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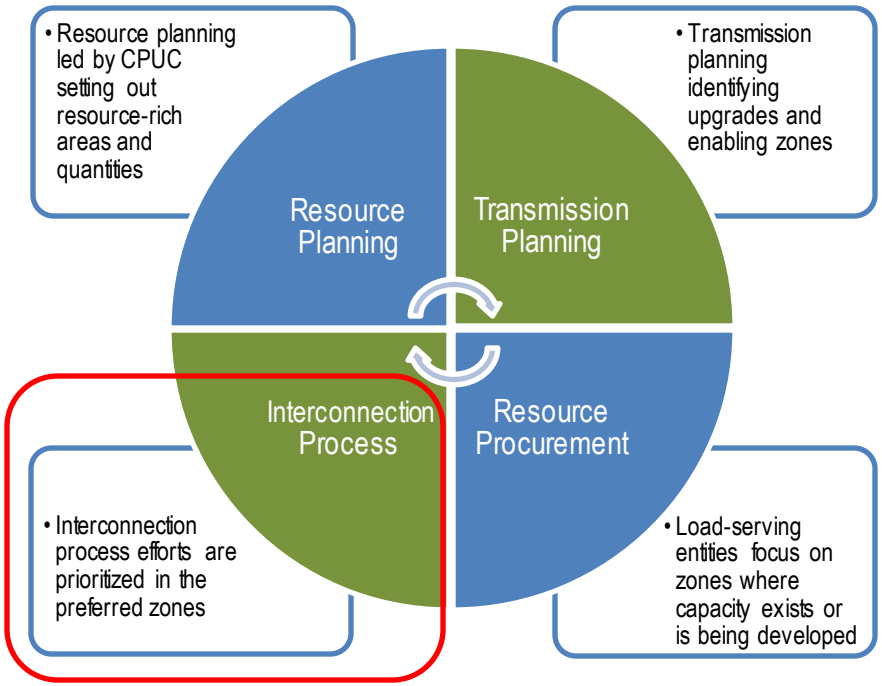
Interconnection Process Enhancements (IPE) and Deliverability 2023

Initiative Update

July 19, 2023

The ISO is exploring transformative change to its interconnection process as part of a larger coordinated strategy with state agencies

