



Comments of Pacific Gas and Electric Company on the California ISO Demand Response and Energy Efficiency Roadmap - June 12, 2013 Draft

Submitted by	Company	Date Submitted
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Pacific Gas and Electric Company (“PG&E”) appreciates the opportunity to comment on the California Independent System Operator Corporation (the “CAISO”) Demand Response and Energy Efficiency Roadmap (the “Roadmap”) June 12, 2013 draft, presented to the California Energy Commission on June 17, 2013. PG&E looks forward to continued participation in the CAISO’s and California Energy Commission’s (the “CEC”) activities related to Demand Response and Energy Efficiency.

Comments

PG&E acknowledges the significant effort the CAISO has made to obtain and incorporate stakeholder input into this Roadmap. While PG&E believes aspects of the Roadmap still require further improvement, the Roadmap provides a good starting point to having an orderly and well thought out process to address many stakeholder concerns.

More broadly, PG&E appreciates the CAISO’s willingness to place a greater consideration of demand response (“DR”) and energy efficiency (“EE”) in its system planning and operations because they can contribute to long- and short-term system reliability. In addition, PG&E believes that other demand-side resources such as dynamic rates and Permanent Load Shifting (“PLS”) should be incorporated into CAISO planning and operational forecasts. Significant ratepayer investment has been dedicated to the development of these resources, and PG&E supports their utilization and incorporation in generation and transmission planning. PG&E encourages a collaborative process involving the CPUC, CEC, the CAISO, Load Serving Entities (“LSEs”) and other stakeholders to flesh out the appropriate role for DR and EE in California’s electric system planning and operations activities. PG&E recommends that the CAISO commence informal discussions with key stakeholders, including the DR Collaborative, so that issues can be worked out before any formal proceeding or process begins.

It is necessary to distinguish between the types of DR available and their associated capabilities. PG&E supports DR being incorporated as a supply-side resource such as Proxy Demand Resource (“PDR”) and Reliability Demand Response Resources (“RDRR”) when the benefits of

such incorporation justify the costs. However, it must be recognized that integrating DR as a supply-side resource incurs significant additional costs that must be justified by additional value.

At the same time, the CAISO should integrate demand-side DR programs into the CAISO's daily load forecasts as well as longer term planning forecasts. PG&E supports the idea of incorporating demand-side DR as load reshaping. This is a reasonable approach as long as the value of demand-side DR resources is recognized in this process. The primary goal of all modeling of demand side resources should be to ensure that ratepayer investments in those resources are fully utilized. PG&E notes that successful integration of both supply-side and demand-side DR in the wholesale market will hinge on the CAISO implementing several changes to its systems and operations, some of which are indicated in the timelines contained in the Roadmap.

The following are PG&E's responses to specific items discussed by the CAISO on the four parallel paths identified in the Roadmap.

Load Reshaping Path

- Page 4: *"One strategy for this path, discussed further below, is to provide locational and time-varying market signals to elicit demand-side responses that align with system conditions. For example, in conditions of over-generation, appropriate signals could trigger increased consumption by consumers able to modify their consumption."*

Providing real time pricing at the retail level is not consistent with the current retail rate structure. However, PG&E supports the concept of using demand-side resources to better align demand with system conditions and to modify the long term load shape to reduce the need for additional generation and transmission infrastructure. LSEs should translate CAISO market prices and other resource costs into demand side programs to re-shape the load, manage costs and maintain reliability. This could be achieved by 1) revising retail rates to support consumption during periods of over-generation and efficiency/conservation during peak load periods; 2) target EE and load-reducing DR to the net peak load period(s) of the day; and 3) target load-generating DR to the periods of over-generation.

- Page 6: *"The ISO sees great potential benefits to be realized through a proactive approach that geographically targets EE programs and incentives to reshape the load profile in specific areas of the system."*

PG&E agrees with this approach, and believes EE can help to slow or eliminate the need for new transmission or generation in some local areas. It will be important to include the full impact of EE programs in both the CAISO forecasts and in the Transmission Planning Process. This might be more effectively realized if the incremental locational and time-of-day value of an EE measure (depending on how it is deployed) is reflected in the benefit/cost analysis for demand-side resources allowing program administrators to offer incentives that reflect the localized value of the resources.

