

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)
And Related Matters.	Application 15-07-002 Application 15-07-003 Application 15-07-006
<b>(NOT CONSOLIDATED)</b>	
In the Matter of the Application of PacifiCorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 769.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters.	Application 15-07-007 Application 15-07-008

**CLEAN COALITION COMMENTS ON ADMINISTRATIVE LAW JUDGE’S RULING  
REQUESTING COMMENTS ON REFINEMENTS TO THE INTEGRATION  
CAPACITY ANALYSIS**

Kenneth Sahn White  
Director, Economic & Policy Analysis  
Clean Coalition  
16 Palm Ct  
Menlo Park, CA 94025  
(831) 295 3734  
sahm@clean-coalition.org

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**I. INTRODUCTION**

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Clean Coalition respectfully submits these comments in response to *Administrative Law Judge’s Ruling Requesting Comments on Refinements to the Integration Capacity Analysis*, dated July 3, 2019.

The Clean Coalition appreciates the opportunity to submit these comments in response to the Ruling.

California is now implementing ground breaking visibility into the status and capability of its distribution grids, delivering the ability to efficiently target both DER and grid investment and model both the current and forecasted impact of changes in load, generation, and policy implications. Detailed visibility into the current capacity of the state’s distribution infrastructure and forecast scenarios is invaluable in guiding resource optimization, future policy, and

investment. We strongly support the Commission’s continued and evolving efforts in this proceeding to assess the grid’s capacity, impacts of DER and locational factors such that the benefits may be realized for ratepayers at large, individual customers, and communities.

## **II. DESCRIPTION OF THE PARTY**

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition has been an active and consistent participant in both the Integration Capacity Analysis (“ICA”) and Locational Net Benefits Analysis (“LNBA”) working groups and an original advocate for distribution resource planning and processes. In addition, we have remained a leading intervenor in interconnection proceedings and an active participant in the Integrated Distributed Energy Resources (“IDER”) proceeding that seek to utilize the ICA and LNBA results.

## **III. COMMENTS IN RESPONSE TO QUESTIONS FOR PARTIES**

*1. Please describe what improvements are necessary to make the ICA more functional for the interconnection use case. If improvements are necessary, please explain specifically what improvement is necessary and the process to determine the changes. Do these improvements require any prioritization?*

Please see Attachment 1, prepared by IREC after consultation with the IOUs, Energy Division, Clean Coalition and other stakeholders, through detailed review of each IOUs initial implementation of ICA methods, data, and mapping of results, through a series of exchanges and meetings.

Most notably, each utility should include both map and API data search functionality that allows a user to search and sort for available hosting capacity within defined geographic or data categories, mirroring at least the functionality currently provided by SCE.

Energy Division and IOUs conducted a stakeholder workshop on January 28 this year to present ICA map and data access implementation and solicit feedback, and follow up calls were held for stakeholders with each utility individually in April-May. These exchanges were very informative to both IOUs and stakeholders, and both SCE and PG&E were notably receptive and

responsive to stakeholder usability feedback. This process should be repeated occasionally along with orders seeking the appropriate practicable degree of consistency across utilities.

*2. Of the improvements recommended by in the ICA Working Group's Long-term Refinements Report should any be immediately adopted by the Commission to improve the usability of the ICA for the interconnection use case? Do any require further refinement before adoption? Are there any issues that have been identified since the publication of the ICA Working Group's Long-term Refinements Report that warrant consideration?*

Please see response to Q1 above.

Additionally, parties have noted that the current ICA methodology does not provide sufficient information to evaluate all technical screens for the interconnection use case. For example, Screen F ("Is the Short Circuit Current Contribution Ratio within acceptable limits?") identifies whether a project may have an impact on the system's short circuit duty, fault detection sensitivity, relay coordination, or fuse-saving schemes. Screen G ("Is the Short Circuit Interrupting Capability Exceeded?") identifies and studies whether a Generating Facility, in aggregate with other Generating Facilities on the distribution circuit, cause disturbances to protective devices and equipment, risking overstressing the equipment. This Screen allows the IOUs to evaluate how a generation project on the distribution system affects interrupting devices on the entire system, including at the distribution substation level, sub-transmission substation level (where applicable), and at the transmission level. ICA does not provide complete indication whether a project will pass or fail these Screens, and it should be determined whether more definitive determination is practical.