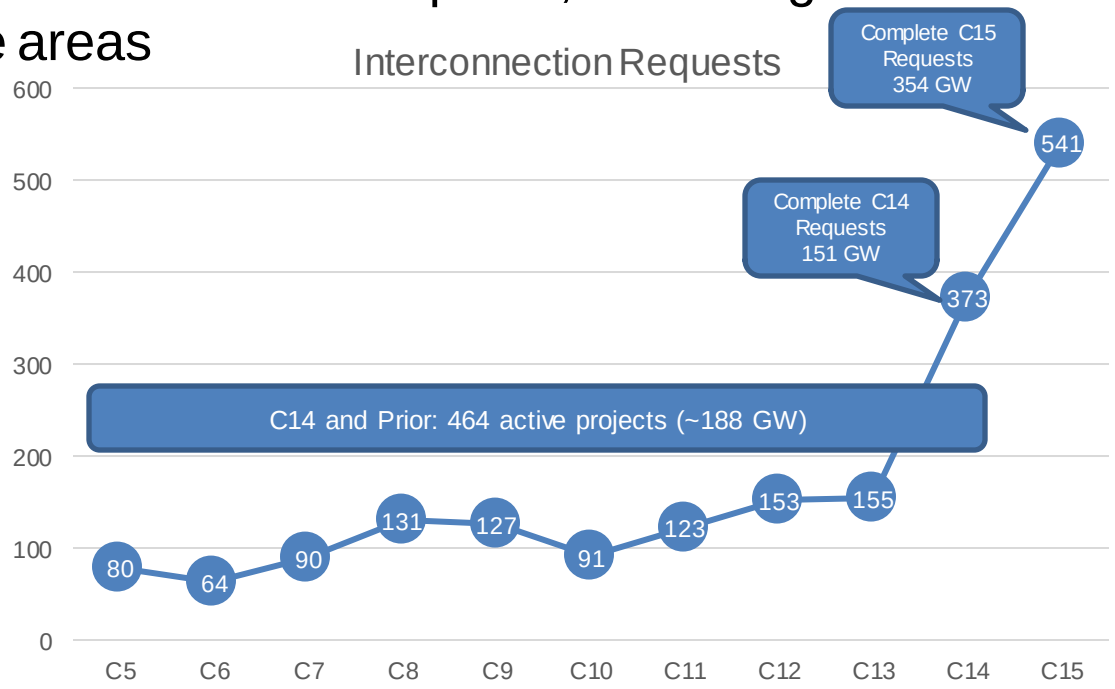


Strategic direction established in a Memorandum of Understanding signed in December 2022 to:

- Tighten the linkage between resource and transmission planning, procurement direction, and the CAISO interconnection process
- Create formal linkage between CEC SB 100/IEPR activities and the ISO and CPUC processes
- Reaffirm the existing state agency and single forecast set coordination

Current circumstances have reinforced the need for transformative changes to the interconnection process

- CPUC resource portfolios call for over 7,000 MW per year for the CAISO's 2023-2024 planning cycle
- Interconnection requests continue to skyrocket
  - Many in areas not part of state resource plans, and in high volumes even in those areas
  - Cluster 15 in April 2023 vastly exceeded last year's informal survey results of about 300 expected requests.



IPE 2023 Initiative Tracks

- Track 2 focuses on the changes to the GIDAP cluster study process needed to achieve the MOU goals.
  - To be completed prior to resuming the Cluster 15 interconnection request validation and study processes.
  - Target is to bring Track 2 to the ISO Board of Governors in February 2024
- Track 1 focused on immediate adjustments to the Cluster 15 schedule and out-of-state wind.
  - Allows for completion of Cluster 14 phase II studies and for Track 2 changes to be put in place.
  - Adopted by the ISO Board of Governors in May.

Revised Proposed Principles for Interconnection Reform

1. Prioritize interconnection in zones where transmission capacity exists or new transmission has been approved, while providing opportunities to identify and provide alternative points of interconnection or upgrades.
2. Ensure meaningful study results that take into account system capability, resource planning and procurement*.

   **Resource planning includes the CEC, CPUC, and other Local Regulatory Authorities (LRAs) engaged in these activities.*
3. Align interconnection and transmission plan deliverability processes with resource procurement functions.
4. Enhance the procedures, including contracting and queue management procedures, for ensuring projects proceed to commercial operation and determine how to appropriately handle those that are not.
5. Enhance the interconnection process's ability to support the procurement necessary to meet California Public Utilities Commission (CPUC) resource portfolios and California Energy Commission (CEC) SB 100 portfolios, and portfolios established by non-CPUC jurisdictional LRAs.
6. Enhance public awareness and accessibility of data and information to support and enable the above principles.
7. All Parties share increased responsibility to improve the interconnection process

Revised Proposed Problem Statement 1: Intake

1. Unsustainable increase in interconnection requests (IRs) has overwhelmed the GIDAP.
2. Increase in IRs has overwhelmed critical planning and engineering resources across the industry.
3. GIDAP, as currently designed, simply cannot efficiently accommodate increased amount of IRs.
4. Study results lose accuracy, meaning and utility when the level of cluster IR capacity are multiple times the existing or planned transmission capacity for an area.
5. Lack of accurate, actionable information on the location and amounts of available interconnection and deliverability capacity prior to opening of the IR windows results in increased numbers of IRs.
6. The issue of project viability is a widely discussed industry topic. However, project viability is not well defined and not currently considered for IR acceptance criteria in the GIDAP.
   - Stakeholders need to define what viability criteria is appropriate for a new IR, the point in the process viability is tested and determine if process revisions are needed.
7. Technology solutions to enhance the IR intake, validation and study process may exist and should be explored for opportunities to increase process efficiencies and reduce time and staff requirements.
8. Timelines for design and construction of interconnection customer required upgrades continue to increase, negatively impacting achievable CODs.

Revised Proposed Problem Statement 2: Queue Management

1. Following the study process, a number of projects in the interconnection queue do not proceed to commercial operations as expected (e.g. delay executing a GIA, meet contract milestones, etc.) and remain in the queue without indication of their intent to proceed to contracting or construction.