- Page 6: *"The Demand Analysis Working Group (DAWG), a CEC-led collaborative stakeholder effort that estimates EE program impacts for input into the Integrated Energy Policy Report (IEPR) demand*

forecast, will play an important role in assessing the load-shape impacts of different EE programs and identifying which ones would to be most effective in offsetting the need for new generating plants.”

PG&E believes the above statement mischaracterizes the current role of the DAWG. The DAWG is currently structured as a stakeholder forum and not a decision making body. While the DAWG charter could be expanded to include the role stated above, the DAWG is not currently organized in a way that would support such analysis.

- Page 6: *“A critical need for the ISO is to accurately account for EE impacts in planning transmission upgrades and in determining future resource requirements (i.e., local capacity requirements for the resource adequacy program, and system-wide flexible capacity requirements). The state’s demand forecast, developed biennially through the CEC administered IEPR process, is foundational to system planning and resource need determination. The CEC is working to increase the locational granularity of EE forecasts for the 2013 forecast that will be finalized later this year, and will further that effort for the 2015 IEPR cycle.”*

PG&E supports improving the granularity of EE forecasts and requests that these be closely coordinated with the IOUs. Energy efficiency can play an important role in meeting local area needs, and IOU planning teams working collaboratively with the CAISO, CEC and CPUC can identify areas where demand-side resources can help address identified system needs and develop EE projects or programs to meet those local needs.

- Page 6: *“Another high priority near-term activity is to clarify the classification of each of the various DR programs as either a load modifier or a supply resource. Load modifying DR should be properly accounted for in the demand forecast, whereas DR supply resources should not. Each DR program should be classified in only one of these groups, and the classifications should be maintained consistently across the various applications of the demand forecast.”*

PG&E agrees with this statement. All forecasted demand-side DR can be reflected in the State’s demand forecasts and should reduce the associated LSE’s RA requirement. This should include DR that may not be funded yet, as long as there is a reasonable expectation that the CPUC will continue to authorize funding for the programs (i.e. business as usual). Conversely, supply-side DR can be treated as RA capacity and would not reduce the demand forecast. Under such a regime, only DR that can be bid into the wholesale market, and which complies with the applicable must offer obligations, should be considered supply-side DR.

The upcoming CPUC DR OIR should be the key forum to establish the criteria for classifying the DR programs. These same classifications should be used in the CAISO operations forecasting, so that demand-side DR is reflected in the CAISO’s operating load forecast and supply-side DR is used as a resource to meet the operational need.

The Roadmap should also reflect that the transition of DR from the demand side to the supply side should begin with simpler DR products, so as to gain experience, before proceeding to more complex DR products.

- Page 7: *“In the 2014-15 timeframe, the ISO will work with stakeholders to develop practical approaches for conveying signals to customers to elicit shifts in energy consumption. During 2015-16, the ISO plans to conduct pilot programs that will provide insights into the effectiveness of these*

approaches in reducing load during times of high wholesale prices or contingency events, and in increasing load under low cost or excess generation conditions.”

Although current retail electric rate structures do not provide real-time price signals to customers, PG&E agrees with the CAISO that there is opportunity for a range of price signals to incent conservation or shifts in energy consumption. In fact, the IOUs currently have programs in place that enable critical peak price signals, such as PG&E’s SmartRate and Peak Day Pricing program, as well as optional Time-of-use (“TOU”) rates for residential customers. PG&E supports a collaborative process to develop practical approaches for communicating price signals to customers, and suggests that the CAISO work with the IOUs and Demand Response Providers (“DRPs”) to assess the effectiveness of existing pricing programs in communicating price signals that cause desired energy use behavior changes. However, the CAISO should focus its efforts on items that it directly manages (i.e., RDRR, telemetry / metering requirements, eliminating WECC restrictions) rather than leading retail pricing pilots, which belong in the domain of the CPUC and LSEs.

