BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Enhance the Role of Demand Response in Meeting the State's Resource Planning Needs and Operational Requirements.	Rulemaking 13-09-011 (Filed September 19, 2013)

REPLY COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) TO JOINT ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE RULING AND SCOPING MEMO

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I. INTRODUCTION

Pursuant to the November 14, 2013, *Joint Assigned Commissioner and Administrative Law Judge's Ruling and Scoping Memo* (Scoping Memo), Pacific Gas and Electric Company (PG&E) provides its reply comments that respond to opening comments and answers provided by parties in response to the questions in Attachment 1 of the Scoping Memo regarding foundational issues that will be reviewed in this rulemaking.[1/]

PG&E's reply comments are organized as follows:

- Section II responds to parties' comments regarding bifurcation of demand response into supply-side or demand-side resources.
- Section III responds to parties' comments regarding cost allocation of demand response under bifurcation.
- Section IV responds to parties' comments regarding the role of back-up generation and demand response.

1/ Responses to the Scoping Memo questions were submitted by Southern California Edison Company, San Diego Gas & Electric Company, The California Large Energy Consumers Association, the Office of Ratepayer Advocates, Olivine, Inc., National Resources Defense Council, the Sierra Club, the California Energy Storage Alliance, the Marin Energy Authority, the Consumer Federation of California, the Center for Energy Efficiency and Renewable Technologies, the Environmental Defense Fund, the California Clean Energy Committee, Stem, Inc. and SolarCity Corporation, EnerNOC, Inc., Johnson Controls, Inc., and Comverge, Inc. (Joint DR Parties), Direct Access Customer Coalition (DACC) and Alliance for Retail Energy Markets, the Clean Coalition, the California Independent System Operator Corporation, The Utility Reform Network, and Pacific Gas and Electric Company.

II. BIFURCATION

A. There is broad agreement among diverse parties on several important foundational points.

Throughout the responses to the Scoping Memo questions it is apparent that there is general agreement among most parties on most of the issues contained within the Scoping Memo questions. Such consistency is encouraging and should be heavily weighted by the Commission as it moves forward in this proceeding. PG&E highlights some of the key points of general agreement.

1. The definitions for supply-side and demand-side DR proposed in the Scoping Memo need to be revised and the purpose of the bifurcation made clearer.

A widely-shared point in parties' comments was the general lack of clarity in the Commission's proposal to bifurcate DR. In its current proposal, the Commission creates the appearance that it is bifurcating only for the sake of bifurcating but the terms and the overall purpose for bifurcating DR into "supply-side" and "demand-side" resources are unclear. If the Commission is intent on bifurcating DR, it should first identify the problem bifurcation is meant to address, which will likely shed light on how to separate the two categories. Once the problem that bifurcation is meant to address is identified, supply-side and demand-side DR should be clearly defined in a non-prejudicial manner. SCE makes a similar suggestion in its comments saying, "SCE has concerns with the proposed bifurcation terms and definitions contained in the Ruling. Based on these concerns, if the Commission decides to bifurcate DR programs, SCE recommends that the Commission first determine the appropriate terms and definitions for the classifications of DR programs." (SCE Comments, p.1-2.) Even then, it may be difficult to cleanly categorize a DR program as "supply-side" or "demand-side" because both types of DR will have the same or at least similar characteristics. As EDF states, "This definition is inadequate to pinpoint which resources should be considered demand- or supply-side – particularly when a resource has overlapping characteristics – and would require additional work to create the basis for 'insight' and 'action'." (EDF Comments, p.6) SCE expresses a similar view and describes the challenge of clearly separating supply-side from demand-side DR at pages 1 and 2 of its comments:

> The definitional terms 'demand-side' and 'supply-side' are confusing because all demand response (DR) programs rely on customers 'behind the meter' to modify their electricity usage in response to price signals or incentives, and can therefore be considered 'demand-side'. The proposed definitions imply that only those programs considered 'demand-side' would be load modifiers. This implication is confusing because all DR programs are customer-focused as they rely on customer enrollment and participation and provide load modification and market participation. The proposed definitions also imply that only programs identified as 'supply-side' are reliable and flexible. SCE does not agree that these qualifications are mutually exclusive because a DR program can be both customer-focused as well as reliable and flexible. For example, there may be programs classified as 'demand-side' that are reliable and flexible from a utility's local perspective even if the program does not meet the California Independent System Operator (CAISO) wholesale flexibility and reliability criteria or its current market rules.

On page 3 of its comments the Sierra Club indicates its concern with the potential confusion that the Commission is at risk of creating if the bifurcation effort is not thoughtfully implemented:

> "We recognize that the Commission's proposed labeling of this bifurcation as 'demand-side' and 'supply-side' resources has been used in this and prior proceedings and in the stakeholder workshops held during October. To the extent that participants have adopted this distinction, it is probably workable. However, we are concerned that this terminology creates ambiguity and potential contradictions, and that the boundaries the Commission intends to establish may become less clear over time."

