

**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)

**REPLY COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION ON DISTRIBUTION RESOURCES PLANS
PURSUANT TO RULEMAKING 14-08-013**

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I. INTRODUCTION

The CAISO takes this opportunity to expand on two topics that were mentioned in the comments submitted September 5, 2014, and discussed further at the Commission's September 17, 2014 workshop. As discussed in more detail below, the CAISO recommends two practical approaches the Commission should take in this proceeding and future distribution resource plan (DRP) filings to effectively incorporate distributed energy resources (DERs) into the electric system in support of California's energy and environmental policy goals.

II. COMMENTS

A. To Enhance California's Procurement and Infrastructure Planning Activities, the CAISO Recommends a Two-phase Approach to Integrating DERs Comprised of the Initial 2015 DRP filings and an Ongoing Biennial Distribution Planning Process.

To achieve the goals of this proceeding, and California more generally, the CAISO recommends a two-phase approach to distribution planning. The first phase should focus on the near-term goal of providing guidance to the investor-owned utilities (IOUs) for the July 1, 2015 DRP filings required by statute. A primary prerequisite for those filings to identify optimal locations for DER is a robust assessment of the existing

capabilities of the IOUs' distribution systems to accommodate additional DER, taking into account the distribution infrastructure enhancements already in progress or committed. This assessment will establish a baseline for guiding near-term DER location decisions and for considering future enhancements to the distribution system.

As part of this near-term phase, the CAISO also urges the Commission to recognize the linkage between future DER development estimates and the Commission's annual renewable resource portfolios (RPS portfolios) provided to the CAISO for use in the CAISO's transmission planning process (TPP). The RPS portfolios include estimates of future distributed generation (DG) development, specifying geographic distribution as well as total megawatt quantities. The CAISO believes that the IOUs' upcoming DRPs should contribute to improving the accuracy of, and potentially increasing the quantity of DG in the RPS portfolios, starting with the 2016 RPS portfolios for the CAISO's 2016-17 transmission planning process. These RPS portfolios are also used by the CAISO to assess DG deliverability status to enable these resources to qualify for resource adequacy capacity. Resource adequacy contracts represent an important revenue stream for supply resources, and improved alignment of the RPS portfolios with actual DG development could enhance DG's resource adequacy eligibility.

For the second phase, the CAISO recommends a longer-term view that looks beyond current distribution system infrastructure capabilities to identify optimal locations where cost-effective distribution upgrades, combined with least regrets distribution investment, could enable DER expansion that reflects other factors besides grid capabilities. For example, ongoing distribution planning should recognize the following: (1) areas of the state that are highly desirable for DER development due to the quality of the underlying solar or wind energy resources, (2) composition of the customer base that indicates a likelihood of high customer adoption rates of the various DER technologies, and (3) local jurisdiction implementation of an energy plan or climate action plan tailored to its own citizens and businesses.

Because most parties seem to agree that the industry movement toward more DERs will be driven to a great extent by customer desires, creating linkages between distribution planning and the factors motivating customer interest and innovative energy business activity could provide a more solid basis for California's other procurement and planning activities. The ongoing biennial DRP process would provide regularly updated

estimates of future expansion of DER with sufficient locational granularity for technical studies to assess requirements for additional supply resources and transmission infrastructure upgrades. This in turn will help the Commission develop methods to evaluate the benefits that DER can provide both to the electricity system and to the advancement of state policy goals.

Finally, because the LTPP and the TPP both use a 10-year planning horizon, and given the importance of consistency among the state's procurement and infrastructure planning processes, the ISO recommends DRPs be performed looking 10 years forward using assumptions for DER development consistent with those used in these other processes. Using this planning horizon in a biennial DRP process will provide valuable information on future distribution system needs to support the amount and geographic distribution of DER anticipated in the RPS portfolios.

B. To Provide a Useful Framework for Addressing the Broader Range of Issues in this Proceeding, the CAISO Recommends an Initial Focus on Distribution System Operation under High DER Penetration.

The initial comments filed on September 5, 2014, the discussions at the Commission's September 17, 2014 workshop, and the Commission's OIR raised a broad spectrum of questions and issues that need to be addressed to produce a 21st century electric system that emphasizes clean, diverse, DERs and expanded customer choice, and control over energy sources and their use. The issues span across market products, services and mechanisms, regulatory and ratemaking changes, procurement procedures, economic and non-economic benefits of DER, interconnection, operational requirements and more.

To chart a logical path toward resolution of the comprehensive set of issues, the CAISO suggests that the proceeding focus initially on the operation of the distribution system, including enhancements to distribution system infrastructure¹ to support operations. This includes determining what is required for safe, dependable, efficient operation of the distribution system and the transmission-distribution interface given

¹ Given the expected impacts of high DER penetration on distribution system operations, any consideration of infrastructure enhancements must include communications and control systems as well as electrical infrastructure.

high volumes and diversity of DER. This starting point will provide the foundation upon which the Commission and the parties will be better able to address the other issues.

A fundamental fact about the electricity system is that in order to achieve its essential mission to serve customers in a manner that aligns with public policy goals, the system must operate safely and dependably. This proceeding recognizes that the expansion of diverse DER in the coming years will require changes to traditional distribution system operation. Industry transformation of this magnitude will not provide any relief from the laws of physics, and experience shows that modifying a complex system through policy, market and other enhancements, without due consideration to the laws of physics, risks disaster. Therefore, the core requirement for advancing the participation of DER and minimizing the risk of adverse unintended consequences will be to develop a new operating paradigm for the distribution system, including determining how distribution will effectively interface with the transmission system in the high-DER context.

Many parties pointed out in their comments that the proliferation of DER is driven from the bottom up, due to the increasing capabilities and affordability of new distributed technologies, and the desires of customers for greater choice and control over their sources and uses of energy. In this way, the current transformation of the industry is very different from the major industry restructuring that occurred in the 1990s, which was driven from the top down by policy directives. One implication of this is that it is difficult to predict at this time the path of industry evolution and the technological innovations that will emerge and be most successful. Therefore, the operating paradigm for the future high-DER system must (1) be robust and open to a wide diversity of new types of DER, and (2) refrain from setting requirements that unnecessarily constrain innovation.

For the foregoing reasons, the CAISO recommends that the Commission sequence the issues in this proceeding by starting with operational and infrastructure requirements. This basis will provide a solid foundation for realistically addressing the entire scope of issues involved in designing the high-DER electricity system.

III. CONCLUSION

The CAISO appreciates the opportunity to submit these comments and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

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