- Page 8: *“Such reforms to retail rates will require state legislation by 2015-16, in time to align with CPUC approval of new rate structures. The CPUC already has some rate structure changes underway, including the implementation of mandatory time-of-use (TOU) rates and a phase-in of default critical peak pricing (CPP) rates for non-residential customers. These programs are designed to incentivize end users to reduce consumption under peak load conditions.”*

PG&E supports modifying rate structures over time through the existing regulatory process to incent desired energy use behavior changes during appropriate times of the day. This effort must be carefully tailored to account for the significant differences between customer groups. For example, because the bulk of residential customers will not be interested in or be able to be successful on a rate with prices that change frequently and / or significantly, a targeted opt-in approach may yield the most results. This will also be true to some extent for subsets of commercial, industrial and agricultural customers, but there are likely to be more non-residential customers that are highly price sensitive and would have the ability to adjust to new price signals. Further study and analysis of market potential within customer groups will be needed.

As a general principle, it should be recognized that driving significant shifts in how mass market customers think about using electricity (e.g., when it is most environmentally beneficial) takes years, if not decades. Given the rapidly evolving needs of the grid, we need to be thoughtful about what changes we ask of these customers; otherwise, we risk confusing and possibly alienating them.

Resource Sufficiency Path

- Page 9: *“On this path the primary need for greater coordination among California’s regulatory agencies and the ISO is to align the processes upon which resource sufficiency depends. The forecasting, planning and procurement processes of the CEC, ISO and CPUC must be aligned in terms of timing, so that common assumptions can be agreed upon for projected amounts of DR and EE, supported by analysis using agreed-upon methodologies. To this end the agencies also must*

agree on performance verification methodologies for DR, EE and other non-conventional resource types.”

PG&E supports an effort to align the forecasting, planning and procurement processes of the CEC, CPUC and the CAISO. All demand-side resources that are reasonably expected to be available in future program cycles should be included in the planning forecasts used by the CEC, CPUC and the CAISO. PG&E suggests that long-term planning integration could be a focus of the CEC’s 2014 Integrated Energy Policy Report (IEPR) activities. The 2014 IEPR could provide the forum that the various State Agencies and other stakeholders are looking for to discuss and gain consensus around this important issue.

- Page 11: *“Building on the direction of the LTPP Track 1 decision and the ISO’s involvement with SCE procurement activities, this roadmap includes an initiative to develop a catalog of DR resource types with descriptions of their operational attributes. This fall as part of the 2013-2014 transmission planning cycle, the ISO will study two or three local areas to consider DR or targeted EE as candidate alternatives to a local transmission upgrade or a conventional generator. By the end of 2013, the ISO intends to have the first draft of a DR catalog that includes typical DR capabilities and offers initial indications of which configurations could effectively offset or at least defer the need for a transmission upgrade.”*

PG&E believes this project has the potential to provide good value to ratepayers. Given the CPUC’s apparent intention to extend the current DR program cycle by one year, the results of this project may inform the IOUs’ respective program design efforts for the next program cycle. Going forward, the CAISO should include other parties in its efforts to develop the necessary operational requirements for DR to effectively defer or eliminate the need for a transmission upgrade or new generation resource.

- Page 13: *“This roadmap also identifies a 2014 CPUC assessment of avoided cost benefits resulting from DR and EE applied as alternatives to transmission upgrades and conventional generation in local areas.”*

PG&E supports an effort to assess local benefits and avoided costs resulting from DR and EE. As noted earlier in these comments, there is an important nexus between identification of localized need and the translation of that localized need into localized avoided costs and, ultimately, into localized incentives for customers to participate in programs or projects that re-shape load in ways that are beneficial to all customers. Assessing localized avoided costs will require a significant re-framing of the current CPUC cost-effectiveness models. The 2014 avoided cost updates are a good starting point for this work, but the changes required to the framework go well beyond simply updating the avoided costs.