*3. Is the distribution planning use case of the ICA critical to the integration of DERs?*

The Clean Coalition believes that the distribution planning use case is very helpful in supporting the integration of DER, both customer sided (behind the meter) and front of meter distributed resources providing grid services to local load serving entities and wholesale markets. While integration is occurring without it, efficiency in planning and investment can be substantially improved. At this time we defer to the detailed comments of the Office of Public Advocates and will reply to parties comments as warranted.

*4. Is the policy use case of the ICA critical to the integration of DERs? If so, please explain specifically how it needs to be used to integrate DERs*

Yes, the policy use case of the ICA is critical to the integration of DERs.

As noted in the working group Report, all parties agree that the potential use of ICA in a policy context exists. Decision makers look at scenario analyses, such as those performed within LTPP and IRP, to consider the impacts of uncertainty when making policy decisions. As ICA is a tool that identifies impacts to the distribution grid, ICA can also be used to analyze impacts and implications of policy interventions on the distribution grid. The issue was summarized in the Final ICA WG Long Term Refinements Report sec 4.1 (p7-19), especially 4.1.1.1 Use of ICA to Inform Policy Analysis (Application 4) (p11-12)

“Non-IOU parties, representing the Office of Ratepayer Advocates (ORA), the Interstate Renewable Energy Council (IREC), Vote Solar, the Solar Energy Industries Association (SEIA), Clean Coalition (CC), and Stem, have identified this use of ICA as a subset of the ICA planning use case, stating that it is important to define all potential ICA planning scenarios within the planning use case, including the use of ICA in policy analysis. When discussing the planning use case, the non-IOU parties had a broader sense of how the ICA could be used to inform various types of planning decisions. For example, when the Commission makes policy decisions, it engages in a process of planning for how to adapt to the impacts of those decisions, and may make better decisions if it is able to understand how those decisions impact the distribution system. For example, if the Commission is considering a change in rates to incentivize certain electric vehicle charging behaviors, non-IOU parties state that the ICA could be used to help the Commission (and all stakeholders) understand how a proposed rate change could impact the distribution system.”

The Joint IOUs agreed that they see potential value of the ICA to inform policy discussions, and proposed separating it from the distribution planning use case focused on IOU operations. The Report further stated that while other parties are comfortable prioritizing discussion about how the ICA will be used in the IOU annual distribution planning process, they are concerned that this bifurcation could unnecessarily result in the ICA results being inadequate to apply in the policy context. This could require the development of a separate policy-focused

ICA, or result in the inability of the planning ICA to inform policy discussions or overall meet the needs envisioned by the Commission in the Ruling.

The tools developed here in the DRP will allow stakeholders to understand grid constraints and the relative locational factors associated with addressing them. Numerous policy interventions may be proposed based on this information, including, but not limited to, incentives, rate changes, and tariffs in the IDER and other proceedings. In addition, the state will be considering pathways for meeting state environmental and emissions goals, including in the IRP. The ICA is an important tool that will enable exploration of the grid impacts and implications of these numerous potential interventions. The ICA, alone, or potentially in combination with growth scenarios, grid needs assessment (GNA) and the locational net benefits assessment (LNBA), should enable grid operators and stakeholders to see how policy changes may effect specific locations of the grid. For example, TOU rates for NEM customers are likely to incent paired installations of PV and storage and determine the operating profile and associated grid impacts of these installations in such a way as to greatly mitigate the impact of each individually and actually increase grid hosting capacity for both new load and distributed generation, and reduce grid needs and interconnection costs both for ratepayers in general and individual customer applicants.

Understanding where hosting capacity exists, where demand for capacity is forecast to occur, and how proposed policy alternatives will either optimize use of existing capacity, improve capacity, or drive additional grid needs, is essential in evaluating and comparing the ratepayer impact of policy options. This information can then be used to guide both policy making and planning decisions about grid investments. This use will require flexibility to consider multiple scenarios, both in a grid-wide and site-specific manner and the potential to run layered scenarios. Rates, tariffs, programs, and grid investments can be designed to optimize underutilized grid capacity and enhance constrained capacity. However, each of these factors are highly localized and have specific hosting capacity potential reflected in ICA analysis of scenarios. ICA scenario results will indicate what quantity of new distributed resources can be accommodated at low cost, when and where additional DER would require more costly investment, and how incented operating profiles will be most cost effective for ratepayers. This is crucial in determining appropriate sizing of DER programs and policy goals.