By prematurely judging or defining "supply-side" and "demand-side" DR, the Commission risks favoring one type of DR over another. CLECA makes a good observation when it states, "the application of this term 'customer-focused' to only 'demand-side' appears to disregard or discount the customer role on the proposed 'supply-side.' Furthermore, the word 'reliable' is attributed to 'supply-side' DR, but 'demand-side' DR should not automatically be presumed unreliable." (CLECA Comments, p.2-3) EDF makes an important observation when its states, "EDF is concerned that the DR Scoping Memo further attempts to define DR resources by proposing differing methods to increase penetration levels for demand-side resources 'improved program effectiveness') and supply-side resources ('increased and expanded participation in CAISO energy markets). " (EDF Comments, p.5) The Scoping Memo language

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cited by CLECA and EDF implies that demand-side programs are dysfunctional and unreliable, and need to be improved, whereas supply-side programs are more reliable and must be grown but disregard participating customers. In fact, there is room for the improvement and growth of all types of DR programs, which should be the Commission's goal, regardless of how they are categorized. PG&E provided proposed definitions for demand-side and supply-side DR in its comments which should help clarify the two types of DR. (PG&E Comments, p.1-2)

2. Demand-side DR should continue to be a major part of the DR portfolio, should receive full Resource Adequacy value and be recognized as reducing Resource Adequacy needs.

No party questions that supply-side DR should receive Resource Adequacy (RA) value as a generation resource does; i.e. it can meet a load-serving entity's (LSE) RA requirement. The real open question is how demand-side DR should be treated in this context. PG&E acknowledges that, for demand-side DR to effectively reduce the RA requirement, it should be demonstrated that the demand-side DR is being dispatched at the appropriate time. Parties' comments overwhelmingly favor allowing demand-side DR to reduce the RA requirement which implicitly preserves the RA value of the resource. ORA states, "Regardless of whether a DR resource is categorized as demand-side or supply-side, however, it needs to be accounted for and reflected either in Utility's load forecast or as a resource in its planning and operational requirements prescribed by the CPUC or the CAISO" (ORA Comments, p.2.) Olivine takes a similar position and says, "It is critical that demand-side resources continue to reduce the resource adequacy requirements." (Olivine Comments, 5.) CLECA says, "Whether or not DR is 'bifurcated', it is very important that DR be reflected in resource planning and resource adequacy, whether as a load modifier or a resource. DR should either count for RA or be used to adjust downward the load that determines the RA or future resource requirement so that its value is reflected in both planning and in daily grid operations." (CLECA Comments, p.3.) The Joint DR Parties agree and state, "…demand-side DR, as defined in the OIR or in our answer above, provides substantial RA benefits and should continue to count toward a utility's RA obligations, if only on the demand-side of the equation." (Joint DR Parties Comments, p.7.) SCE supports the full recognition of the RA value of demand-side DR stating, "…a DR program should not get more or less Resource Adequacy (RA) credit simply because of its naming or classification; the RA value should be determined based on the value (i.e. reliability or flexibility) it provides." (SCE Comments, p.3.)

If the Commission eliminates, reduces or fails to recognize the ability of demand-side DR to receive RA value, it risks a dramatic reduction in the amount of DR that the IOUs have spent a great deal of time and resources to develop. The Joint DR Parties express a similar concern stating, "Integration into the wholesale market should not be determined to be a 'necessary' component of a DR resource's ability to qualify for resource adequacy. To do so would erode the value of the resources that have been developed through the retail utility programs to this point." (Joint DR Parties Comments, p.4) There is already an established precedent for DR to reduce the RA requirement. Prior to Decision (D.) 12-06-025, the full RA value of all DR was recognized as reducing the RA requirement. The Commission should adopt this same application again for demand-side DR.

3. The Commission should not disadvantage one type of DR relative to another.

The principle of equal treatment of demand-side DR vis-à-vis supply-side DR should not be limited to the RA mechanism. Otherwise, the Commission risks creating uneven incentives or disincentives for customers and DR providers to participate in one type of program over the other. SCE expresses a similar concern and cites some possible areas of discrimination when it states, "SCE is concerned that DR programs that qualify as a DR supply resource may get more favorable regulatory or policy treatment at the expense of DR load modifying programs. If the Commission decides to develop separate sets of evaluation criteria and/or processes for the demand-side and supply-side resources, it is imperative that these be based on the effective contribution of the DR resource to grid reliability." (SCE Comments, p.3) Many other parties are supportive of even-handed treatment as well. TURN states, "However, the Commission should be careful that DR programs that cannot participate in CAISO markets and that do provide cost-effective demand response benefits are not unintentionally de-emphasized." (TURN Comments, p.2) EDF states, "DR should be equitably treated, whether it be categorized as supply- or demand-side," (p.13) and "If the Commission bifurcates DR resources, both demand- and supply-side resources should be treated in commensurate fashion." (EDF Comments, p.3) As the Commission moves forward in this proceeding it should take care not to create an artificial preference for one type of DR over another.