- Page 13: *“For purposes of counting DR resources towards the RA requirements of load serving entities, this roadmap identifies a need to revise the current CPUC practice of deducting expected DR capacity plus the planning reserve margin from the RA requirements, which effectively treats all DR programs as load modifiers. The roadmap proposes that the CPUC address this matter either during the 2014 RA proceeding or the new DR proceeding expected to begin later this year. Counting DR as a resource would allow aggregators to create programs that both qualify as RA capacity and can participate in the ISO market.”*

Currently, the CPUC treats DR as a supply-side resource for the purpose of meeting RA requirements. This is a change from previous years when DR was allowed to *reduce* an LSE's RA requirement. PG&E sees merit in instituting a hybrid approach in which DR that is not bid into the wholesale energy market would be treated as demand-side DR and would reduce the RA requirement as it did in the past, and any supply-side DR (i.e., that is biddable into the wholesale energy market) would be eligible for meeting the RA requirement.

PG&E recommends that no change be made to how DR counts for RA until the proper process steps have been taken at the CPUC. The first step would be for the CPUC to establish the criteria for what DR would be load reshaping and what DR would be a supply resource. Once this criteria is established, the CPUC can then address how the RA counting will take place in the RA proceeding that follows the CPUC Decision from the new DR OIR. The IOUs can then modify program to fit this criteria in the next DR cycle which now appears will start in 2016.

Operations Path

- Page 16: *"Another route for DR to gain access to the ISO's wholesale market is the participating load model. Under this model, demand-side resources can participate in ISO markets by increasing and decreasing consumption. Currently, the model only supports bidding into the market on the positive or "generation side," operating region of the resource. The ISO implemented a non-generating resource (NGR) model last year to enable energy storage participation through such positive and negative operating ranges. This model can be adapted through a stakeholder process to enable participating load to be a dispatchable demand resource (DDR) to support the ability of participants to more fully reflect operating capabilities to the ISO market."*

PG&E appreciates the CAISO suggestion of an alternative product to allow for DR participation into the CAISO's wholesale market. However, PG&E finds that the existing participating load ("PL") model adds additional complexity both internally (e.g., creation of custom laps, daily forecasting - scheduling (24x7), rigorous system-enterprise changes) and externally (e.g., adhering to all CAISO rules and regulations on equipment and agreements). The complexity presented by using PL is one of many reasons as why the stakeholders clamored for a less complicated product like PDR. Furthermore, the existing PL model does not allow for 3rd party DRPs to use the PL model if the 3rd party is not a Load Serving Entity for a customer load.

PG&E recommends that the Roadmap include modification of PDR so that it can be used for both increasing and decreasing consumption. This is needed so that flexible DR can be provided by a DRP, even if that DRP is not an LSE or is not the LSE for customers whose load is being bid. The PL and NGR models are too restrictive in that they only apply to load that belongs to the LSE doing the bidding.

In addition, the Roadmap should include modification of WECC rules to allow DR to provide Spinning Reserves and Regulation, as is the case in other RTOs. Allowing DR to supply these more valuable ancillary services will allow DR to be better utilized for the benefit of ratepayers.

- Page 16: *“The ISO will undertake an initiative to define standard capacity product for demand response. The standard capacity product provides a mechanism that offers an incentive or disincentive to a resource based on resource availability, reflecting whether it is providing the capacity value that it was procured for.”*

PG&E understands the CAISO’s rationale for this initiative but suggests that criteria for DR to be a generic or flexible capacity product be addressed in the CPUC’s RA proceeding once Direct Participation is finalized.

- Page 16: *“Working with the CPUC and the IOUs, the ISO intends to review existing CPUC-approved DR programs and integrate as many of these programs as possible into the ISO market by 2014.”*

PG&E understands the CAISO’s desire to integrate IOU DR programs into the wholesale market by 2014. There is much to be done before it would be possible for PG&E to bid more of its DR programs into the wholesale market by 2014. In the context of the Rule 24 proceeding, on June 28 PG&E submitted to the Energy Division a Gantt chart showing all of the actions that must be taken at the CPUC, PG&E and the CAISO to enable more DR to be bid into the wholesale market by summer 2014. However, if all of these actions are completed in time, the IOUs will still be subject to CPUC approval of budgets and cost effectiveness requirements for the DR programs. Therefore, this issue should be addressed in the upcoming DR OIR.

