



**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

FILED

03-14-08
04:59 PM

Order Instituting Rulemaking to Consider Refinements to and Further Development of the Commission's Resource Adequacy Requirements Program.

Rulemaking R.05-12-013
(December 15, 2005)

**REPLY COMMENTS OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
ON STAFF RECOMMENDATIONS ON
CAPACITY MARKET STRUCTURE**

Pursuant to the rulings of the Assigned Administrative Law Judge for the California Public Utilities Commission ("Commission" or "CPUC"), dated January 18, February 4, and February 19, 2008, the California Independent System Operator Corporation ("CAISO") submits the following reply comments:

I. SUMMARY

If the goal of the Commission is to allow a meaningful role for competitive market-based investment to provide needed electric infrastructure – including new generation, upgrades to existing generation, demand response and transmission – it is critical for the Commission in this proceeding to adopt a multi-year forward framework for committing capacity to serve the load and operating needs of the CAISO balancing authority area. Today's one-year ahead Resource Adequacy ("RA") process will not provide sufficient lead time, either for investment decisions and commitments by investors or for economical comparison of alternative infrastructure investments in a manner that yields the most cost-effective outcomes for consumers. Moreover, once the decision is made to provide a multi-year forward RA commitment framework that will

attract competitive market-based investment, a Centralized Capacity Market (“CCM”) structure provides the most effective, fair and transparent way to accomplish that objective as well as related state policy objectives, while preserving full state authority over RA as contemplated in the Energy Policy Act of 2005.

Some parties commenting in this proceeding argue that a CCM structure will cause the Commission to relinquish authority over RA to the Federal Energy Regulatory Commission (“FERC”). The most important response to this argument is to emphasize the Commission’s continuing authority over the bilateral procurement of its regulated Load Serving Entities (“LSEs”), which will in no way be diminished by the adoption of a CCM framework. The CAISO further suggests the opposite of these parties’ assertions may be true – a bilateral framework may reduce the Commission’s control over procurement through, for example, reduced ability for its decisions to affect procurement criteria and pricing through the CAISO’s backstop procurement mechanism. The parties who advocate the bilateral model based on the fear of loss of Commission control ignore the important role of the CAISO backstop under a permanent bilateral framework. Specifically, in the absence of a more robust, transparent capacity pricing mechanism on a permanent basis, the backstop mechanism will assume heightened significance because it may be the only source of transparent price signals for new investment in locations that have a capacity deficiency.¹ Under a CCM design, however, the backstop mechanism can be integrated into the CCM structure through the

¹ In the context of the CAISO’s recent stakeholder process to develop the Interim Capacity Procurement Mechanism (“ICPM”), the CAISO concluded it was not appropriate to use the ICPM to provide investment price signals in deficient locations, given, *inter alia*, the interim nature of the ICPM and the CAISO’s desire not to step ahead of the Long Term RA decision. If the forthcoming Commission decision does not provide for a transparent forward price signal to stimulate investment,

reconfiguration auctions, and as such the backstop will not serve as the only source of a transparent price and would simply inherit any environmental constraints that may be included in the primary auction, rather than a stand-alone backstop mechanism that is not structurally linked to forward RA procurement.

The opponents of a CCM also argue that the CCM will force the Commission to compromise its ability to implement state environmental policy. This argument also is ill-founded and controvertible. Under a CCM, bilateral contracting can still be the predominant form of RA capacity procurement, and the CAISO expects that the Commission will continue the Long Term Procurement Proceeding (“LTPP”) as the means to exercise oversight of the procurement practices of its regulated LSEs. In particular, the LTPP can be a primary vehicle for the Commission to implement state environmental policy, with or without a CCM. The advantage of the CCM, however, is that it also can incorporate environmental constraints to supplement the results of bilateral procurement, and such constraints can apply starting from the primary auction through the sequence of reconfiguration or backstop auctions. Thus the specter of “cheap coal” dominating a CCM auction with no possibility to invoke environmental procurement criteria is simply a scare tactic.²

Opponents of a CCM assert that it will result in vastly higher costs to consumers. This assertion rests on the presumptions that under the bilateral model (1) LSEs will be

this matter will have to be reconsidered in the context of developing a permanent backstop mechanism.

² Moreover, even if no environmental constraints were included in the CCM design or the LTPP requirements, investment decisions are also made in consideration of the costs of compliance with environmental regulation and the impacts of such regulation on expected revenues in energy and ancillary services. Given the already established greenhouse gas reduction goals in AB32, the prospects for investment in a coal plant to serve California will be extremely slim given the high number of emissions allowances such a plant would be required to obtain.

able to pay existing resources less for RA capacity than they pay for new investment, and (2) that paying less to existing resources even if feasible would be unequivocally advantageous to consumers. The CAISO disagrees with both presumptions. First, the purported savings would be eroded both by suppliers who will calculate their offer prices to try to earn their estimates of the fair market value of their capacity, and by the activities of financial intermediaries that will offer profitable market-making services to buyers and sellers to compensate for the absence of a transparent market. Second, contrary to assertions that paying a market clearing capacity price to existing resources will prevent dirty and inefficient resources from retiring, the CAISO would point out that the ability to earn a market clearing price could enable such resources to invest in environmental upgrades and repowering which could meet state environmental objectives at lower cost than driving them to retire and replacing them with new resources. Tightening environmental restrictions and rising costs of compliance (e.g., greenhouse gas allowances) will tend to limit the output of the inefficient or dirty plants. Instead of letting them slip into retirement, however, the recent CAISO study on renewable integration has pointed out that they may be needed primarily for ancillary services, such as regulation, and load following to support the shift of the supply fleet to include increasing amounts of intermittent renewables. In this case paying them a sufficient capacity payment will support the objective of meeting environmental goals reliably and cost effectively. Opponents of a CCM assert that it is incompatible with and will preclude an eventual transition to the gold-standard “energy-only” market. The first thing to point out is that, based on the experience of PJM Interconnection, LLC (“PJM”) and ISO New England, Inc. (“ISO-NE”), market-based investment does not appear in

energy-only markets with bid caps of \$1,000 per MWh, i.e., where there are no meaningful capacity payments. Accordingly, it appears that without bid caps in the multi-thousand dollar range – and credible assurances to investors that policy makers will not intervene when prices hit that range for hours at a time under peak conditions – new investment in response to an energy-only market in California is a vision of the more distant future. Moreover, the energy-only markets of the Electric Reliability Council of Texas and the Midwest Independent System Operator, Inc., are still too new to provide any evidence of success in attracting investment, whereas the ISO-NE’s recent first run of its Forward Capacity Market (“FCM”) cleared the full quantity of demanded capacity at the price floor, including a substantial quantity of new investment in demand response. The argument that a CCM will prevent a, eventual transition to an energy-only market is also incorrect. Suppliers in a competitive CCM will calculate their offer prices to reflect expected earnings in the spot markets. If an energy-only market is found later to be desirable for California, then bid caps will be lifted to allow spot market prices to rise, and prices in the CCM will fall commensurately as spot market earnings reduce the need for RA capacity payments.