4. The Commission should utilize a careful approach without resorting to mandates when integrating DR into the wholesale market.

PG&E supports the integration of new and existing DR programs into the wholesale market when it is cost effective to do so. However, PG&E is concerned that the Commission will mandate the transition of some existing DR programs into the wholesale market as supply-side DR regardless of the costs and/or benefits. Because participating in a DR program is fundamentally a customer's choice, forcibly moving participating customers into the wholesale market and subjecting them to the associated requirements could result in a catastrophic amount of unenrollment in the program, effectively eliminating it. The Joint DR Parties, representing a majority of the third-party DR provided in California express a similar concern saying, "By requiring DR to meet the same standards that were designed to meet the needs of existing generation, the Commission and the CAISO effectively restrict access to the market to only those resources that can act like a generator. Such an approach is likely to derail participation of DR resources in California's wholesale market." (Joint DR Parties Comments, p.8-9) TURN expresses a similar concern saying, "The primary concern is to ensure that forcing all 'supply-side' demand response to bid into CAISO markets does not eliminate demand response customers who also provide actual resource adequacy value." (TURN Comments, p.5)

PG&E supports the following approach suggested by CLECA: "It makes more sense to first evaluate next summer's experience of bidding DR into CAISO markets and the results from the proposed pilots while exploring the suitability of DR for five-minute markets. Then an informed decision can be made on whether increasing amounts of DR should be bid into these markets." (CLECA Comments, p.15) The Commission should monitor the PG&E, SCE and SDG&E efforts to bid DR into the wholesale market in 2014, work with the CAISO, IOUs and participating third-party DR providers to share experiences and evaluate lessons learned. Once this is done, it would be appropriate to implement larger scale integration of existing or new DR programs into the wholesale market if it is cost effective to do so.

PG&E's caution on this issue is informed by the lack of actual knowledge supporting immediate integration of DR into the wholesale market. For example, there is extremely limited experience among the IOUs and third-party DR providers in bidding and dispatching DR into the wholesale market; Electric Rule 24 has not yet been implemented or tested in actual operation; there is no way to provide capacity payments for DR, except through IOU DR programs; wholesale energy market prices are too low to economically support integration on their own; and it has not yet been determined that there is a willingness among a significant number of customers to provide wholesale DR. SCE highlights a potential problem with forcing customers into the wholesale market:

> These changes in market participation rules may cause difficulties for some customers, as CAISO is not required to communicate changes to these customer groups. While the IOUs enroll customers through outreach and educational marketing and enable effective DR participation through customer relationship management, there is no requirement on the wholesale side for this level of customer engagement. CAISO has traditionally contracted with supply side 'assets' such as generation units and market participants, not homeowners, and the migration of utility programs into the wholesale markets may result in a difficult transition for IOU DR participants and ultimately have a negative effect on program enrollment, retention, and customer satisfaction.

(SCE Comments, p.5) The Joint DR Parties share the PG&E position stating, "The Joint DR Parties support enabling the ability to participate in the wholesale market and removing obstacles to that participation, but, at the same time, remain wary of mandating participation in a market that is still not fully developed, is untested for DR resources, and has yet to exhibit a market dynamic that would support DR resources" (Joint DR Parties Comments, p.5.) Olivine clearly states the problem saying, "Determining which programs are most compatible with the wholesale market is a complex and nuanced process that must take into account a multitude of programmatic and customer-specific details, balanced against the requirements of the various ISO market models and products." (Olivine Comments, p.2.) This amount of change cannot be done in one year. It is a process which the Commission should plan for in advance as part of a DR Roadmap developed with input from all DR stakeholders. As EDF states at page 17 of its comments,

> A number of considerations should be taken into account as part of any Commission decision to bifurcate DR into demand- and supply-side resources. Definitions should not be structured in such a way that barriers to accessing markets are created – thereby undermining demand-side DR's potential. EDF believes that a careful examination of the characteristics of demand- and supply-side resources, matched with possible transition pathways and future regulatory treatment, is merited.