*5. If so, please explain specifically what the primary goals of the use case are and how it needs to be used to integrate DERs. a. If so, please explain which improvements identified in the Long-term Refinements Report are necessary to implement the use case and whether any of these improvements should be prioritized over others.*

Policy can be targeted to categorical factors such as technology, disadvantaged communities, customer density, customer classes, and to regions, sub-regions. The policy use cases for ICA do not require the same precise granularity, precision or accuracy as the interconnection use case, or even the utility GNA and distribution investment planning use cases. However, assessing and comparing policy impact scenarios does require ease of scenario data programming and variation. This both allows for and requires simplified data input and streamlined processing, as well as the use of simplifying assumptions to reduce the data processing burden.

In their Demo A pilot implementation of ICA, in place of actual circuit data, SCE and SDG&E relied upon 30 representative circuit categorizes and applied these categories to their model, and this approach could be carried forward with even greater simplification for policy impact evaluation. PG&E developed streamlined analytical methods allowing them to actually model each circuit and node system wide in their early implementation; while this did not reliably provide the accuracy needed for interconnection, the approach could be effectively utilized and simplified further for policy scenario evaluation purposes, potentially in combination with the aforementioned use of representative circuit categorizes, and evaluation at even lower levels of granularity, such as circuit and branch rather than section and node. Additionally, IOUs are already planning to incorporate DER growth scenarios into the application of ICA for the distribution planning use case, and have identified multiple approaches for doing so.

While initial implementation of such simplification is clearly a non-trivial task, it represents a relatively small incremental effort and will reduce scenario programming and data processing time by orders of magnitude. The non-IOU stakeholders are not convinced that the methodology and technical requirements necessary for the policy application are so different from the distribution planning applications such that they require implementation of this as a separate framework. It is entirely possible that if policy applications were included in the ICA refinements at this time that a single methodology could be developed that could serve all anticipated applications, or at least combining policy use development capabilities with either

planning or simplified interconnection methods if these two warrant different frameworks or approaches. Depending upon the approach and degree of simplification, the resulting model could potentially be directly accessible to Energy Division staff and even stakeholders to trial various proposals, including those associated with transportation and net zero energy building electrification.

*6. Please comment on the appropriate manner in which ICA data should be validated on an ongoing basis.*

see Attachment 1, Issue 1

This topic is of the highest priority and should be discussed at the upcoming workshop.

The IOUs should develop a data validation and QA/QC methodology for ICA results. Each IOU should submit regular reports to the Commission demonstrating the results of their validation efforts until the Commission issues an order accepting the accuracy of its ICA results. Independent third party validation of each ICA's methodology and results appears warranted in this process.

The Clean Coalition continues to recommend that results be cross referenced both by a) applying each IOUs' methodology to a common set of reference circuits and by b) analyzing a sample of each IOUs' circuits in a common reference methodology. Such a reference methodology should not be assumed to be more accurate, but will serve to highlight inconsistencies that warrant understanding and explanation.

Ultimately, to the extent that ICA value categories correspond to those used in interconnection and planning processes, both utility and external users should have confidence that the reported ICA values are reliably comparable.

*7. Please comment on the necessity and efficacy of consistency between ICA dataset and map functionality among the IOUs.*

To the extent practicable, the default presentation of data and appearance of mapped information should be consistent. Where technical factors do not inhibit this, there is no excuse for inconsistency and the resulting potential for confusion, misinterpretation, or incompatibility of data format and presentation. While differences in software providers and datasets may result in some necessary variation between utilities, it is appropriate to utilize similar default symbols,



colors, scales, base map layers, naming conventions and data formats. This in no way prevents any utility from offering additional alternative information display or formatting to the extent they believe is warranted related to their own processes and customs, circumstances, or regional user feedback. However, both for the interconnection use case, and for the policy planning use cases, users will benefit from standardization when comparing information between utility service territories.