Some parties commenting in this proceeding oppose a multi-year forward commitment of RA capacity on the grounds that it will stifle Direct Access. That may be true under the bilateral model they advocate, but in the context of a CCM the opposite is true. Under the bilateral model it is necessary to establish individual procurement requirements for each LSE which, as opponents of a multi-year forward framework argue, are onerous enough in today’s one-year ahead RA process, particularly for smaller LSEs that may be subject to significant amounts of load migration. In a multi-

year forward process, these parties argue, the burden on such LSEs would be insurmountable, and they are probably correct – but only if it is assumed that these LSEs will all have the same multi-year forward forecast-based procurement obligations and compliance provisions. In a CCM framework, however, each LSE, in conjunction with its regulatory authority, can adopt the amount of forward procurement that best fits its business model, then allow the CCM to meet the capacity needs of the system and the local areas, and each LSE will be charged only for its share of the CCM procurement based on its realized load in each delivery month. For this reason a CCM structure in a multi-year forward framework, besides being a boon to Direct Access, also allows for simpler administration and more equitable cost allocation than a bilateral structure.

One party argues for the bilateral non-CCM model, but recognizes the need for a multi-year forward capacity commitment process. It goes on to suggest that the Commission open a single-issue proceeding to decide the optimal time horizon for the multi-year forward process, and then simply move today's one-year forward process to fit that time horizon. The CAISO believes that this suggestion is unrealistic. One issue likely to be extremely contentious, among others, will be how to establish enforceable four- or five-year forward RA procurement obligations for LSEs, particularly smaller LSEs whose business model depends on the Direct Access program. The CAISO therefore believes that a multi-year forward non-CCM long-term RA design would adversely impact the viability of Direct Access.

In summary, the CAISO believes that the bilateral proposals, with or without a multi-year forward capacity commitment process, are thinly-veiled arguments for a

return to the pre-restructuring paradigm whereby all investment in electric infrastructure was made through regulated-monopoly Investor Owned Utility (“IOU”) procurement or construction. The CAISO does not believe that such a return to the past would be in the best interests of consumers, with respect to the overall cost of electricity, the allocation of risk between ratepayers and investors, and the cost of achieving the state’s environmental policy objectives in a timely manner. The CAISO believes that California residents and electricity consumers will be better off on all counts with a long-term RA framework that provides a meaningful role for competitive market-based investment through a multi-year forward CCM-based structure.

A meaningful role for competitive market-based investment does not mean having blind faith in uncontrolled, unregulated “free” markets and their participants to provide the needed infrastructure when and where needed at reasonable prices. There is no such thing as a “free” market. Thus, the policy decision that is required is not markets *versus* regulation, it is to find the right balance of markets *and* regulation. California’s initial market structure clearly did not find the right balance, as the crisis experience proved. Following the crisis the Commission, working closely with its regulated LSEs, the California Energy Commission, the CAISO and other industry participants, has come a long way toward achieving the effective balance of markets and regulation, as demonstrated by the successes of the RA program thus far. At the same time the CAISO – also working closely with the Commission and its staff and all the stakeholders – has completely overhauled its spot markets to create a structure that will send transparent and accurate price signals for efficient short-run operation, more extensive demand response, and new infrastructure investment. Most recently the

Commission has responded to AB32 by proposing a major environmental regulation – a cap-and-trade system for greenhouse gas allowances – which explicitly takes into account the need to align the market-based components of environmental regulation with well-functioning, transparent wholesale markets.³ The next major piece of a well-balanced market-and-regulatory structure to be decided and developed is the long-term RA framework.

The Commission could decide, of course, that it prefers to return to the pre-restructuring investment paradigm and adopt one of the bilateral models. It is worth pointing out, however, that that paradigm assigns all investment risks and costs to ratepayers instead of investors, and the rates that resulted under that paradigm in the 1980s and 1990s became powerful drivers for industry restructuring. Thus, going back to that paradigm would not be without risks and costs for ratepayers, which the advocates of such a return via the bilateral model sidestep by offering logically-flawed assertions of the dangers of a multi-year forward CCM structure. The CAISO believes that California’s electric industry participants – consumers in particular – deserve better than a return to the old paradigm. They deserve a renewed commitment to find the workable, environmentally sound and cost-effective balance of competitive markets and regulatory oversight.

³ “Interim Opinion on Greenhouse Gas Regulatory Strategies,” Proposed Decision of President Peevey in Rulemaking 06-04-009, dated 3/13/2008.

II. CAISO REPLY COMMENTS

A. **Multi-Year Forward Commitment Of RA Capacity And Transparent Capacity Prices Are Needed To Attract Market-Based Investment In Generation And Demand Response, And To Provide An Efficient Means To Compare Supply And Transmission Investment Alternatives.**

The BTG proposal of retaining today's one-year forward RA obligation and showing, combined with spot energy-based markets limited by the currently-anticipated bid cap levels (which will rise to \$1,000/MWh after two years of MRTU market operation), will not be sufficient by themselves to attract market-based investment in generation and demand response.⁴ Absent a multi-year forward RA commitment process, a market-based investment climate would require much higher levels of energy bid caps than are currently planned for the CAISO markets. Further, the prospects for adopting bid caps in the multi-thousand dollar range seem unlikely for the foreseeable future, and the CAISO expects that even if the BTG parties who advocate an "energy-only" market were successful in raising the bid caps to an effective level, in the range of \$5,000 per MWh, potential investors would still be wary of regulatory intervention at the first sign of prices anywhere near that level. As a result, the CAISO believes that a decision to adopt the BTG proposal will, in effect, be a decision to obtain all new supply investment through IOU-based procurement for many years to come.

4 The ISO-NE and PJM experiences have clearly proven this. Those markets for several years relied on "energy-only" markets with bid caps in the \$1,000 per MWh range and no meaningful capacity payments to compensate for the inability of new generating resources to be viable on spot market earnings alone. The resulting inability to attract new investment led both entities to develop new forward capacity markets.

The CAISO notes that a multi-year forward capacity commitment process and a CCM can be effective in inducing new investment in demand response. One noteworthy recent success was achieved in the first running of the ISO-NE FCM, where the total requirement of over 32,000 MW of capacity for the 2010-11 timeframe was fully procured at a clearing price that equaled the price floor, and which included 1188 MW of new demand-side projects among the 1813 MW of investment in new resources. Admittedly, the possibility of high spot energy prices would also be a strong incentive to invest in demand response, but as noted above it is not likely that bid caps over \$1,000/MWh will be adopted in California during the next several years.

Similarly, a multi-year forward commitment process through a CCM can provide a transparent, economically efficient means for owners of existing plants to evaluate investment in repowering or environmental upgrades versus retirement. And, as was described in the CAISO's section of the Staff Report and its initial comments, a CCM will also provide a transparent mechanism for making economic decisions to build or not to build transmission upgrades depending on the prices and quantities of RA capacity offers.

B. A CCM Would Not Cause The State To Give Up Its Resource Adequacy Authority To FERC, Nor to Compromise Its Ability to Implement State Environmental Policy.

The BTG asserts that its proposal would retain state control over procurement, whereas a CCM would cede that control to FERC. The CAISO believes that BTG's assertion is not logical. The adoption of a CCM would have no obvious adverse impact on state authority over resource adequacy.

The BTG argument misses the crucial points that under any RA structure, the Commission would retain full authority over the bilateral procurement of its regulated LSEs,⁵ the results of which would be self-supplied by the LSEs into the CCM auctions, and the CAISO would need to have a FERC-approved backstop mechanism in any event. Regarding bilateral procurement, the CAISO expects that the CPUC will continue using the LTPP as a vehicle for reviewing and approving the IOU procurement plans. Through the LTPP the CPUC can exercise its full authority and implement environmental and other policy objectives with respect to procurement by the IOUs to meet their requirements, with the IOU-procured RA capacity then offered as self-supply into the CCM.