5. The Commission should seek ways to reduce the cost and complexity of integrating all DR in the wholesale market.

PG&E reiterates its call for efforts to develop ways to more easily and cost-effectively integrate both supply-side and demand-side DR into the wholesale market. PG&E recognizes and acknowledges the desire of parties, including the Commission, to "integrate" supply-side DR into the wholesale market. In doing this, if the Commission chooses to force all DR to look and operate like a generator then it is likely that limited DR meeting these requirements will show up in the wholesale market. An alternative path would be to consider the barriers preventing DR from entering the wholesale market and develop a range of options to address these barriers. Current CAISO processes and requirements which were designed for generation resources may be one such barrier, so the Commission and CAISO should seriously consider what steps can be taken to address it. Other potential barriers may also include 1) the absence of capacity payments for supply-side DR, 2) the absence of clear performance requirements for supply-side DR acting as a RA resource, and 3) the pending implementation of Electric Rule 24. On page 9 of its comments, TURN recommended a series of steps for better integrating supply-side DR into the wholesale market:

> TURN thus recommends that the Commission continue on the path that has already been charted to develop Rule 24, and for the CAISO to develop a Resource Reliability Product ('RRP') tariff. Furthermore, TURN recommends that the Commission:
>
> - Hold a workshop to explore in detail the reasons for lack of bidding into the Proxy Demand Resource market;
> - Hold a workshop, ideally with participation by experts from LBNL, to better define the attributes of various DR products and customers and the needs required for various operational functions;
> - Explore whether residential and commercial air conditioner cycling customers can practically participate in CAISO wholesale markets;
> - Conduct research and issue a staff paper, ideally in consultation with the CAISO, that details the characteristics and eligibility rules for demand response participation in other wholesale markets to determine whether such markets promote the type of flexible demand response that California seeks to advance.

although PG&E does not support every specific element of TURN's recommendation, PG&E does support a similar process to identify and eliminate the barriers to greater wholesale market participation. A similar effort should be undertaken to find ways to better integrate demand-side DR into the wholesale market. The Joint DR Parties best explained this saying,

> In short, the Commission, the CAISO, the investor-owned utilities (IOUs), the aggregators and the customers will need to identify the hurdles to the CAISO's acceptance of the retail resources and a means to resolve this difference so that retail programs are recognized for the value they provide, a value that is recognized by the utilities, for reliability purposes. This is important so as not to erode the base of DR resources that has been developed thus far.

(Joint DR Parties Comments, p.4.) EDF expresses optimism that this can be successfully done saying, "The visibility of demand-side resources to CAISO can be enhanced in multiple ways, including more energetic, real-time use of Smartmeter data and better syncing and updating of demand forecasts developed by the CEC." (EDF Comments, p.12) PG&E is similarly optimistic and is committed to constructively contributing to such a process. PG&E suggested several possible ideas in its comments for reducing the cost and complexity of integrating supply-side and demand-side DR in the wholesale market.[2/] The Commission should consider all parties' proposals for increasing the amounts of supply-side and demand-side DR that can in some way be recognized in the wholesale market.

2/ PG&E Comments, p.12-13.

6. Allow a range of options for DR without forcing DR into bidding into the CAISO market as a supply-side resource.

One of the fundamental goals of the Commission as it moves forward in this proceeding should be to preserve or enhance the ability of customers to choose the level of participation in DR programs that best suit their individual situation while improving reliability. Olivine makes an excellent argument on this point saying at page 4 of its comments,

> Bifurcation into demand-side and supply-side programs should not lead to silos that limit how a customer can participate or what program information a customer receives. All customers should be fully informed about the opportunities for participating in both demand and supply side programs, so that their participation is aligned with their business needs. This will ensure reliability of their response to DR events and also ensure their continuing participation in the programs.

Pushing most or all dispatchable DR into the wholesale market risks ignoring the value of all other types of DR that have provided significant reliability value over the years. As ORA states, "Not all DR programs are capable of meeting the CAISO requirements for participation in the energy market. However, these programs can still avoid procurement of conventional generation capacity and qualify for RA credit." (ORA Comments, p.3.) ORA cites the example of the IOUs' AC Cycling programs. PG&E's SmartAC program can be dispatched within 10 minutes and has for the last two summers been used to address substation-level reliability issues. ORA goes on to say, "These programs are still valuable supply-side resources that provide fast response throughout California and should not be discounted in any way due to their current inability to participate in the CAISO's energy market." (ORA Comments, p.3.) SCE expresses a similar point saying, "The non-CAISO-integrated programs can be designed for specific needs not directly associated with CAISO grid management but would provide value for the grid in mitigating market congestion, enable wholesale price market surplus, and provide grid balancing for renewables integration." (SCE Comments, p.6.) EDF says, "Likewise, a large body of evidence suggests that tariff-based and technology-enabled DR, combined with effective information treatments, can be quite reliable and useful." (EDF Comments, p.10.) It is clear that all types of DR provide reliability value so the Commission should seek to maximize the amount of cost-effective DR which will require providing a wide range of options for customers to participate.

7. Learning from the experience of other ISOs/RTOs should occur before the Commission makes major changes in how DR is reflected in the market.

PG&E strongly urges the Commission to engage in a benchmarking effort with the other independent system operators and regional transmission organizations (ISOs/RTOs) to get a better sense of the challenges they have faced in integrating DR into their wholesale energy and capacity markets, and what measures they are taking to address these challenges. PG&E recently made such a trip to visit PJM, ISO-New England and the New York Independent System Operator (NYISO). These markets have been working with wholesale DR for many years so it would only seem prudent to try to leverage their experience. Though the CAISO market and California in general differ in many ways from other markets, there are also many commonalities that would make the lessons learned very valuable.

