|
| | | | | |

TPD Affidavit

| Affidavit Type | Date Received ▲ | Valid | Score | Comments | Allocation Detail (MW) | Accepted (MW) | Parked (MW) | Energy Only (MW) | Withdrawn (MW) |
|----------------|-----------------|-------|-------|----------|------------------------|---------------|-------------|------------------|----------------|
| | | | | | | | | | |



Affected Systems Mitigations will appear on Weekly Digest Emails to responsible project contacts as listed in Notification Contacts table when the Current Approved Initial Synchronization Date (from the Project Milestone table) is less than 180 days away, and Affected Status Mitigation Status is not set as complete. Also, a Bulk Loader is available for this table.

Affected Systems

| Affected System | Potential or Identified? | Mitigation Type | Mitigation Status | Mitigation Date Completed | Send task reminder? | Notes |
|-----------------|--------------------------|-----------------|-------------------|---------------------------|---------------------|-------|
| | | | | | | |

Transmission as Modeled and Implemented

| Phase Description | Phase ID ▲ | Primary Purpose | Utility Project Status | Phase has SPS/RAS | Approved In-Service Date | Full Network Model DB# | Complete? |
|-------------------|------------|-----------------|------------------------|-------------------|--------------------------|------------------------|-----------|
| | | | | | | | |

Transmission as Identified by Transmission Planning



| NUID | Study | Queue Position | PTO | Type | Upgrade Description | Voltage | Needed for | Allocation (%) | Allocated Constant Cost (\$k) | Allocated Escalated Cost (\$k) | Estimated Time to Construct (Months) | History |
|------|-------|----------------|-----|------|---------------------|---------|------------|----------------|-------------------------------|--------------------------------|--------------------------------------|---------|
|------|-------|----------------|-----|------|---------------------|---------|------------|----------------|-------------------------------|--------------------------------|--------------------------------------|---------|

| Maximum Cost Exposure (MCE) (\$k) | Maximum Cost Responsibility (MCR) (\$k) | Current Cost Responsibility (CCR) (\$k) | Current Cost Allocation (\$k) | PTO Name | Sum of Allocated Constant Cost (\$k) | Sum of Allocated Escalated Cost (\$k) |
|-----------------------------------|---|---|-------------------------------|----------|--------------------------------------|---------------------------------------|
|-----------------------------------|---|---|-------------------------------|----------|--------------------------------------|---------------------------------------|

RNU Reimbursement (\$/MW):

| PTO | RNU Cap (\$/MW) |
|-----|-----------------|
|-----|-----------------|

Transmission as Modeled and Implemented



| Phase Description | Phase ID | Primary Purpose | Utility Project Status | Phase has SPS/RAS | Approved In-Service Date | Full Network Model DB# | Complete? |
|-------------------|----------|-----------------|------------------------|-------------------|--------------------------|------------------------|-----------|
|-------------------|----------|-----------------|------------------------|-------------------|--------------------------|------------------------|-----------|

▼ Project Details

▼ IR Checklist

| Interconnection Request | | | | |
|------------------------------|-------------------------|-------------|---------|------------|
| Checklist Item | Status | Status Date | History | Comments |
| Interconnection Request Form | Received | 03/24/2016 | | 0 Comments |
| Attachment A to Appendix 1 | Received | 03/24/2016 | | 0 Comments |
| Study Deposit | Received | 10/24/2016 | | 0 Comments |
| Site Exclusivity | Documents | 10/24/2016 | | 0 Comments |
| PTO IR Review | Valid Received from PTO | 03/30/2016 | | 2 Comments |
| IR Package | | | | 0 Comments |
| PTO Engagement Letter | | | | 0 Comments |
| Scoping Meeting | | | | 0 Comments |
| Scoping Meeting Minutes | | | | 0 Comments |
| Point of Interconnection | | | | 0 Comments |
| Study Agreement | | | | 0 Comments |
| IR Tab Status | | | | 0 Comments |

▼ Phase I Checklist

| Phase I Study | | | | |
|-------------------------------|--------|-------------|---------|------------|
| Checklist Item | Status | Status Date | History | Comments |
| Phase I Study Report | | | | 0 Comments |
| Phase I Study Results Meeting | | | | 0 Comments |
| Phase I Study Meeting Minutes | | | | 0 Comments |
| Appendix B | | | | 0 Comments |
| Phase I Tab Status | | | | 0 Comments |

▶ Phase II Checklist

▶ GIA Checklist

▶ Financial Security

▶ Study Costs

▼ 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 | | | | | | | | |
|-----------------------|-------------|---------------|---------------|-------------|---------------|----------------|-------------|---------------|
| Scoping Meeting | | | Phase I Study | | | Phase II Study | | |
| PTO Charges | ISO Charges | Total Charges | PTO Charges | ISO Charges | Total Charges | PTO Charges | ISO Charges | Total Charges |
| | | | | | | | | |

