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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 796.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters.	Application 15-07-007 Application 15-07-008

COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

I. Introduction

Pursuant to the Assigned Commissioner's Ruling on Track 3 Issues (Ruling), the California Independent System Operator Corporation (CAISO) submits these comments regarding the consolidation and prioritization of issues in Track 3 of this proceeding. The CAISO generally supports the consolidation and prioritization of topics proposed in the Ruling, but it also recommends instituting a fourth sub-track to address distributed energy resource (DER) control and operational considerations in planning. The CAISO urges the Commission to prioritize sub-track 1, regarding DER adoption and distribution load forecasting ahead of the other two sub-tracks. As proposed in the Ruling, sub-track 1 would address critical issues regarding the forecasting of DER adoption and coordination with ongoing forecasting and planning activities in the Energy Commission's Integrated Energy Policy Report (IEPR), the Commission's the long-term procurement plan (LTPP) and integrated resource plan (IRP)

proceedings, and the CAISO's transmission planning process (TPP). The CAISO also recommends prioritizing sub-track 3 to define future distribution planning processes before addressing the grid-modernization issues in sub-track 2. The CAISO discusses these recommendations in detail below.

II. Discussion

The CAISO responds to the specific questions posed in Ruling below.

Ruling Question 1: Should items 3, 8, 9, 15, 18, 20, 21, and 22 from the list in the Scoping Memo be grouped into the three sub-tracks described above? Should any other items from the Scoping Memo list be included in one of the three sub-tracks?

The CAISO supports and appreciates the Commissioner's effort to identify and distill core policy issues into manageable sub-tracks. The grouping of identified topics proposed in the Ruling is reasonable; however, the CAISO recommends that the Commission add a fourth sub-track to address operational issues, as discussed in response to Ruling question two, below.

Ruling Question 2: Should any additional sub-track be established? If so, which of the items in the Scoping Memo list would be included? Provide a detailed justification of the need for the additional track, describing specifically what issues need to be addressed and why.

The CAISO recommends that the Commissioner add a fourth sub-track called *DER Control and Operational Considerations in Planning* to address operational issues that should be considered in the distribution planning process. The fourth sub-track would capture topics #1, Definition of distribution services; #2, Competitive neutrality, grid neutrality, and third-party ownership of DERs; #4, Control over dispatch of DERs; and #6, Roles and models of DER deployment. These four excluded items are not adequately addressed in other tracks or proceedings, and they capture important operational issues, such as the details of distribution services provided by DERs, and associated control over, use of, and dispatch rights for DERs. These issues must be addressed and understood in the context of the planning process. For example, the operational rights to a DER, and how that DER is used and managed could impact how a DER qualifies as an alternative type of distribution asset in the distribution planning process.

Unlike traditional distribution assets and infrastructure (wires and transformers), DERs are energy producing resources co-located on the distribution system, often interconnected

behind a customer meter, and they may have fuel, storage capacity, or other limitations. Dispatchable DERs can potentially deliver value by offering multiple energy services to different parties, including to the end-use customer, the distribution grid, and the bulk power system. In other words, DERs can serve multiple uses and capture multiple value streams that extend beyond the mere value to the distribution system alone. The ability to deliver multiple energy services to different parties, particularly if and when delivered simultaneously, is complex and raises many unanswered policy questions that impact the use and operation of DERs and, ultimately, how DERs are incorporated into distribution planning inputs and assumptions. Certain multiple-use application issues are being vetted at the Commission, in the energy storage proceeding and other proceedings; however, there is no clear link to how the multiple uses, rights, and obligations of DERs will be considered in the distribution planning process and what the appropriate inputs and assumptions are. Given that disparate entities could potentially claim rights to the capacity and energy production associated with an individual DER, to better inform the planning process, the Commission should consider operational issues such as (1) who has control and dispatch rights over DERs, (2) how are the different uses and obligations prioritized in certain situations when dispatch rights can be exercised, (3) how do these multiple uses and rights impact the distribution planning process, and (4) how can the distribution utility best facilitate DER participation in the wholesale market. Issues #1, #2, #4 and #6 capture these operational concerns and, therefore, should be expressly considered as a separate sub-track called *DER Control and Operational Considerations in Planning.*

Ruling Question 3: Should the proceeding address three sub-tracks, and any additional sub-track you recommend, in any particular order? Provide your rationale for the recommended prioritization.

As a first priority, the Commission should address in parallel sub-track 1: DER Adoption and Distribution Load Forecasting and the CAISO's proposed sub-track 4: DER Control and Operational Considerations in Planning. The Commission should then address sub-track 3: Integration of Distribution Resource Plans (DRP) into Planning and Cost Recovery Processes as a second priority. Sub-track 1 should address the need for rigorous, repeatable methods and processes to develop DER adoption forecasts and planning scenarios, with sufficient locational and timing granularity to inform other infrastructure and resource planning activities. Sub-track 1

should also specify coordination links between IEPR, TPP and Commission procurement proceedings, to ensure these different activities utilize common information and assumptions.