With respect to the backstop, participants in the CAISO's recent stakeholder process to design the Interim Capacity Procurement Mechanism ("ICPM") can attest to the nature and extent of controversy over price determination, which the CAISO believes was appropriately resolved for purposes of this interim mechanism as a transition to the Long Term RA framework the Commission will adopt in the instant proceeding. If the Commission now decides that the RA framework will not include a forward CCM, the CAISO will need to reopen all aspects of the backstop discussion to develop a design that is no longer interim but permanent. In that context it is likely that, in the absence of a CCM that provides an efficient capacity price signal based on the cost of new entry in local areas where there is a deficiency and additional infrastructure

⁵ The CAISO notes that it has recommended, in its recommendations contained in the Staff Report and its initial comments, that the Commission adopt a multi-year forward collaborative state assessment of capacity needs, which would provide comprehensive analysis and information to inform bilateral procurement by LSEs. The CAISO believes that such a process is needed irrespective of the design of the long-term RA framework the Commission adopts, and in the instant Reply presumes the adoption of such a process although it is not discussed further herein.

is needed, a more permanent backstop mechanism would need to take on that role and provide benchmark prices for negotiating forward bilateral RA contracts. Moreover it is likely that such a framework would be less affected by Commission decisions than would a CCM. The reason is that a CAISO-operated mechanism to backstop a purely bilateral procurement framework would be a stand-alone mechanism that is not linked explicitly to the mechanisms and processes governing bilateral procurement, whereas under a CCM the backstop could be an explicit element of the CCM structure through the reconfiguration auctions. For example, if state environmental policy objectives are incorporated as constraints in the CCM, those constraints would apply to the reconfiguration auctions as well. In contrast, if the backstop is a stand-alone reliability procedure it may be more difficult for to incorporate such policy objectives.

Thus, assertions that a CCM will compromise the Commission's ability to implement state environmental policy are also not valid. The CCM (including the primary and reconfiguration auctions) can be designed to incorporate constraints that ensure that particular quantities of particular resource types will clear.⁶ By enforcing such constraints the auctions would not simply take the lowest-cost coal plant irrespective of its environmental attributes, as the BTG asserts, but would optimize to achieve lowest cost subject to the environmental constraints. Even without such constraints, rising environmental compliance costs will cause a coal plant that may have been low-cost to become more expensive and hence be dispatched less over time as cleaner units with lower or no compliance costs enter the market and displace it. In fact, if the market,

⁶ The CAISO's recommendations included in the Staff Report and its initial comments explained that in addition to constraints on the CCM, there will be significant market-based investment incentives in the spot prices for energy and ancillary services, including changing prices for ancillary services as

given increasing needs for renewable integration, valued the reliability support provided by the coal plant's capacity, e.g., the ability to provide regulation, then the CCM would be the most efficient mechanism to recover capacity payments needed to keep the plant available.

Another consideration is that other environmental policy initiatives will have substantial implications for RA procurement, such as the proceeding underway to examine retirement or repowering of generation units using once-through cooling, as discussed further below. How such various environmental regulatory drivers are integrated into the RA structure remains to be worked out and will benefit from a centralized market mechanism that provides transparent market-based price information.

The CAISO fully supports adopting an RA framework that will be effective in preserving state authority over RA and implementing state environmental policy in a timely manner and cost-effectively. Such a framework would include both the CPUC RA proceedings such as the LTPP as well as the CAISO-operated RA elements such as a CCM.

C. Arguments About Unjust And Unreasonable Cost Impacts Of A CCM Are Erroneous.

BTG and PG&E assert that a CCM will result in huge excess costs to consumers, based on the concept that paying a market clearing price to all RA capacity that clears the CCM will over-pay existing resources (and thus create a "wealth transfer" from consumers to suppliers) in comparison to a purely bilateral approach whereby LSEs can

the need for the services increases to support renewable integration, and for environmental compliance, such as possible greenhouse gas allowance markets under a cap-and-trade system.

pay the existing resources just enough to stay in business. This argument is erroneous in several ways.

First, the argument erroneously assumes that there is no consumer benefit to paying the clearing price to all capacity that clears, even if it enables existing resources to earn a return above their costs of staying in business. Although the approach advocated by these parties might appear cost-effective in the short run, it can easily result in an excessive amount of retirements by facilities that are unable to earn enough to invest in environmental upgrades or repowering. A good illustration of this is “once-through cooling,” a power plant design feature that applies to roughly 21,000 MW of installed capacity within the CAISO balancing authority area and has recently been targeted as having significant adverse environmental impacts. Under a CCM where such capacity can earn the CCM clearing price, owners of these resources will be able to make economically efficient decisions whether to cease operating or invest in environmental upgrades in response to any policy initiatives to eliminate once-through cooling. Under the proposed bilateral approach to avoid paying a market clearing capacity price, these existing resources may have little or no choice but to exit the market, removing a potentially large amount of supply capacity which tends to be concentrated in load pockets and which could, if their revenues justified the investment, remain in operation with less ultimate environmental impact than developing alternative supply capacity for these areas.

Second, the argument assumes that it is feasible to realize substantial short-term consumer savings by paying existing resources less than new investment. This argument is analogous to the well-refuted argument that a “pay-as-bid” regime is

cheaper for buyers than a “pay-the-market-clearing-price” regime. It has been well established that in a pay-as-bid regime, bidding behavior changes as suppliers try to estimate what the market clearing price would be and incorporate that into their supply offers. This outcome will extend to the markets for environmental compliance. If there are no transparent market price signals on which suppliers can base their estimates, their estimates will be highly diverse, with no obvious relationship to each resource’s underlying cost structure, and thus will blur any cost basis to a comparison among their offer prices. As a result, the purported cost savings to consumers will be eroded, and the process will not necessarily choose the most efficient resources. In contrast, a competitive market clearing price regime is known to provide strong incentives to suppliers to bid their lowest acceptable price to maximize their chance of being selected when they are assured that they will earn the clearing price. Alternatively, if a potential investor knows that a new facility will start to receive a much lower capacity price once its status changes from “new” to “existing” it will incorporate that expectation into its offer price prior to committing to constructing the new resource.

If there are transparent capacity price signals, there would likely be some convergence among suppliers’ estimates of the expected clearing price, thus mitigating to some extent the problem of selecting less efficient resources over more efficient ones. But this would not do anything to achieve the cost savings that BTG and PG&E assert consumers would receive under a purely bilateral approach. Moreover, under a purely bilateral approach the CAISO will need to design and implement a permanent backstop procurement mechanism which would by default become the centralized

capacity pricing mechanism that sets a benchmark price for bilateral contracting for RA capacity.

A final point worth noting on this topic is that the absence of transparent markets provides opportunities for third-party intermediaries to capture a significant share of the consumer and producer surpluses that the bilateral proponents assert will be realized as savings to consumers. When centrally-clearing transparent markets are not available such intermediaries provide valuable “market-maker” services by reducing transaction costs for buyers and sellers, but they do so less efficiently than a CCM because each such intermediary controls only a portion of the market. Thus the bilateral versus CCM distinction can be viewed as a distinction between non-transparent, less efficient markets in which consumer and producer surpluses are captured by private market makers, versus transparent efficient markets where the surpluses are realized by the buyers and sellers. The result is that the purported cost savings from adopting a bilateral approach rather than a CCM has little chance of being realized by the consumers to any great extent.