One of the biggest takeaways from PG&E's benchmarking trip is that in these markets, DR is not currently subject to the operational requirements of a generator. However, in markets where DR will be subject to such requirements, e.g., must-offer obligations, market operators fully expect DR resources to bid at the bid cap, thus reducing the number of times that DR is dispatched. As the Joint DR Parties noted, "Several markets throughout the U.S. have recognized the need to develop an efficient market around a diverse set of resources with varying characteristics. This recognition has allowed for the development of different characteristics for different resources while retaining a necessary level of comparability among resources as a best practice with regards to market development." (Joint Parties Comments, p.7-8.) TURN points out that "PJM has large demand response participation, but most of the demand response is 'emergency' demand response that has few of the desired characteristics of ancillary service products. In contrast, ERCOT has the lowest participation of demand response of any of the major RTOs, but apparently has the largest amount of flexible resources providing ancillary services." (TURN, p.6.) PG&E urges the Commission to engage in an open-minded consideration of lessons learned from other markets.

B. PG&E does not agree with certain CAISO assumptions and the value it places on bidding DR as supply.

PG&E appreciates the CAISO's detailed and thoughtful comments on the issue of DR bifurcation. The CAISO comments on demand-side and supply-side DR explain their view of the implications for the planning process and reliability in general. The CAISO also clearly provides its view for having DR bid as supply into the wholesale market. However there are a couple of key points in the CAISO arguments that are not factually correct and merit correction.

1. The assertion by the CAISO that load reduction from dynamic rates is less predictable than supply-side DR is not supported by analysis.

The CAISO asserts that the weakness of demand-side DR (e.g., a critical peak pricing (CPP) program) "is that the load-modifying response is less refined and less predictable compared to the response from supply-side resources." (CAISO Comments, p.9.) Indeed, this seems to be a prevalent preconceived, yet unsupported, notion held by many parties since this proceeding was opened. PG&E disagrees and has performed an analysis to demonstrate that this characterization is incorrect.

Analysis of PG&E's 2012 and 2013 DR program performance shows that the range of performance for programs considered as supply-side by the CAISO is no more or less predictable than PG&E's critical peak pricing (seen as load-modifying by the CAISO) or other DR programs. However, there can be a significant year-to-year difference in the predictability of a given program. In 2012, the average error between the daily forecast and the post-event report for Peak Day Pricing (PDP), PG&E's non-residential critical peak pricing program, was about 28%. The same figure for the Day-Of version of the Capacity Bidding Program (CBP) was about 30%. In 2013, the discrepancy of the forecasting error between PDP and the Day-Of CBP was much larger but the PDP forecast error was more predictable: about 12% for PDP and 31%

for the Day-Of CBP. The Day-Ahead Aggregator Managed Portfolio (AMP) had similar 2012 and 2013 forecast errors as the Day-Of CBP with 13.6% and 32.6%, respectively.

Thus, far from indicating that supply-side programs are more predictable than demand-side ones, PG&E's analysis indicates that all DR programs operate within a similar year-to-year range of performance variation regardless of how they have been categorized. Therefore, the Commission should not accept the assertion without evidence that demand-side programs (e.g., CPP programs) are less predictable and reliable than supply-side programs. In the future, as forecasting and control techniques for DR are further improved, it should be expected that the improvements will be reflected in the forecasts of both supply-side and demand-side DR.

2. PG&E disagrees with the value attributed by the CAISO to DR bid into the wholesale market as supply.

PG&E believes the incremental value of bidding DR into the wholesale market as supply is small relative to dispatching it as a demand-side resource. The Commission should not take as a matter of faith that DR "optimized" in the CAISO market as a supply-side resource is significantly more valuable than DR that is "optimized" by the IOUs and other LSEs in their own dispatch models. In many instances, the IOU will dispatch a DR program under the same conditions through its own optimization that the CAISO would, so the cost of bidding DR into the wholesale market may not always produce a different or better result. Also, all DR programs (supply-side or demand-side) can already be dispatched for reliability reasons if needed by the CAISO.

The CAISO states in its comments on the Scoping Memo that, "To be used and useful to the grid operator, supply-side resources must possess attributes that can be modeled, forecasted, optimized, and valued for the benefit of the grid and its load serving purposes." (CAISO Comments, p.9.) PG&E understands that, as the market operator, the CAISO prefers that all resources be accounted for in its market model. However, PG&E contends that no evidence has yet been presented demonstrating that the incremental value gained by optimizing DR as a supply-side resource in the wholesale market, compared to DR that is dispatched outside of the CAISO's optimization, outweighs the cost of doing so.