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



Uploaded Files

| Document Group | Document Type | File Name | Sharepoint Link | Uploaded Status | User | Uploaded Date | Comment | |
|----------------|---------------------------------|-------------------------------|--|-----------------|-----------|---------------|------------|------------------------|
| IR | Dynamic Data | dynamic_model.dyd |  | SUCCESS | HXU | 03/31/2016 | 0 Comments | Delete |
| IR | Attachment A to Appendix 1 | AS_IR_FORM_Cluster_v4(1).docx |  | SUCCESS | RTester05 | 03/23/2016 | 0 Comments | Delete |
| IR | Load Flow Model | load_flow_model.epc |  | SUCCESS | RTester05 | 03/24/2016 | 0 Comments | Delete |
| IR | Map | google_map.kmz |  | SUCCESS | RTester05 | 03/24/2016 | 0 Comments | Delete |
| IR | Other Documents | misc.txt |  | SUCCESS | HXU | 03/31/2016 | 0 Comments | Delete |
| IR | Other Documents | other_project_file.zip |  | SUCCESS | HXU | 10/31/2016 | 0 Comments | Delete |
| IR | Site Exclusivity | site_exclusive.txt |  | SUCCESS | HXU | 03/31/2016 | 0 Comments | Delete |
| IR | Single Line Diagram | single_line_diagram.jpg |  | SUCCESS | RTester05 | 03/24/2016 | 0 Comments | Delete |
| IR | Storage Supplemental Data Sheet | storage_supplemental.txt |  | SUCCESS | HXU | 03/31/2016 | 0 Comments | Delete |
| PHASE2 | Reassessment Downsizing Report | reassessment.txt |  | SUCCESS | HXU | 10/31/2016 | 0 Comments | Delete |

[Upload Project Files](#)

Access required - Google Chrome

Secure | https://mpp.caiso.com/sites/RIMS/_layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fmpp%2Ecaiso%2Ecom%2Fsites%2Frim%2Fshared%

Sorry, you don't have access to this page

Type your message here

Send Request




If you get this message when attempting to open a document within RIMS --

- **DO NOT BE AFRAID!**
- Do not “Type your message here”
- Do not “Send Request”





Simply close the window and try again in 30 minutes

▼ Project Contacts





The Project Manager for your project is:

| CAISO Project Manager | | | | |
|---|---------------------|-----------|---------------|----------------|
|    | | | | |
| Name | Contact Type | Role | Email | Phone |
| Haitao Xu | ISO Project Manager | ISO Admin | hxu@caiso.com | (916) 802-0875 |

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

| CAISO Contacts | | | | |
|---|--------------------------------|-----------|-------------------|----------------|
|     | | | | |
| Name | Contact Type | Role | Email | Phone |
| Haitao Xu | ISO Engineer | ISO Admin | hxu@caiso.com | (916) 802-0875 |
| Judy Brown | ISO Interconnection Specialist | ISO Admin | jbrown@caiso.com | 916-608-7062 |
| Raeann Quadro | ISO Queue Management | ISO Admin | rquadro@caiso.com | (916) 749-8392 |

| External Contacts (from AIM) | | | | | | | | | |
|---|--------------|------|-------|-------|-----------|-----------|------|-------|----------|
|  | | | | | | | | | |
| Name | Contact Type | Role | Email | Phone | Address 1 | Address 2 | City | State | Zip Code |

| Notification Contacts | | | | | | | | | | |
|---|-----------|--------------|--------------|------------------|----------|-----------|-----------|------|---------|----------|
|     | | | | | | | | | | |
| First Name | Last Name | Contact Type | Role | Email | Phone | Address 1 | Address 2 | City | State | Zip Code |
| John | Smith | IC Primary | notification | jsmith@abc.test | 123-4567 | | | | Arizona | |
| Susie | Queue | PTO Engineer | notification | susie@email.test | | | | | None | |

Planning to submit an Interconnection Request in Cluster 13?

- Submit IR early
 - Establish your RIMS IR registration and access for your team
 - RIMS could reject your IR form for incomplete or invalid information
 - PRO TIP: DO NOT CUT AND PASTE INFORMATION!**
 - Apply early -- allows time to resolve IR data deficiencies
 - Cluster 13 application window is April 1-15, 2020

Resources

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)

- **Generator Interconnection and Deliverability Allocation Procedures (GIDAP)**

<http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator%20Interconnection%20and%20Deliverability%20Allocation%20Procedures>

- **Generator Management**

[http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator Management](http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator%20Management)

Deliverability Allocation Customer Options Form

<http://www.caiso.com/Documents/DeliverabilityAllocationCustomerOptionsForm.doc>

Energy Storage Roadmap

<http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorageInterconnection.aspx>

Resources

Generator Interconnection and Deliverability Allocation Procedures Cluster Process Summary

<http://www.caiso.com/Documents/GeneratorInterconnection-DeliverabilityAllocationProceduresClusterProcessSummary.pdf>

GIDAP Customer Guidelines

<http://www.caiso.com/Documents/GIDAPCustomerGuidelines.xls>

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)

<http://www.caiso.com/Documents/GIDAPAppendix1-AttachmentA-Appendix1-InterconnectionRequest-GeneratingFacilityData.doc>

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>

Resources

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

<http://www.caiso.com/Documents/SampleInterconnectionRequest-TechnicalData-Solar-Wind.pdf>

<http://www.caiso.com/Documents/SampleInterconnectionRequest-TechnicalData-Thermal.pdf>

Tariff Section 25

http://www.caiso.com/Documents/Section25_Interconnection-GeneratingUnits-Facilities_Dec3_2013.pdf

Tariff Appendix DD (GIDAP)

http://www.caiso.com/Documents/AppendixDD_GeneratorInterconnection-DeliverabilityAllocationProcess_Dec3_2013.pdf

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

http://www.caiso.com/Documents/TechnicalBulletin_GIDAP-ReassessmentProcessReallocation-CostShares-NetworkUpgrades-Posting.pdf

Questions?