D. A CCM Framework Is More Compatible With Direct Access Than The Other Proposals.

The BTG characterizes the CAISO as having an “inherent conflict between two of the CAISO’s key recommendations,” namely, the multi-year forward commitment of RA capacity, and the support for a framework that relies primarily on bilateral procurement by LSEs. The BTG asserts that there is an inconsistency of the CAISO’s positions, stating that “ESPs are unlikely to engage in such procurement multiple years in advance given the uncertainty of their customer loads and, particularly if DA is reopened, the IOUs may be similarly reluctant.” Such a dilemma would be problematic in a purely

bilateral, or bilateral plus CAISO backstop framework. But the BTG misses the essential point that this dilemma is solved by a CCM structure in which each LSE's obligation becomes binding on that LSE only at the end of the delivery month and is settled financially based on the LSE's actual load in that month. Under such a structure, each LSE, in conjunction with its regulatory authority, can decide how much (or how little) it wants to engage in bilateral procurement. The CCM will procure what is needed at the CAISO system level, and in each Local Capacity Area, and will also enforce other procurement constraints that may apply (such as a renewable quota) – all without having to attribute requirement to specific LSEs in advance of the delivery period. The CAISO believes that such an approach provides maximum flexibility to all, but especially to the smaller LSEs who may experience a significant share of their load migrating to another LSE.

The BTG goes on to state, “Even today, in the current bilateral RA framework with DA suspended, the IOUs do not fill their entire capacity portfolios multiple years in advance, and if a greater portion of their load becomes contestable, one would expect even less IOU long-term forward procurement.” This argument is clearly more damaging to PG&E's proposal than to a CCM design, because PG&E argues against adopting a CCM and recommends retaining a purely bilateral framework, yet argues forcefully for a multi-year forward capacity commitment. In the next section the CAISO points out some of the difficulties in moving the current RA framework several years ahead of the delivery period, which PG&E does not address. Suffice it to say here that multi-year forward procurement requirements in a direct access context will likely be extremely burdensome to smaller ESPs absent a CCM.

On a related point, PG&E argues that if a CCM design is adopted it should include opt out provisions, through which LSEs who are fully self-provided may totally bypass the CCM and its settlement process and thereby avoid any associated cost allocation. The CAISO acknowledges the valid concern behind this PG&E recommendation, and fully supports the principle that all LSEs should appropriately accept the risks and costs associated with their own procurement decisions and should not be subject to risks or costs resulting from the actions of other LSEs. The CAISO has reservations about PG&E's proposed opt-out provisions as the best way to achieve this principle, and has described potentially severe unintended consequences of such an approach in its initial comments. The unintended consequences the CAISO identified in the initial comments had to do with the potential of the opt-out provisions to allow an LSE to avoid some portion of cost allocation for which it rightfully should be responsible, and the potential for a large volume of load opting out of the CCM to undermine the value of the CCM clearing price as a signal for new investment. In addition, the CAISO points out that to the extent that significant quantities of load opt out of the CCM, any CCM uplift charges that must be allocated to LSEs will fall on the relatively small remaining share of the load that was not able to opt out, which will result in high per-MWh charges to that load. Moreover, because of the likely aversion to extensive bilateral procurement by smaller LSEs as discussed above, it will tend to be these smaller LSEs that will then disproportionately bear any CCM uplift costs that may arise, for example, when the actual load in a given delivery month is less than the load on which that month's RA capacity procurement was based. As a consequence, allowing significant opt out capability from the CCM structure could reduce the benefits of the CCM in supporting a

more robust Direct Access environment. Given these complexities, the CAISO recommends that the best approach for the Commission to take would be to adopt the high-level principle stated above regarding fair and accurate allocation of costs to LSEs, and then allow the CCM design process to determine the best way to achieve that principle.

E. PG&E's Recommendation To Conduct A Single-Issue Proceeding To Decide The Time Horizon For A Multi-Year Forward Modification To Today's Ra Framework Underestimates The Difficulty Of The Problem.

PG&E suggests that a Commission proceeding to decide a single issue – the optimal time horizon for the multi-year forward RA capacity commitment process – is all that is needed to implement their proposal. This suggestion apparently assumes that the rest of the current RA rules and procedures can simply be shifted in time with little additional modification. This view leaves out several important and controversial issues, however, which must be addressed in order to implement a bilateral RA approach on a multi-year forward commitment horizon. The CAISO expects, for example, that it will be difficult to resolve issues such as how to determine each LSE's multi-year forward procurement obligation, what portion of an LSE's total load plus planning reserve margin must be procured five, four or three years ahead of delivery, what triggers will be used for either granting waivers from requirements or penalizing procurement shortfalls, and what penalty prices will be assessed when they are triggered. These issues can be expected to be particularly difficult to resolve in a context where an expansion of the Direct Access program may unfold over the next several years, which will subject each LSE's five-year forward load forecast to a high degree of uncertainty. Even with the proposed electronic bulletin board, the burden is still on the individual LSEs and

suppliers to trade efficiently – a transaction cost challenge that will surely be profitable to third-party intermediaries.

There are many factors to be considered regarding the requirement that will be necessary in the forward timeframe. First, utilizing the bilateral model, there must be a method for LSEs to handle over- and under-procurement. Once the forward commitment is made, LSEs will need a method to adjust their requirements and their capacity holdings given load forecast revisions. An appropriate backstop mechanism must be developed, as discussed above. Another consideration is the possible difficulty faced by Direct Access and smaller LSEs to meet their requirements which may lead to significant inefficiency. For example if a small LSE's requirement is 2 MW in the future period, they may have difficulty procuring a quantity so small as a reasonable price. Finally, some of the RA counting rules may need to be revisited. To illustrate this point, the annual counting rules for wind are based on an average of the last three years. This type of scenario, as it is, probably would not fit into the proposed four- or five-year ahead time-frame scheme.

A multi-year forward commitment based on requiring exact quantities of RA capacity from each LSE will be more administratively cumbersome than an aggregate control area requirement plus local requirements necessary for the CCM. It will take more complex administrative processes and more resources to track individual LSE requirements in a forward timeframe than it would to work with an aggregate requirement that sets the demand in a CCM, and it will be more difficult for each LSE. Additionally this task will necessarily be divided between jurisdictional and non-jurisdictional entities.

F. The Commission Does Not Need To Fully Specify A Backstop Mechanism In Its Long Term RA Framework Decision.

PG&E argues that it is essential to protect against circumstances where a “market failure” leads to unanticipated regulatory intervention, thus undermining the climate of certainty for investors that the long-term RA framework is intended to create. In this regard PG&E recommends ex ante (1) specifying regulators’ expectations of what constitutes market success, (2) defining what would constitute a market failure, and (3) specifying what backstop actions would be taken when such market failure occurs. In this regard PG&E appears mainly to view market failure as the failure of the primary CCM auction to procure the required amounts of RA capacity.

The CAISO shares PG&E’s sense of importance regarding stable market rules for the investment climate and the potential for unexpected regulatory intervention to disrupt that stability. The CAISO does not, however, support PG&E’s proposal to fully articulate the three items noted above as a precondition to starting the CCM. Moreover, the CAISO believes that the problem of market failure in the form of under-procurement is possibly a greater concern in the bilateral framework than in the CCM framework, because each LSE’s complete compliance with its multi-year forward requirements will depend on numerous factors including, inter alia, penalties for any shortfall, formulas for allocation of backstop procurement costs, and the liquidity of the Direct Access market. Unless the multi-year forward LSE requirements are for 100 percent of each LSE’s load forecast plus planning reserve margin, and there are sufficiently strong incentives to fully meet these requirements, the likelihood of a procurement shortfall in this time frame and the need to resort to backstop action will be high.