2. The current processes for managing the queue presents certain challenges for projects proceeding to commercial operation (e.g. modifications, limited operation study, commercial viability criteria, etc.) and challenges for the ISO's enforcement of projects that are not.

3. There is a lack of common understanding of what it means for a project to maintain 'viability' as it moves through the stages to achieve commercial operation.

The stakeholder process is based on working groups to gain industry alignment and engagement

Date	Track 2 Milestone
6/20/2023 – 6/21/2023	Working Group Session 1: Principles and problem statements
6/27/2023	Working Group Session 2: Discussion of ISO-proposed concepts
07/11/2023	Working group session 3: Stakeholder proposals on problem statement 1 (interconnection request intake)
07/24/2023	Working group session 4: Stakeholder proposals on problem statement 2 (queue management)
08/01/2023	Working group session 5: Agenda TBD
08/07/2023	Comments due
September 2023	Straw proposal posting

To implement process changes ahead of Cluster 15 phase I studies, the ISO seeks to present Track 2 to the Board of Governors in February 2024.

Generation Deliverability Methodology

What is the purpose of the ISO's generation deliverability methodology?

- To test that the transmission system can reasonably ensure that resource adequacy capacity can be delivered to load during stressed system conditions.
- These resources first have to meet basic interconnection requirements so that they can be reliably interconnected, and could choose to operate energy-only without providing resource adequacy capacity.

	Summary of Stakeholder Concerns and Requests	Consideration
1	Study of High System Need and Secondary System Need – is the "secondary system need" study necessary?	Needs further discussion. ISO transition from one to two scenarios was a step in adapting to a more complex resource fleet, predating the CPUC transition towards a 24 hour slice of day approach.
2	The need for study of n-2 contingencies on double circuit towers	We see this as a NERC criteria requirement, rarely binding, and with sub-optimal and untimely results if left to the transmission plan to address.
	ISO alternative – explore policy change to provide interim deliverability while waiting for the n-2 related deliverability upgrades (usually RAS or reconductoring) to be completed	Opportunity to explore a risk-based approach - still requires reliability upgrades to be in place but balances risk of disrupting resources coming online with higher (interim) operational complexity.
3	Overarching concern with PTO timelines being extended for deliverability upgrades, disrupting resource PPAs and in-service dates	Opportunity to explore providing interim deliverability if deliverability upgrades are delayed by PTO, taking a risk based approach and respecting reliability needs
4	Concerns with inclusion of Diablo Canyon in studies after 2025 (We do not rely on Diablo Canyon for resource planning or addressing grid needs after 2025)	Needs further discussion. Note that Diablo Canyon is expected to provide RA capacity post 2025, and PG&E does retain "repowering" rights for up to three years after retirement.
5	Suggestion that local capacity resources should be assessed only on their ability to serve local load , and shouldn't be required to also provide system capacity – essentially splitting system and local capacity into two separate products.	Requires a larger policy discussion in the ISO RA initiative. Technical considerations will be a factor considering among other issues the coincidence between local and system needs.
6	Soften current requirement that resource adequacy resources in a gen pocket can be dispatched simultaneously at times of system need (and address misunderstanding that our methodology currently can drive capacity <u>out</u> of one area and <u>into</u> another.	Need to clarify purpose of methodology and current methodology. We study one generation pocket at a time, and at reasonable dispatch levels, to ensure reasonable chance of serving load in stressed conditions
7	Dispatch levels – use of exceedance-based output levels instead of Qualifying Capacity-derived levels.	Need to clarify basis of qualifying capacity levels based on a resource's contribution over a year and relevance to testing its contribution at stressed system conditions

IPE Track 2 and the Generation Deliverability Assessment Initiatives are moving on parallel tracks

- Many intersecting issues need to be addressed in both initiatives.
- Expect to move both to the CAISO Board of Governors by February 2024.

Additional information

Visit initiative webpages for more information

- Interconnection Process Enhancements (Track 2): https://stakeholdercenter.caiso.com/StakeholderInitiatives/Interconnection-process-enhancements-2023
- Generation Deliverability Assessment: https://stakeholdercenter.caiso.com/StakeholderInitiatives/Generator-deliverability-methodology-review

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