Again, the goal should not be to move all DR into bidding as a supply resource, but to move those DR programs for which the benefits justify the costs of such a transition. Furthermore, while there will be some sophisticated customers or DR aggregators who will be interested in interfacing directly with the wholesale markets to take advantage of the full range of opportunities, other customers and DR aggregators may not be interested in or capable of engaging directly in the intricacies of the wholesale markets. This latter group of DR providers will be critical to the continued growth and success of the DR market, so the mechanisms should be maintained for them to monetize and bring their resources to the market.

- Page 17: *“The roadmap also proposes the creation of a DR market participation guide, in cooperation with the CPUC and stakeholders, which will include ISO participation steps for DR aggregators who intend to get RA credit and therefore must participate in the ISO market”*

The Roadmap needs to have another task added to the effort for a DR market participation guide. This task would be to update the current CAISO DR User Guide, which is used to make sure demand side DR is properly recognized in CAISO operation and markets. This user guide was developed in 2007 and has not formally been revised since that time. However there have been significant changes in the CAISO markets and in the DR information that IOUs provide to the CAISO on a daily basis. Now that the CAISO is planning to recognize demand side DR as load reshaping, it is necessary to update this Guide to make sure that the value of this DR is fully captured in CAISO operations.

- Page 18: *“The roadmap identifies the need for a centralized system mapping customer service account locations to ISO pricing nodes to support registration for ISO market participation. It is the*

responsibility of the DR provider to perform this mapping prior to registering with the ISO. DR providers have advised that this information can only be obtained from the utility in which the customer service account resides, and there is no established process to get this information consistently. This tool will also be critical for consumer devices that do not participate in the ISO market, but respond to locational signals to map to the correct price signal. The ISO sees a need for the development and management of this central system and recognizes that this information is primarily held by the utilities. The roadmap contemplates an effort led by the CEC or CPUC with the timing to be determined.”

This effort is best led by the CPUC. As part of the CPUC’s Rule 24 process, it is expected that PG&E, SCE, and SDG&E will be required to provide the PNode, sublap, and possibly the Local Capacity Area of potential customers to the DRP as part of a standardized data request. The implementation date is not known at this time. Note in order to provide the PNode and Sublap to the DRP, PG&E will be reliant on the CAISO’s Full Network Model.

Monitoring Path

- Page 19: *“In order to ensure that the initiatives described in this roadmap are accomplishing their objectives, and to be able to design suitable modifications as needed, it is essential to design in, from the beginning, mechanisms for monitoring progress and outcomes and providing feedback to the people and organizations responsible for the initiatives. As the essential feedback loop to the other three paths, the monitoring path focuses on a number of key questions, including but not limited to:*
 - *Are committed DR and EE programs and resources being developed on schedule, to be in service and available by the time they will be needed?*
 - *Are the actual impacts and performance characteristics of DR and EE programs and resources at least as good as they were expected to be?*
 - *Are the DR and EE programs and resources that were targeted to achieve specific load shaping effects meeting those objectives?*
 - *Are DR product definitions and other provisions for ISO market participation attracting the expected volume and quality of DR resources?*
 - *What avoided cost benefits can be quantified for DR and EE programs and resources that offset the need for transmission upgrades or new generation investment?”*

PG&E supports the conceptual approach proposed by the CAISO. In order for DR and EE to be used to meet a local reliability need, there should be a process to ensure that these resources will be in place and providing the needed load impacts and energy savings. There are already extensive CPUC-required Evaluation, Measurement & Verification (“EM&V”) processes and reports in place for DR and EE, and expansion of DR and EE to meet CAISO needs should begin with looking at how to build upon the existing CPUC-approved processes.