Fundamentally, the CAISO believes that issues of appropriate backstop actions should be discussed further in the context of the comprehensive CCM design process, and should not and need not be decided by the Commission in the instant proceeding. That said, there are a few concerns that must be carefully weighed. First, in the context of a CCM, if the market design lays out a precise definition of market failure and specifies clear actions or procedures to follow when market failure occurs, those elements will form the basis of economic decisions by suppliers whether or not to participate in the CCM. Thus, the CAISO is concerned that by fully specifying these elements ex ante, it may be equivalent to offering two alternative markets for sellers to choose between, and may in turn undermine the incentives to participate in the CCM.

Second, in the context of a bilateral approach, and particularly a multi-year forward bilateral approach, the extent to which LSEs meet their forward procurement requirements will depend to a great degree on their financial incentives to do so, or equivalently, the penalties they will face for any shortfall in forward procurement. As noted earlier, setting such penalties is one of the thornier challenges of extending the bilateral RA framework into a multi-year forward time horizon. In the present discussion, this question relates directly to PG&E's argument paraphrased above – how to specify market failure, and what actions to take when it occurs. Is it a market failure if the LSE determines that it would be less expensive to fall short of its forward procurement requirement and pay the associated penalty and its portion of the backstop charges than it would be to contract bilaterally for the full amount of its requirement? Is it a market failure if the aggregate LSE procurement shortfall and hence the quantity

procured through the CAISO backstop mechanism exceeds a certain percentage of the total requirement at the system level or in a local area?

In summary, the questions of market success or failure, and the appropriate backstop actions to take in the event of such a failure, have their counterparts in the bilateral framework as well as the CCM framework. In either framework, a procurement shortfall is a procurement shortfall and must be addressed, but the CAISO believes the problem is more readily manageable in the CCM framework because, from the CCM perspective there are no LSE-specific shortfalls to be tracked and penalized, and no potential for market failure to be exacerbated by the settings of the under-procurement penalties.

G. The CAISO Urges the Commission to Make Threshold Decisions and Articulate Overarching Policy Goals to Initiate Design and Development of a CCM Structure, and Not to Make Specific CCM Design Decisions in This Proceeding.

As a conclusion to these Reply Comments, the CAISO emphasizes its recommendation that the Commission make the key threshold decisions necessary to adopt a multi-year forward RA commitment framework based on a CCM, and to articulate the high-level state policy goals that such a framework must achieve. Such a decision would affirm the Commission's intent to provide a meaningful role for competitive market-based infrastructure investment in supply and demand resources, and would initiate the subsequent detailed CCM design process, which would then adopt the stated policy goals as guiding principles for the effort.

Consistent with the above, the CAISO further recommends that the Commission refrain from deciding the details of the CCM design. The CAISO recognizes that following such a threshold decision, there will be issues that remain unanswered and

perhaps new ones that will arise, some of which should be addressed in a subsequent Commission proceeding as well as many other issues of CCM design that should be addressed through the CAISO stakeholder process. The CAISO believes that these two processes can be conducted in parallel after the Commission provides its policy direction. However, if the Commission adopts a CCM and at the same time specifies design details of that CCM ex ante, the CAISO is concerned that this will make it more difficult to approach CCM design from a whole-system perspective, and to specify the various design details in an optimal manner that achieves the best comprehensive, internally consistent and workable long-term RA structure. The CAISO is particularly concerned about certain elements of Staff Recommendation 1, on which the CAISO commented in the previous round of comments (see, in particular, pp. 13-23). Although Staff Recommendation 1 was presented as a centralized capacity market approach, several of its elements – including the 90 percent forward procurement and CCM opt-out requirement on the IOUs, and the ex post PER deduction applying only to capacity that clears the CCM, among others – have the potential to undermine the ability of the CCM to achieve the objective of attracting market-based investment based on accurate, transparent price signals. The CAISO therefore recommends that the Commission not establish Staff Recommendation 1 or its specific components as a basis for initiating discussion in subsequent activities on CCM design.

III. CONCLUSION

For the foregoing reasons, the CAISO respectfully requests that the Commission adopt the CAISO's positions and recommendations in this matter, and establish a long-term RA framework, including a multi-year forward capacity commitment process and CCM structure, consistent with the discussion in these comments.

Respectfully submitted,

/s/Beth Ann Burns

Beth Ann Burns

Senior Counsel

CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

151 Blue Ravine Road

Folsom California 95630

Tel. (916) 351-4400

Fax. (916) 608-7296

Email: bburns@caiso.com

CERTIFICATE OF SERVICE

I hereby certify that on March 14, 2008, I served, by electronic mail and United States Mail, a copy of Reply Comments of The California Independent System Operator on Staff Recommendations on Capacity Market Structure on all parties in Docket Number R.05-12-013.

DATED at Folsom, California on March 14, 2008.

/s/ Susan L. Montana

Susan L. Montana

smontana@caiso.com

An Employee of the California
Independent System Operator

ANDREW B. BROWN
ELLISON, SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO, CA 95811
abb@eslawfirm.com

ADAM J. KATZ
MCDERMOTT WILL & EMERY LLP
600 13TH STREET, NW,
WASHINGTON, DC 20005
ajkatz@mwe.com

G. ALAN COMNES
NRG ENERGY, INC.
1819 ASTON STREET, SUITE 105
CARLSBAD, CA 92008
alan.comnes@nrgenergy.com

FRANK ANNUNZIATO
AMERICAN UTILITY NETWORK INC.
10705 DEER CANYON DR.
ALTA LOMA, CA 91737-2483
allwazeready@aol.com

ANDREA WELLER
STRATEGIC ENERGY
3130 D BALFOUR RD., SUITE 290
BRENTWOOD, CA 94513
aweller@sel.com

BRIAN T. CRAGG
GOODIN MACBRIDE SQUERI RITCHIE & DAY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
beragg@goodinmacbride.com

SCOTT BLAISING
BRAUN & BLAISING, P.C.
915 L STREET, STE. 1270
SACRAMENTO, CA 95814
blaising@braunlegal.com

C. ANTHONY BRAUN
BRAUN & BLAISING P.C.
915 L STREET, SUITE 1270
SACRAMENTO, CA 95814
braun@braunlegal.com

BARRY R. FLYNN
FLYNN RESOURCE CONSULTANTS, INC.
5440 EDGEVIEW DRIVE
DISCOVERY BAY, CA 94514
brflynn@flynnrci.com

CATHIE ALLEN
PACIFICORP
825 NE MULTNOMAH STREET, SUITE 2000
PORTLAND, OR 97232
californiadockets@pacificorp.com

CARMEN BASKETTE
ENERNOC, INC.
594 HOWARD STREET, SUITE 400
SAN FRANCISCO, CA 94105
cbaskette@enernoc.com

Charlyn A. Hook
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4107
SAN FRANCISCO, CA 94102-3214
chh@cpuc.ca.gov

CONSTANCE PARR LENI
CALIFORNIA ENERGY COMMISSION
1516 NINTH ST
MS-20
SACRAMENTO, CA 95814
Cleni@energy.state.ca.us

CAROLYN KEHREIN
ENERGY MANAGEMENT SERVICES
1505 DUNLAP COURT
DIXON, CA 95620-4208
cmkehrein@ems-ca.com

COURTNEY WEDDINGTON
COMMERCE ENERGY INC
222 W. LAS COLINAS BLVD., STE. 950-E
IRVING, TX 75039
cweddington@commerceenergy.com

DAVID LLOYD
NRG ENERGY
1817 ASTON AVENUE, SUITE 104
CARLSBAD, CA 92008
david.lloyd@nrgenergy.com