DR resources are highly use-limited (very limited hours of operation) and are targeted to extreme conditions that, by their very nature, are easily identified by IOUs and other LSEs. Generally speaking, the CAISO's optimization is meant to ensure that the "right" resource is being dispatched in the "right" location at the "right" time. (CAISO Comments, p.6.) Existing DR programs are designed to be dispatched when energy prices are very high, when temperatures are very high and/or when there are distribution- or transmission-level reliability issues. The IOUs have the capability, through sophisticated tools that forecast and monitor system conditions and energy prices, to anticipate or see the conditions for which DR should be dispatched. Using these capabilities, the IOUs are able to dispatch their DR programs where and when they are most needed, without being bound by optimization in the CAISO market. Because extreme conditions on the grid are by their nature severe, the CAISO optimization is unlikely to produce a significantly different dispatch decision for DR resources compared to what an IOU would do under the same conditions. During these instances, the CAISO may just "take whatever resources it can get," similar to how it dispatches its Flex Your Power program, and would be less concerned with where the resource fits in the bid stack or its exact location.

During emergency conditions, the CAISO already has the prerogative to dispatch PG&E's DR programs which would surely occur if they had been optimized in the CAISO market. In these instances, the CAISO would be in constant communication with PG&E Grid Operations and directing the dispatch of PG&E's DR programs.

The CAISO asserts that demand-side DR cannot "contribute to price formation in the wholesale market." (CAISO Comments, p.10.) This view does not consider that demand-side DR programs can be included in a LSE's day-ahead load bid if the LSE is planning to dispatch the program. The CAISO day-ahead pricing will then implicitly factor in the demand-side DR as part of the load bid. Also, the IOUs, through the current spread sheet notification procedures, inform the CAISO of when and where load will be dropped thru DR. This allows the CAISO to adjust its load forecast and thus optimize its unit commitment and dispatch to the best available information.

The Commission should be careful about becoming overly focused on the "perfect" solution over the "good" solution when the "perfect" solution is only marginally better from an operational perspective and certainly more expensive.

III. COST ALLOCATION

A. The Commission should evaluate and determine DR program cost allocation on the record in this proceeding based on additional information recommended by PG&E in its opening comments. The DACC/AReM and MEA cost recovery recommendations are based on unfounded assertions and should not form a basis for eventual DR cost recovery.

DACC/AReM (DACC) and MEA advocate that DR program costs, regardless of bifurcation, should be recovered only from bundled customers via generation rates. (DACC Comments, p.5; MEA Comments, p.8.)

Both DACC and MEA assert that current DR cost recovery via distribution rates impedes competition for DR services. (DACC, p.6; MEA, p.4) They assert that third parties will not be able to offer innovative and efficient DR services; instead, customers must now choose from "prescriptive, one-size-fits-all programs …" (DACC, p.7.) As noted by DACC, however, no previous Commission decisions on IOU DR program and budget applications has supported the recovery of DR costs from only bundled customer via generation rates. (DACC Comments, p.5.)

DACC and MEA's allegations are based on incorrect assertions.[3/] First, PG&E's current DR program costs are recovered via both distribution and generation rates. Approximately $88

3/ DACC/AReM err in claiming that DR cost recovery is guaranteed (DACC/AReM Comments, p. 6.) There is no guaranteed cost recovery for PG&E's DR revenue requirements. As parties well know, PG&E tracks actual DR program expenses via the Demand Response Expenditure Balancing Account (DREBA). At the end of each three-year DR program cycle, the DREBA balance is return to PG&E customers (if actual expenses were less than authorized expenses), or if actual expenses exceed authorized expenses, charged to PG&E's shareholders. DREBA, which has been authorized in all previous Commission DR program decisions, ensures that PG&E shareholders are at-risk if the DR program is not administered within Commission-authorized budgets.

million in annual DR program costs are recovered from bundled, Direct Access (DA), and Community Choice Aggregation (CCA) customers via distribution rates.[4/] Another $20 million in annual DR costs (for Aggregator Managed Portfolio incentives) are recovered only from bundled customers via generation rates. Clearly MEA's assertion that "all DR program costs are allocated by IOUs to distribution rates" is not correct. (MEA Comments, p.8,) Furthermore, DACC and MEA fail to mention that DA and CCA customers can and do participate in the AMP program where they are currently being subsidized by bundled customers, and most of PG&E's other DR programs,. Indeed, PG&E's rebuttal testimony in A.08-06-003 demonstrated that this cross subsidy continues to this day.[5/]

Second, there is no evidence that PG&E programs are inefficient or the "only game in town". Since 2007, all non-residential customers (bundled, CCA, and DA) have been able to participate in the AMP program, in which third-party DR aggregators contract with PG&E to deliver valuable, cost effective load reductions. The DR aggregators are free to work with the customers in their AMP portfolios to provide DR services or products that the customers want. The AMP program is a robust, innovative, and effective program that yields approximately 200 MW of load reduction each summer. In addition, DR aggregators can provide their services to customers through the Capacity Bidding Program where the DR aggregators contract with PG&E to provide DR through customers in their CBP portfolio.

