

Integration Capacity Analysis and Demonstration Project A Workshop [R.14-08-013]

November 10, 2015
Courtyard Room, CPUC
9am – 4pm

Call-in: 866-830-4003 Passcode: 9869619

WebEx: <https://van.webex.com/van/j.php?MTID=m3ecf5677f73376e28b52e4fb7e44ae47>

The purposes of the ICA and Demonstration Project workshops are:

- To provide an opportunity for the IOUs to address questions related to, and potential improvement of, the ICA methodology, assumptions and results;
- To examine the Demonstration Project A proposal of each of the utilities regarding its adequacy and focus for further improving the ICA methodology and tools.

A workshop report will be produced after its conclusion.

Agenda

9:00 am – 9:15 am	CPUC Introduction
9:15 am – 11:00 am	Presentations by each of the IOUs (PG&E, SCE, and SDG&E) to generally cover: <ul style="list-style-type: none">a. The methodology of IOU ICAs conducted to date;b. Their plan for continuing analysis;c. Their plan and schedule for improving and updating the analysis;d. Their proposal to modify or improve ICA maps.
11:00 am – 12:00 Noon	Discussion on questions in Section A of Attachment
12:00 Noon – 1:15 pm	Lunch
1:20 pm – 2:00 pm	Public comment and opportunity for other questions
2:00 pm – 2:45 pm	Presentations by IOUS describing Demonstration Project A <ul style="list-style-type: none">a. Detailed description of the projectb. Description of how it fulfills or exceeds the requirements set forth in the Guidance Rulingc. Estimated cost and schedule for the project
2:45 pm – 3:15 pm	Discussion on questions in Section B
3:15 pm – 3:30 pm	Public comment and further questions related to Demonstration Project A
3:30 pm – 4:00 pm	Discussion of “Future Outcomes of ICA”, <i>i.e.</i> , advancing policy objectives such as: <ul style="list-style-type: none">a. Rule 21 interconnection streamlining;b. Streamlining Rule 15 and Rule 16 assessments of EV and storage load distribution impacts.
4:00 pm	Adjourn

Agenda Attachment

Energy Division Questions on ICA and Demonstration Project A for Workshop

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Section A - ICA

- Can the Integration Capacity Analysis (ICA) methodology as described in the Applications be improved? If so, how?
- Comparing PG&E, SCE and SDG&E approaches and the analysis conducted so far, have the utilities defined the appropriate next steps to perfect the analysis? What other steps should be taken, if any?
- How can the online map and data display of the ICA results be improved? Why can or can't more detailed data be made available, and what is the best method for making data available beyond the maps?
- How can transparency of detailed information regarding the parameters used to perform the ICA analysis on a circuit basis be increased? (*i.e.*, for each circuit, what are the thermal ratings, protection system limits, power quality standards and safety standards used to determine hosting capacity?)
- What modification to the ICA is required to evaluate different portfolios of DER?

Description of Demonstration Project A (From Assigned Commissioner Guidance Ruling, 2/6/2015)

a. Demonstrate Dynamic Integrated Capacity Analysis

Develop a specification for a demonstration project where the Utilities' Commission-approved ICA methodology is applied to all line sections or nodes within a Distribution Planning Area (DPA). The specification should include a detailed implementation schedule. This demonstration shall utilize fully dynamic modeling techniques for all line sections or nodes within the selected DPA. This demonstration shall consider two scenarios:

- i. The DER capacity does not cause power to flow beyond the substation busbar;
- ii. The DERs technical maximum capacity is considered irrespective of power flow toward the transmission system.

This Demonstration Project (A) shall be scoped to commence no later than 6 months after Commission approval of the DRP.

Section B Questions – Demonstration Project A

- Is the methodology as described sufficient to be executed in the demonstration project? Why or why not? Should it be approved for use in the Demonstration Project A?
- What are appropriate "stretch goals" for the Demonstration Project (A)?
- What would you like to see as an outcome of the ICA that is performed in Demonstration Project (A)?
- Should Demonstration Project (A) as defined by the IOUs be approved? How should it be modified?

Questions Submitted By Parties

SolarCity

- When do the IOUs anticipate more explicitly incorporating or leveraging the ICA analyses to expedite interconnection, specifically for interconnection applications in excess of the existing penetration screens?
- Can/will the utilities make the ICA data available outside of the maps (*i.e.* a complete downloadable data in a format that is more easily analyzed by market participants)?
- How can transparency regarding how the ICA was conducted be increased so that interested third-parties can confirm the quality of the findings? Do the utilities or the CPUC plan on releasing workpapers or more detailed information regarding the ICA methodology used?
- How can the ICA methodology used by IOUs be brought into closer alignment or standardized to ensure that all ICAs are performed consistently and at the same high level of rigor? What methodological changes do each utility expect to incorporate based on what they've learned from the ICAs performed by the other IOUs?

Green Power Institute

- Should the ICA be further standardized across all IOUs? Would this facilitate third party involvement in DER integration across California by providing a more standardized tool?
- Should the ICAs include a pathway for introducing ongoing updates that ultimately improve the ICA based on utility and third party needs, as well as emerging technologies? If so, who will monitor this process and encourage the ongoing development of the ICA tool?
- Should ICA resolution be increased to include capacity at the secondary line level, in order to facilitate smaller EV installations (*i.e.* smaller than fleet level)?
- DER portfolios are integral to maximizing benefits and smoothing energy profiles – Given this, what is the best way to modify or structure the ICA results such that it will support the integration of a wide variety of DER portfolios? If the ICA is tailored to assess DER portfolio integration (*e.g.*, PG&E's ICA), in addition to total generation and load, should there be a pathway for updating the portfolios that are assessed in the ICA, particularly as new DER technology and portfolio configurations emerge? More generally: Should DER portfolio integration be addressed in the ICA, and if so, how will the portfolio profiles be updated to represent emerging technology?

ORA

- What assumptions does the integration capacity analysis (ICA) make about the distributed energy resources (DER) mix that will integrate onto the feeder?
- What is the impact of changing the assumptions of the DER mix on the capacity of a feeder?
- Are assumptions about DER mix the same throughout the system or do they vary by geographic area or some other parameter?
- How does the ICA take geographic diversity into account?
- Is the ICA analysis a worst case scenario?
- What is the ICA assumption regarding smart inverters?
- How will the IOUs integrate new technology that will affect the grid into the ICA?
- How often will the model assumptions be updated?

- Please state the criteria used by the ICA (*e.g.*, thermal loading parameters)
- Is there a safety factor built into the ICA model? If so, what is it?
- How would you (IOUs) describe the maturity and resilience of your ICA methodology today?
- How do you (IOUs) expect the maturity and resilience of your ICA methodology to improve before performing the analysis for Demonstration Project (A)? Do you expect any significant limitations to remain?
- Is the methodology transparent and subject to full review and critique by CPUC and parties, or are key components hidden within proprietary vendor software, or constrained by data privacy rules?
- What elements of one IOU's ICA are clearly superior to the others, and should be included in all the ICAs?
- What elements of one IOU's ICA are clearly inferior to the others, and should be excluded from all the ICAs?
- What information will result from the Demonstration Project (A) that is not available in the current ICA?
- How did you (IOUs) validate that the criteria used to set DER capacity limits are reasonable?
- What is the process and key difficulties involved in updating the ICA based on revised inputs? Are they based on revisions to the methodology? Are they based on revisions to criteria?