DAN L. CARROLL
DOWNEY BRAND, LLP
555 CAPITOL MALL, 10TH FLOOR
SACRAMENTO, CA 95814
dcarroll@downeybrand.com

DAVID E. MORSE
1411 W. COVELL BLVD., SUITE 106-292
DAVIS, CA 95616-5934
demorse@omsoft.com

DIRK A. VAN ULDEN
UNIVERSITY OF CALIFORNIA
1111 FRANKLIN STREET, ROOM 6207
OAKLAND, CA 94607
dirk.vanulden@ucop.edu

DOUGLAS MCFARLAN
MIDWEST GENERATION EME
440 SOUTH LASALLE ST., SUITE 3500
CHICAGO, IL 60605
dmcfarlan@mwgen.com

Andrew Campbell
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5203
SAN FRANCISCO, CA 94102-3214
age@cpuc.ca.gov
AKBAR JAZAYEIRI
SOUTHERN CALIFORNIA EDISON COMPANY
2241 WALNUT GROVE AVE. ROOM 390
PO BOX 800
ROSEMEAD, CA 91770
akbar.jazayeri@sce.com

ALEXANDER B. MAKLER
CALPINE CORPORATION
3875 HOPYARD ROAD, SUITE 345
PLEASANTON, CA 94588
alexm@calpine.com

ANNA MCKENNA
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
amckenna@caiso.com

Bishu Chatterjee
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
bbc@cpuc.ca.gov

BETH VAUGHAN
CALIFORNIA COGENERATION COUNCIL
4391 N. MARSH ELDER COURT
CONCORD, CA 94521
beth@beth411.com

BARRY F. MCCARTHY
MCCARTHY & BERLIN, LLP
100 PARK CENTER PLAZA, SUITE 501
SAN JOSE, CA 95113
bmcc@mcCarthyLaw.com

CHARLES A. BRAUN
BRAUN & BLAISING, P.C.
915 L STREET, STE. 1420
SACRAMENTO, CA 95814
braun@braunlegal.com

BRIAN THEAKER
DYNEGY
980 NINTH STREET, SUITE 2130
SACRAMENTO, CA 95814
brian.theaker@dynegy.com

CARLA PETERMAN
UCEI
2547 CHANNING WAY
BERKELEY, CA 94720
carla.peterman@gmail.com

CALIFORNIA ENERGY MARKETS
517-B POTRERO AVENUE
SAN FRANCISCO, CA 94110
cem@newsdata.com

CHRISTOPHER A. HILEN
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO, NV 89511
chilen@sppc.com

CRAIG MARTIN
CALPINE CORPORATION
19100 VISTA DE MONTANAS
MURRIETA, CA 92562
cmartin@calpine.com

CRYSTAL NEEDHAM
EDISON MISSION ENERGY
18101 VON KARMAN AVE., STE 1700
IRVINE, CA 92612-1046
cneedham@edisonmission.com

CYNTHIA A. FONNER
CONSTELLATION ENERGY GROUP INC
500 WEST WASHINGTON ST, STE 300
CHICAGO, IL 60661
Cynthia.A.Fonner@constellation.com

DAVID BRANCHCOMB
BRANCHCOMB ASSOCIATES, LLC
9360 OAKTREE LANE
ORANGEVILLE, CA 95662
david@branchcomb.com

DONALD BROOKHYSER
ALCANTAR & KAHL LLP
1300 S.W. 5TH AVENUE, SUITE 1750
PORTLAND, OR 97201
deb@aklaw.com

DENINIS DE CUIR
DENNIS W. DE CUIR, A LAW CORPORATION
2999 DOUGLAS BOULEVARD, SUITE 325
ROSEVILLE, CA 95661
dennis@ddcdecur.com

Donna J. Hines
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4102
SAN FRANCISCO, CA 94102-3214
djh@cpuc.ca.gov

DESPINA NIEHAUS
SAN DIEGO GAS AND ELECTRIC COMPANY
8330 CENTURY PARK COURT, CP32H
SAN DIEGO, CA 92123-1530
dniehaus@semprautilities.com

ANN HENDRICKSON
COMMERCE ENERGY, INC.
222 WEST LAS COLINAS BLVD., SUITE 950E
IRVING, TX 75039
ahendrickson@commerceenergy.com

G. ALAN COMNES
NRG ENERGY, INC.
1819 ASTON STREET, SUITE 105
CARLSBAD, CA 92008
alan.comnes@nrgenergy.com

ARTHUR HAUBENSTOCK
PACIFIC GAS AND ELECTRIC COMPANY
MC B30A PO BOX 770000
SAN FRANCISCO, CA 94177
ALHJ@pge.com

ANNA MCKENNA
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
amckenna@caiso.com

BONNIE S. BLAIR
THOMPSON COBURN LLP
1909 K STREET, N.W., SUITE 600
WASHINGTON, DC 20006
bblair@thompsoncoburn.com

BILL CHEN
CONSTELLATION NEWENERGY, INC.
ONE MARKET STREET
SPEAR TOWER, 36HT FLOOR
SAN FRANCISCO, CA 94105
bill.chen@constellation.com

BOB ANDERSON
APS ENERGY SERVICES CO. INC.
5255 COUNTY RD 139 SE
STEWARTVILLE, MN 55976-8085
Bob_Anderson@apses.com

BARBARA R. BARKOVICH
BARKOVICH & YAP, INC.
44810 ROSEWOOD TERRACE
MENDOCINO, CA 95460
rbarkovich@earthlink.net

HSI BANG TANG
AZUSA LIGHT, POWER & WATER
729 N. AZUSA AVENUE
AZUSA, CA 91702-9500
btang@ci.azusa.ca.us

CASE ADMINISTRATION
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
LAW DEPARTMENT, ROOM 370
ROSEMEAD, CA 91770
Case.Admin@sce.com

CENTRAL FILES
SAN DIEGO GAS AND ELECTRIC COMPANY
8330 CENTURY PARK COURT, CP31E
SAN DIEGO, CA 92123
centralfiles@semprautilities.com

CYNTHIA HINMAN
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
CHinman@caiso.com

CHARLES MEE
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVENUE, LL90
SACRAMENTO, CA 95821
cmee@water.ca.gov

CARL PECHMAN
POWER ECONOMICS
901 CENTER STREET
SANTA CRUZ, CA 95060
cpechman@powereconomics.com

DANIEL A. KING
SEMPPRA ENERGY
101 ASH STREET, HQ 12
SAN DIEGO, CA 92101
daking@sempra.com

DEREK BANDERA
NERGY, INC.
1901 NORTH MOORE STREET
ARLINGTON, VA 22209
dbandera@reliant.com

DEBRA LLOYD
CITY OF PALO ALTO
250 HAMILTON AVE.
PALO ALTO, CA 94301
debra.lloyd@cityofpaloalto.org

DON P. GARBER
SAN DIEGO GAS AND ELECTRIC
101 ASH STREET
SAN DIEGO, CA 92101-3017
DGarber@sempra.com

DAVID X. KOLK
COMPLETE ENERGY SERVICES INC
41422 MAGNOLIA STREET
MURRIETA, CA 92562
dkolk@compenergy.com

DANIEL W. DOUGLASS
DOUGLASS & LIDDELL
21700 OXNARD STREET, SUITE 1030
WOODLAND HILLS, CA 91367
douglass@energyattorney.com

ANTHONY J. IVANCOVICH
CALIFORNIA INDEP. SYSTEM OPERATOR CORP
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
aivancoovich@caiso.com

ALAN COMNES
WEST COAST POWER
3934 SE ASH STREET
PORTLAND, OR 97214
alan.comnes@nrgenergy.com