The Commission should examine additional information to determine appropriate, reasonable, and equitable cost recovery for DR programs. As noted in PG&E's response to the Scooping Memo, the Commission should consider additional information to determine DR cost allocation. Specifically, PG&E recommends that this additional information include the actual

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4/ Currently, D.12-04-045 authorizes approximately $65 million per year for DR program administration and incentives. Another $23 million for Base Interruptible Incentives are approved via decisions regarding electric rate design proceedings.

5/ Pacific Gas and Electric Company, 2009-2011 Demand Response Programs and Budgets, Rebuttal Testimony, December 15, 2008, Exhibit PG&E-202, p. 6-2.

nature of incurred DR costs, current balancing account mechanisms, participation rules, and benefits. (PG&E Comments, p.15.)

B. Participation in DR programs is but one of many factors in developing a fair and reasonable cost recovery mechanism for supply-side and demand-side DR resources.

DACC and MEA contend that a customer's ability to participate in a DR program should be a primary driver for cost allocation. DACC argues that demand-side DR programs are load modifying programs that are not bid into the CAISO market and cites the Scoping Memo that IOU pricing tariffs (including time-variant pricing) are a prime example of load-modifying programs. (DACC Comments, p.9.) DACC also asserts that D.12-12-004 determined that such pricing programs should only be recovered from bundled customers eligible to participate in these programs. MEA notes that DA/CCA customers are not able to participate in PG&E dynamic pricing programs and these costs therefore should be recovered from bundled customers only. (MEA Comments, p.9.)

In D.12-12-004, the Commission allocated SDG&E's dynamic pricing program costs to bundled customers via generation rates. However, this decision does not, as DACC asserts, determine that proper cost allocation for demand-side DR programs requires the costs to be recovered through utility generation rates. (DACC Comments, p.5.) This interpretation is an overly broad reading of the decision, which only allocates dynamic pricing costs to generation rates, based on the evidentiary record in that specific case. Although dynamic pricing and DR customer options may be categorized as load-modifying programs, dynamic pricing is a sub-set of the broader category of DR customer options, which can expect further future development. Eventually, the Commission appears to envision that all retail customers will take service on a rate schedule with time variant pricing, which may include various rate components.

Furthermore, DACC and MEA's plea that DR program eligibility and participation are the primary drivers for cost allocation ignores the fact that DA/CCA customers can and do participate in all PG&E DR Programs, except Critical Peak Pricing.[6/] DACC and MEA's cost allocation arguments also ignore the current subsidization of DA/CCA customers receiving AMP incentives (but not contributing towards the costs of the AMP incentives in the generation rate component) as noted above. It is also important to remember that bundled residential customers cannot participate in DR programs like the Base Interruptible Program (BIP) or Capacity Bidding Program (CBP), yet the Commission reasonably allocates BIP and CBP program and incentive costs to all customers, including residential customers, via distribution rates.[7/]

These facts demonstrate that thinking allocating DR costs can be based simply on who is eligible to participate in the program is much more problematic than portrayed by DACC and MEA, and can back-fire. Moreover, the Commission should recognize that some systems which benefit all customers that are also used to implement DR programs should not be ignored. For instance, if costs for a DR program involve something that is used to serve all customers, such as the billing system or customer information system, those costs are appropriate to spread to all customer classes.

C. The CAISO's cost allocation and recovery recommendations may not appropriately recognize distribution service reliability benefits that might be realized via a supply-side DR program.

In its opening comments, CAISO recommends that the Commission simply bifurcate DR resources into demand-side programs, which would be offered by the IOUs, and supply-side programs, which would be offered by third-party DR providers to commercial and industrial customers. (CAISO Comments, p.13.) CAISO contends that this proposed bifurcation would make cost allocation moot because IOUs would modify peak demands to the benefit of bundled customers, and DR providers would share revenues with their clients, as peak load is reduced and load factors are increased.

6/ A.08-06-003, PG&E Rebuttal Testimony, p. 6-2.

7/ Ibid, p.6-1 to 6-2.