As the CAISO has stated in previous comments in this proceeding, credible forecasts of DER adoption and their impacts on load forecasts are critical to ensuring that DERs are accurately represented in other state planning and procurement activities. Absent a structured and process-aligned framework to forecast DER growth, uncoordinated and inefficient outcomes may result in other planning and procurement processes such as the IRP and TPP. Accurate and sufficiently granular forecasts of DER growth and output are fundamental to informing what cost-effective infrastructure and capacity additions are needed to meet the state's long-term policy goals and reliability needs. Establishing such methods, processes and process linkages first is fundamental to addressing grid modernization, investment and cost recovery concerns (the subject of sub-track 2).

Considering the CAISO's proposed sub-track 4 parallel to sub-track 1 will be valuable because it will address several questions that are critical to forecasting the behavior of DERs and DER aggregations and, hence, their impacts on load forecasts and planning scenarios. The Ruling states that item #1, definition of distribution services, should be identified in Track 1 of this proceeding. However Track 1's methodological issues and associated demonstration projects do not go far enough. Distribution services that DER can provide need to be specified in sufficient detail so DER providers will have clear performance requirements and expectations of how their performance will be measured and compensated. The availability of these services to the distribution utility and of the corresponding revenue streams to the DER providers will affect DER growth rates.

Item #2 also involves issues that are relevant to distribution planning and DER growth. Many DER providers seek to develop resources that can participate in the ISO's markets. The quality of services DER can provide to the ISO will depend critically on distribution system conditions; however, at this time there are no procedures for the distribution utility to (1) inform either the CAISO or the DER providers of how current conditions may affect the feasibility of DER responses to CAISO dispatches, or (2) coordinate DER participation in the ISO market with the distribution company. These gaps create uncertainty for all three parties, ultimately affecting the viability of DER as grid service providers. Moreover, these questions are inherently intertwined with item #4 and item #6 which address, respectively, situations where

DER or DER aggregations may provide services to both the distribution company and the ISO in the same operating interval, and the appropriate role of the utility as distribution service provider in a high-DER electric system in which DER depend on access to the wholesale market. For these reasons, the CAISO urges the Commission to address sub-tracks 1 and 4 in parallel as a first priority.

In addition to the longer-term DER forecasting that will inform planning and procurement as envisioned in sub-track 1, Commission should also recognize the importance of short-term DER forecasting. The CAISO and Commission should work collaboratively to address short-term forecasting needs related to DER deployment and operation. In this context, "short-term" forecasting is defined to encompass forecasts from intra hour up to two weeks out.

Short-term load forecasting is critical to the reliable operation of the balancing area and is a fundamental input to basic reliability and dispatch functions such as unit commitment, economic dispatch, fuel scheduling, and scheduling generation and transmission maintenance. At this time, the CAISO is not aware of any requirement for DER providers to provide real-time visibility to transmission or distribution grid operators. Lack of DER visibility contributes to operational challenges facing the CAISO caused by less accurate short-term load forecasts. Thus, in addition to longer-term forecasting, short-term forecasting should be given attention in sub-track 1 as part of an overarching discussion on forecast information and techniques needed to create more accurate forecasts for operational and planning purposes.

The CAISO also recommends that the Commissioner take up sub-track 3 before sub-track 2. Sub-track 3 should establish needed process coordination to inform grid modernization investment proposals and decisions that are the subject of sub-track 2. The CAISO has argued in prior comments in this proceeding that distribution planning should be aligned with the Energy Commission's IEPR demand forecasting process, the CAISO's TPP, and the Commission's LTPP because distribution planning, transmission planning, and resource procurement processes are all interrelated, need to inform each other, and utilize the IEPR demand forecast as a central input. This is even more critical under Senate Bill (SB) 350, the Clean Energy and Pollution Reduction Act of 2015, with the development of the IRP and coordination with the Air Resource Board's Scoping Plan. For these reasons, a collaborative team from the Energy Commission, the Commission, and CAISO developed and documented the alignment of these three processes and

have collaborated annually to specify assumptions and scenarios for planning and procurement.[1] At the present time, there is considerable uncertainty regarding how distribution planning will be done in the future. Distribution planning is currently bifurcated into (1) the DRP process, which may have been only a one-time filing in 2015 or, as the Commission suggested in prior rulings, may become a recurring process, and (2) the traditional annual utility infrastructure planning activities that implement the investment authorized in each utility's general rate case (GRC). The CAISO recommends that the Commission explicitly consider how distribution planning should be done going forward, as the descriptions of sub-track 3 and items 20-22 suggest, before taking up grid modernization under sub-track 2. Defining the future distribution planning process and clarifying the relationship between the DRP, the annual utility infrastructure plans and the GRCs (sub-track 3) and establishment of a recurring process for developing credible DER growth scenarios for planning (sub-track 1), are important prerequisites for establishing an optimal plan for grid modernization investment (sub-track 2).

Respectfully submitted,

By: *<u>/s/ Jordan Pinjuv</u>*
Roger E. Collanton
General Counsel
Anna A. McKenna
Assistant General Counsel
Jordan Pinjuv
Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
T – (916) 351-4429
F – (916) 608-7222
jpinjuv@caiso.com

Attorneys for the California Independent
System Operator Corporation

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[1] Note that sub-track 1 should result in a needed enhancement to the IEPR process for a high-DER future, which reinforces the positioning of sub-track 1 as first priority.