ANDREW L. HARRIS
PACIFIC GAS & ELECTRIC COMPANY
PO BOX 770000 MAIL CODE B9A
SAN FRANCISCO, CA 94177
alho@pge.com

AUDRA HARTMANN
DYNEGY, INC.
980 NINTH STREET, SUITE 2130
SACRAMENTO, CA 95814
Audra.Hartmann@Dynegy.com

BETH ANN BURNS
CALIFORNIA ISO
151 BLUE RAVINE ROAD
LEGAL & REGULATORY DEPARTMENT
FOLSOM, CA 95630
bburns@caiso.com

BRIAN K. CHERRY
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000, MAIL CODE: B10C
SAN FRANCISCO, CA 94177
bkc7@pge.com

KEVIN BOUDREAUX
CALPINE CORPORATION
717 TEXAS AVE.
HOUSTON, TX 77002
boudreaux@calpine.com

BIANCA BOWMAN
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, MAIL CODE B9A
SAN FRANCISCO, CA 94105
brbc@pge.com

CLAUDIA GREIF
3144 ALANHILL LANE
SAN MATEO, CA 94403
c.greif@comcast.net

CARLA BANKS
COMPLETE ENERGY
1331 LAMAR, SUITE 650
HOUSTON, TX 77010
cbanks@complete-energy.com

CENTRAL FILES
SAN DIEGO GAS AND ELECTRIC COMPANY
8330 CENTURY PARK COURT-CP31E
SAN DIEGO, CA 92123-1530
centralfiles@semprautilities.com

CHRISTOPHER C. OHARA
NRG ENERGY
211 CARNEGIE CENTER DRIVE
PRINCETON, NJ 8540
chris.ohara@nrgenergy.com

CATALIN MICSA
CAISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
cmicsa@caiso.com

CURTIS KEBLER
GOLDMAN, SACHS & CO.
2121 AVENUE OF THE STARS
LOS ANGELES, CA 90067
curtis.kebler@gs.com

DAN SILVERIA
SURPRISE VALLEY ELECTRIC CORPORATION
PO BOX 691
ALTURAS, CA 96101
dansvec@hdo.net

Donald J. Brooks
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
dbr@cpuc.ca.gov

DENNIS M.P. EHILING
KIRKPATRICK & LOCKHART NICHOLSON
GRAHAM
10100 SANTA MONICA BLVD., 7TH FLOOR
LOS ANGELES, CA 90067
dehling@kling.com

DIANE I. FELLMAN
FPL ENERGY, LLC
234 VAN NESS AVENUE
SAN FRANCISCO, CA 94102
diane_fellman@fpl.com

DAVID MARCUS
PO BOX 1287
BERKELEY, CA 94701
dmarcus2@sbglobal.net

DESPINA PAPAPOSTOLOU
SAN DIEGO GAS AND ELECTRIC COMPANY
8330 CENTURY PARK COURT-CP32H
SAN DIEGO, CA 92123-1530
dpapapostolou@semprautilities.com

DAVID A. SANDINO
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
1416 9TH STREET RM 1118
SACRAMENTO, CA 95814
dsandino@water.ca.gov

ED CHANG
FLYNN RESOURCE CONSULTANTS, INC.
2165 MOONSTONE CIRCLE
EL DORADO HILLS, CA 95762
edchang@flynnrci.com

EVELYN KAHL
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA 94104
ek@a-klaw.com

ERIC OLSON
NAVIGANT CONSULTING INC.
3100 ZINFANDEL DR., STE 600
RANCHO CORDOVA, CA 95670-6078
eolson@navigantconsulting.com

KAREN TERRANOVA
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, STE 2200
SAN FRANCISCO, CA 94104
filings@a-klaw.com

GREG BASS
SEMPRA ENERGY SOLUTIONS
101 ASH STREET, HQ09
SAN DIEGO, CA 92101-3017
gbass@semprasolutions.com

UNIVERSITY OF CALIFORNIA
1111 FRANKLIN STREET, 6TH FLOOR
OAKLAND, CA 94607
george.getgen@ucop.edu

GRACE LIVINGSTON-NUNLEY
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000 MAIL CODE B9A
SAN FRANCISCO, CA 94177
GX.L2@pge.com

IRYNA KWASNY
DEPT. OF WATER RESOURCES-CERS DIVISION
3310 EL CAMINO AVE., STE.120
SACRAMENTO, CA 95821
ikwasny@water.ca.gov

JENNIFER CHAMBERLIN
STRATEGIC ENERGY, LLC
2633 WELLINGTON CT.
CLYDE, CA 94520
jchamberlin@strategicenergy.com

JEFFREY P. GRAY
DAVIS WRIGHT TREMAINE, LLP
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO, CA 94111-6533
jeffgray@dwt.com

JOHN GOODIN
CALIFORNIA ISO
151 BLUE RAVINE RD.
MARKET & PRODUCT DEVELOPMENT
FOLSOM, CA 95630
jgoodin@caiso.com

JEDEDIAH GIBSON
ELLISON SCHNEIDER & HARRIS
2015 H STREET
SACRAMENTO, CA 95814
jig@eslawfirm.com

JANE E. LUCKHARDT
DOWNEY BRAND LLP
555 CAPITOL MALL, 10TH FLOOR
SACRAMENTO, CA 95814
jluckhardt@downeybrand.com

Joe Como
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5033
SAN FRANCISCO, CA 94102-3214
joc@cpuc.ca.gov

JOY A. WARREN
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA 95354
joyw@mid.org

JUDY PAU
DAVIS WRIGHT TREMAINE LLP
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO, CA 94111-6533
judypau@dwt.com

JOSEPH F. WIEDMAN
GOODIN MACBRIDE SQUERI DAY & LAMPREY
LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
jwiedman@goodinmacbride.com

KAREN A. LINDH
LINDH & ASSOCIATES
7909 WALERGA ROAD, NO. 112, PMB 119
ANTELOPE, CA 95843
karen@klindh.com

KIRBY DUSEL
NAVIGANT CONSULTING, INC.
3100 ZINFANDEL DRIVE, SUITE 600
RANCHO CORDOVA, CA 95670
kdusel@navigantconsulting.com

DEVRA WANG
NATURAL RESOURCES DEFENSE COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA 94104
dwang@nrdc.org

Elizabeth Dorman
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4300
SAN FRANCISCO, CA 94102-3214
edd@cpuc.ca.gov

Elizabeth Stoltzfus
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
eks@cpuc.ca.gov

CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
e-recipient@caiso.com

FRED MASON
CITY OF BANNING
176 EAST LINCOLN
BANNING, CA 92220
fmason@ci.banning.ca.us

GURCHARAN BAWA
PASADENA WATER AND POWER
150 S. LOS ROBLES, SUITE 200
PASADENA, CA 91101
gbawa@cityofpasadena.net

GIFFORD JUNG
POWEREX CORPORATION
666 BURRARD STREET, SUITE 1400
VANCOUVER, BC V6C 2X8
gifford.jung@powerex.com

MICHAEL WERNER
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVE, LL90
SACRAMENTO, CA 95821
heronin@water.ca.gov

IRENE K. MOOSEN
53 SANTA YNEZ AVENUE
SAN FRANCISCO, CA 94112
irene@igc.org

JACQUELINE DEROSA
CUSTOMIZED ENERGY SOLUTIONS
101 PARKSHORE DRIVE SUITE 100
FOLSOM, CA 95630
jderosa@ces-ild.com

JENINE SCHENK
APS ENERGY SERVICES
400 E. VAN BUREN STREET, SUITE 750
PHOENIX, AZ 85004
jenine.schenk@apses.com