Simply recovering supply-side DR costs from only generation rates and likewise recovering demand-side DR costs from only distribution rates may appear appealing but ignores the potential distribution reliability benefits from programs that can be dispatch to meet system and local needs. However, it is worth remembering that the augmentation of DR program augmentation in 2007 was the result of a 2006 heat storm that reduced distribution level reliability, as distribution line transformers failed due to excessive temperatures in parts of the distribution system.[8/] Since 2007, the Commission has encouraged the IOUs to expand DR program operating requirements, so the IOUs can operate these programs on Local Capacity Area (LCA) and sub-Load Aggregation Point (sub-LAP) levels in the event that local capacity conditions become stressed. Again, PG&E repeats that the Commission needs to review additional information before determining if and how to bifurcate DR resources and allocate cost recovery for these resources. In response to the CAISO recommendation for cost allocation, the Commission should seek information that evaluates or describes grid reliability benefits that are created and realized by program participants and non-participants (e.g., as capacity needs are reduced in day-ahead and day-of wholesale markets). The Commission should seek out existing studies on DR-related grid reliability or initiate studies via, for example, the Demand Response Project Coordination Group, to determine such benefits to the extent they would be relevant to cost allocation. Finally, the Commission could consider interactive benefits that might result when a supply-side program provides demand-side benefits (that is, local, distribution-related reliability benefits).[9/]

8/ D.06-11-049, *Order Adopting Changes to 2007 Utility Demand Response Programs,* November 30, 2006, p. 5.

9/ Pacific Gas and Electric Company, Response of Pacific Gas and Electric Company to Joint Assigned Commissioner and Administrative Law Judge Ruling and Scoping Memo, December 13, 2013, p. 15-16.

IV. BACK-UP GENERATORS

A. The Commission should carefully consider the back-up generator (BUG) issue based on more information and analysis. If the Commission decides to phase fossil-fueled BUGs out of DR programs it should be through a gradual transition to cleaner resources over time. The IOUs should not be responsible for regulating the use of bugs for Dr.

PG&E urges the Commission to develop a robust record on the use of fossil-fueled backup generation (BUG) for DR before it makes a decision on its future use. Regardless of what the Commission decides, the IOUs should not be responsible for tracking or otherwise regulating the use of BUGs for DR. PG&E recommends that the Commission work closely with the California Air Resources Board (CARB) on the BUGs issue.

PG&E appreciates the Commission's efforts in the Scoping Memo to collect information on fossil-fueled BUGs used for DR programs in California and is supportive of the associated environmental goals. Because the information on BUGs is largely unknown the Commission should proceed carefully with any effort to eliminate fossil-fueled BUGs from DR. Should a significant amount of DR be impacted by such an effort, the Commission risks losing a lot of DR capacity that is being counted on in the IOUs' RA showings and comprising resource forecasts being used in the Long-Term Procurement Plan (LTPP) proceeding, CEC's California Energy Demand Forecast and the CAISO's Transmission Planning Process (TPP).

The Commission should consider the potential implications to the resource mix of prohibiting fossil-fueled BUGs from providing DR without a clear transition plan. As the Joint DR Parties point out, eliminating fossil-fueled BUGs from DR "is likely to lead to the need for replacement resources, the most likely candidate being natural gas-fired generation" (Joint DR Parties Comments, p.12.) If the Commission wants to limit or reduce the amount of DR backed by fossil-fueled BUGs it should develop a strategy to phase out the dirtiest BUGs without reducing the amount of reliable DR. The NRDC made a good suggestion that "the Commission uses all available information regarding the location of regulated diesel and other fossil fuel powered BUGs to devise a strategy of "retire, retrofit or replace" pilot program [sic] aimed at facilities housing pre-2000 BUGs" (NRDC Comments, p.5.) EDF suggested a similarly constructive approach in its comments at pages 14-15:

> Although EDF strongly supports D.11-10-003, Conclusion of Law Number 5, we believe that the development of non-fossil fuel back-up "generation" could provide for a "game-changer," both in terms of the utility system and for the owners of these back-up generators ("BUGs"). For example, existing natural gas and diesel BUGs could be replaced as they depreciate or as part of expansions by storage devices, networked into the grid, and provide flexible capacity services. This approach would enable back-up owners to recoup their investment, and, if linked with renewable generation, produce clean energy. It would also help the utilities meet current requirements to rapidly increase storage capacity. EDF proposes that a pilot along these lines be included as part of this OIR.

If the Commission prefers to quickly eliminate fossil-fueled BUGs from providing DR, it risks opening the door for new fossil-fueled generation to take its place. AReM/DACC explains this risk at page 11 of their comments:

> If the Commission's goal is to maximize DR resources, a prohibition on the use of back-up generation will reduce participation of DR in CAISO markets, and hamper the economic development of newer back-up technologies, such as fuel cells, batteries, and other emerging storage technologies. Even the use of fossil fuels for back-up generation (including diesel) in certain instances, while creating emissions that would be avoided if the DR resource was foregoing all consumption of power, may still be preferable to new larger-scale peaking facilities. In short, the Commission should explore the use of back-up generators to provide supply-side DR in more detail and determine the types of units, fuels, or operation that could be used and still allow the resource to qualify as a RA resource.

The Commission should be careful that trying to eliminate one problem does not create a new one.

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V. CONCLUSION

PG&E appreciates this opportunity to respond to these questions and asks the Commission to accept them in compliance with the Scoping Ruling.

Respectfully Submitted,

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