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
(NOT CONSOLIDATED)	
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 DISTRIBUTION REVISED ASSUMPTIONS AND FRAMEWORK DOCUMENT PRESENTED BY JOINT IOUs.

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I. Introduction

Accurate growth forecasting is critical to intelligent planning not only to accommodate the organic growth in load and Distributed Energy Resources (DER) but also to foster the appropriate growth in supply and load mitigation that will be necessary to meet California's greenhouse gas emissions targets. In order to ensure that the increase in DER is managed effectively and without either overinvestment or creating new barriers to DER deployment, the Clean Coalition recommends that DER growth forecasting:

1) Include in front of the meter (wholesale or "grid side") generation and storage resources into forecasts to ensure that all impacts on distribution grids are adequately accounted for.
2) Incorporate the impacts of policy and economic changes on the rate and scope of DER deployment throughout all cases.
3) Develop additional use cases representing a high growth DER deployment scenario to evaluate downside risks of an underestimate of DER deployment.

II. Include in front of the meter wholesale resources in planning.

The failure to forecast or account for wholesale in-front-of-the-meter storage or generation risks making substantial errors in distribution grid needs. As currently structured, interconnection of any wholesale IFOM storage or generation facilities would use existing feeder capacity reflected in the integration hosting capacity assessment (ICA). However, since these IFOM interconnections would not be modeled, the planning process would be blind to the impact on hosting and load serving capacity. As a result, distribution planning would be likely to conclude, erroneously, that certain segments have remaining capacity that they may not actually have. This issue is particularly critical because the allocation of interconnection costs to wholesale DER developers under Rule 21 means that developers will prefer to develop projects on precisely those areas with excess hosting capacity. Arguments that wholesale facilities can be ignored because developers pay for necessary upgrades fail to recognize that developers have an incentive to site projects on precisely those segments where their projects would use existing capacity rather than triggering upgrades.

The distribution planning process and growth forecasting should aim to estimate such wholesale deployments. While such developments would be "large and lumpy" in many instances, it is precisely their size and bias toward segments with capacity that mandates that some effort to account for such projects should be made. While some wholesale deployment may be difficult to predict, growth in many local markets can be substantially predicted and forecast, based upon historic trends, current interconnection queues, and planned procurement. Indeed, the rapidly growing CCA segment is widely specifically targeting local wholesale distributed generation and other DER within their well defined local service areas. We note also that the growth in BTM capacity has itself varied substantially from prior forecasts and clearly does not define a category that is necessarily any more predictable than wholesale DER.

Such forecasts could be made in consultation with wholesale DER developers in concert with the kinds of parcel level analyses used already for BTM DER forecasting by PG&E. Wholesale DER developers should be able to provide reliable indicators of quality siting opportunities in terms of factors such as the solar siting opportunity, zoning, building ownership and distribution grid characteristics, to score parcels for load growth including "attractiveness for future residential, commercial, industrial, or agricultural load growth" including zoning limitations just as is done with BTM retail DER estimation. By identifying the most likely and valuable wholesale DER sites, the IOUs would be in a better position to locate potential problem areas before serious capacity constraints arise. Although such predictions would not be perfect, a general forecast would nonetheless represent a significant improvement over methodologies that are blind to wholesale DER developments.

PG&E correctly characterizes its approach to predicting BTM DG is also probabilistic, which is nonetheless results in improved planning. Just as PG&E's forecasts of BTM installations incorporate evaluation of technical potential and system sizes, a similar approach can be used to give some estimate of wholesale IFOM installations.

III. Incorporate policy changes to revise DER growth projections.

DER forecasts must be responsive to policy and economic shifts, because the market for DER deployment changes rapidly in response to such changes, such as rate design, Zero Net Energy mandates, Net Energy Metering protocols, federal income tax credit extensions, technology cost designs, "local energy" product offerings, or even promotions by various companies (e.g. attractive lease deals), and the like. SCE makes a solid case for updating PV and ES forecasts based on recent policy changes coming into effect since the most recent IEPR submissions. PG&E and SDG&E could either develop similar estimates or use SCE's estimates for the changes in growth trajectories based on policy changes as an input to adjust deployment forecasts to account for such changes in an approach like SCE's methodology.

IV. Develop a high DER growth use case

Growth forecasts should include a high DER growth case in addition to the trajectory/ most likely use case to evaluate the risks associated with underestimates in DER deployment. As recognized throughout the Revised Assumptions and Framework Document, DER deployment can be difficult to predict and highly responsive to changes in policy and economics, elevating the risks to reliability posed by underestimates in the trajectory/ most likely use case.

To address this risk, forecasts should also identify a high DER deployment case based on marginal increment that could be induced with changes in policy or investment. Such a forecast could either be done based on a higher system level forecast that is then allocated as with the trajectory/ most likely use case, or as a bottom-up assessment of marginal DER deployment sites. In this approach, the analysis would leverage the parcel level analysis of BTM and IFOM DER deployment sites and to identify the "next best" sites that are not included in the trajectory/ most likely case for DER deployment but that would be the most likely deployment sites among the remaining sites. Thus, the high DER forecast could use the criteria and methodologies developed for the trajectory/ most likely case to evaluate where issues might arise should those projections turn out to be underestimates of the rate of DER deployment. To a certain extent, this approach bears some conceptual similarity to the SCE Generalized Bass Diffusion Model in attempting to develop estimates both based on allocation of projected system deployment as well as on future growth rates, taking into account historical rates of adoption and changes in costs in PV systems. In a similar vein, the high DER deployment case could incorporate estimates of future growth rates to assess where issues are next most likely to arise should the trajectory/ most likely use case underestimate deployment.

V. Conclusion

Reliable forecasts must include the full suite of DER, including IFOM developments and be able to respond to the rapid changes in the policy and economic environment. Furthermore, ensuring reliability requires evaluation of the issues that would arise should forecasts prove too cautious. Although these approaches would require additional methodological development, these tools are likely to become increasingly valuable as these factors become bigger elements in the operation of the distribution grid in future rounds of DER planning.