*8. Please comment on ways in which the online ICA maps can be improved in terms of user functionality.*

see Attachment 1

Additionally, it is important to coordinate ICA values with the ratings of equipment seeking interconnection which are typically expressed in kW. Applicants would prefer ICA values to be expressed in kW, rather than volt amperes, however if this is impractical due to the nature of the data sets used by any individual utility, then the applicable voltage information for each ICA value must also be displayed such that a user can determine the kW hosting capacity for load and generation.

*9. Are the IOUs' interpretations and applications of the 15/15 customer confidentiality rule as applied to certain circuits in the ICA analysis correct factually and legally? Your response must include specific references to the facts and the law that support your response. This question is being asked in light of Pacific Gas and Electric's data response to IREC\_\_002-01, San Diego Gas & Electric's data response to IREC-SDG&E-DRP-002, and SCE's data response to IREC-SCE-002, all served on May 29, 2019.*

Clean Coalition staff had not had time to evaluate this in detail, but note that SDG&E has inappropriately redacted all information about any circuit to which the 15/15 confidentiality rule applies, as opposed to only data that allows the identification of a customer's load profile. All IOUs should display the location of circuits as this does not violate customer confidentiality. Additionally, data should be redacted only to the minimum required to meet the 15/15 rule as applied to a node, line section, or circuit. To the degree that data can be aggregated across a larger portion of the circuit, or displayed for other portions of a circuit, it must be displayed.

Likewise, redacted data should be identified as such and distinguishable from locations where data is unavailable for technical or other reasons.

*10. Should the ICA Working Group be (re)convened to address any of the issues identified in the questions above?*

Yes. Coordination between IOUs is very important both to ensure consistency in methodology and results, and to a common understanding and planning for future development. It is essential to consider future development when designing data programming so as to incorporate foreseeable needs for flexibility - failure to do so creates a likelihood for implementation of IT methods and approaches that will either severely limit the ability of the ICA to respond to evolving data availability and applications, or require extensive and costly redesign to in these circumstances.

Input from stakeholders and Energy Division staff has proven to be both appropriate and invaluable in defining and addressing ICA methodology requirements for anticipated applications, and proposals will require evaluation of the methodology and technical requirements' effectiveness, costs, and limitations, and reviewed through a stakeholder forum. As such, a consulting working group open to all parties is essential to identify and resolve issues, and to report to the Commission regarding consensus and non-consensus options. That said, working group meetings may be only be scheduled as needed to address specific issues, and may be conducted via web conference unless the weight of issues warrant longer in person meetings.

#### **IV. CONCLUSION**

The Clean Coalition appreciates the opportunity to submit these comments in response to the Ruling. Even at this early stage, the ICA data now available is highly valued by applicants, as was the earlier RAM interconnection map data when it became available. While serious questions have arisen regarding the quality and accuracy of some initial results, particularly in PG&E territory, we are confident that these will be addressed. The state's distribution infrastructure is the largest component of ratepayer expenditure and the critical bottleneck in deployment of DER - detailed visibility into the current capacity of this infrastructure and forecast scenarios is invaluable in guiding resource optimization, future policy, and investment. We support the Commission's continued and evolving efforts in this proceeding to assess the

grid's capacity, impacts of DER and locational factors such that the benefits may be realized for ratepayers at large, individual customers, and communities.

Respectfully submitted,



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Kenneth Sahm White  
Director, Economic & Policy Analysis  
Clean Coalition

Dated: August 1, 2019

Attachment 1: ICA Map Issues  
(Prepared by IREC in collaboration with Clean Coalition and other stakeholders)

## VERIFICATION

I, Kenneth Sahm White am the representative for the Clean Coalition for this proceeding. I am authorized to make this verification on the organization's behalf. The statements in the foregoing document are true of my own knowledge, except for those matters that are stated on information and belief, and as to those matters, I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.  
Executed on August 1, 2019, at Santa Cruz, California



Kenneth Sahm White  
Director Economic & Policy Analysis  
Clean Coalition  
16 Palm Ct.  
Menlo Park, CA 94025  
831.295.3734  
sahm@clean-coalition.org