JIM HENDRY
SAN FRANCISCO PUBLIC UTILITIES COMM.
1155 MARKET STREET, 4TH FLOOR
SAN FRANCISCO, CA 94103
jhendry@sfwater.org

JEDEDIAH J. GIBSON
ELLISON SCHNEIDER & HARRIS LLP
2015 H STREET
SACRAMENTO, CA 95811
jig@eslawfirm.com

JAMES MCCLAIN
CALIFORNIA INDEPENDENT SYSTEM OPERATOR
C
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
jmcclain@caiso.com

UNIVERSITY OF CALIFORNIA
1111 FRANKLIN STREET, 6TH FLOOR
OAKLAND, CA 94607
john.rolle@ucop.edu

JOHN PACHECO
CA DEPT. OF WATER RESOURCES
3310 EL CAMINO AVENUE, SUITE 120
SACRAMENTO, CA 95821
jpacheco@water.ca.gov

JULIE L. MARTIN
NORTH AMERICA GAS AND POWER
501 WESTLAKE PARK BLVD.
BP ENERGY COMPANY
HOUSTON, TX 77079
julie.martin@bp.com

JIM WOODWARD
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS 20
SACRAMENTO, CA 95814-5504
jwoodwar@energy.state.ca.us

KATHRYN WIG
NRG ENERGY, INC.
211 CARNEGIE CENTER
PRINCETON, NY 8540
Kathryn.Wig@nrgenergy.com

Kathryn Auriemma
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
kdw@cpuc.ca.gov

DAVID WITHROW
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
dwithrow@caiso.com

EDWARD W. O'NEILL
DAVIS WRIGHT TREMAINE LLP
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO, CA 94111-6533
edwardoneill@dwt.com

ED LUCHA
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000, MAIL CODE B9A
SAN FRANCISCO, CA 94177
ELL5@pge.com

EDWARD V. KURZ
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET
SAN FRANCISCO, CA 94105
evk1@pge.com

FRED MOBASHERI
ELECTRIC POWER GROUP
201 S. LAKE AVE., SUITE 400
PASADENA, CA 91101
fmobasher@aol.com

GREGORY T. BLUE
ENXCO DEVELOPMENT CORP.
5000 EXECUTIVE PARKWAY, STE. 140
SAN RAMON, CA 94583
gblue@enxco.com

GRANT A. ROSENBLUM
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
grosenblum@caiso.com

HOLLY B. CRONIN
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVE., LL-90
SACRAMENTO, CA 95821
hcronin@water.ca.gov

L. JAN REID
COAST ECONOMIC CONSULTING
3185 GROSS ROAD
SANTA CRUZ, CA 95062
janreid@coastecon.com

JEFFERY D. HARRIS
ELLISON, SCHNEIDER & HARRIS LLP
2015 H STREET
SACRAMENTO, CA 95814-3109
jdh@eslawfirm.com

JESUS ARREDONDO
NRG ENERGY INC.
4600 CARLSBAD BLVD.
CARLSBAD, CA 92008
jesus.arredondo@nrgenergy.com

JAMES MAYHEW
MIRANT CORPORATION
1155 PERIMETER CENTER WEST
ATLANTA, GA 30338
jim.mayhew@mirant.com

KAREN E. BOWEN
WINSTON & STRAWN LLP
101 CALIFORNIA STREET, 39TH FLOOR
SAN FRANCISCO, CA 94111
jkarp@winston.com

JAMES MCMAHON
CRA INTERNATIONAL
50 CHURCH ST.
CAMBRIDGE, MA 2138
jmcMahon@crai.com

JOHN R. REDDING
ARCTURUS ENERGY CONSULTING
44810 ROSEWOOD TERRACE
MENDOCINO, CA 95460
johnredding@earthlink.net

JANINE L. SCANCARELLI
FOLGER, LEVIN & KAHN, LLP
275 BATTERY STREET, 23RD FLOOR
SAN FRANCISCO, CA 94111
jscancarelli@flk.com

John Walser
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
jw6@cpuc.ca.gov

KENNETH E. ABREU
853 OVERLOOK COURT
SAN MATEO, CA 94403
k.abreu@sbglobal.net

KATIE KAPLAN
INTEGRATED ENERGY SOLUTIONS LLC
2701 DEL PASO ROAD, SUITE 130-304
SACRAMENTO, CA 95835
katie@iesolutionsllc.net

KEVIN WOODRUFF
WOODRUFF EXPERT SERVICES, INC.
1100 K STREET, SUITE 204
SACRAMENTO, CA 95814
kdw@woodruff-expert-services.com

DONALD SCHOENBECK
RCS, INC.
900 WASHINGTON STREET, SUITE 780
VANCOUVER, WA 98660
dws@r-c-s-inc.com

E.J. WRIGHT
OCCIDENTAL POWER SERVICES, INC.
5 GREENWAY PLAZA, SUITE 110
HOUSTON, TX 77046
ej_wright@oxy.com

ELENA MELLO
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO, NV 89520
emello@sppc.com

VICKI E. FERGUSON
BRAUN & BLAISING P.C.
915 L STREET, SUITE 1420
SACRAMENTO, CA 95814
ferguson@braunlegal.com

Farzad Ghazzagh
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4209
SAN FRANCISCO, CA 94102-3214
fxg@cpuc.ca.gov

GARY DESHAZO
CALIFORNIA ISO
PO BOX 639014
FOLSOM, CA 95763-9014
gdeshazo@caiso.com

GRETCHEN SCHOTT
RELIANT ENERGY, INC.
1000 MAIN STREET
HOUSTON, TX 77002
gschott@reliant.com

HUGH TARPLEY
COMPLETE ENERGY
1331 LAMAR SUITE 650
HOUSTON, TX 77010
htarpley@complete-energy.com

JEANNE B. ARMSTRONG
GOODIN MACBRIDE SQUERI RITCHIE & DAY LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
jamstrong@goodinmacbride.com

JEFF LAM
POWEREX CORP
666 BURRARD STREET, SUITE 1400
VANCOUVER, BC V6C 2X8
jeff.lam@powerex.com

JACQUELINE GEORGE
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVE, RM. 120
SACRAMENTO, CA 95821
jgeorge@water.ca.gov

JAMES ROSS
REGULATORY & COGENERATION SERVICES, INC.
500 CHESTERFIELD CENTER, SUITE 320
CHESTERFIELD, MO 63017
jimross@r-c-s-inc.com

JOHN W. LESLIE
LUCE, FORWARD, HAMILTON & SCRIPPS, LLP
11988 EL CAMINO REAL, SUITE 200
SAN DIEGO, CA 92130
jleslie@luce.com

JENNIFER A. MORRISSEY
CLEARY GOTTlieb STEEN & HAMILTON LLP
2000 PENNSYLVANIA AVE., NW, SUITE 900
WASHINGTON, DC 20006
jmorrissey@cgsb.com

JEANNETTE OLKO
650 NORTH LA CADENA DRIVE
COLTON ELECTRIC DEPARTMENT
COLTON, CA 92324
jolko@ci.colton.ca.us

JAMES D. SQUERI
GOODIN, MACBRIDE, SQUERI, DAY & LAMPREY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
jsqueri@goodinmacbride.com

JAMES WEIL
AGLET CONSUMER ALLIANCE
PO BOX 37
COOL, CA 95614
jweil@aglet.org

KEONI ALMEIDA
CALIFORNIA INDEPENDENT SYSTEM OPERATOR
151 BLUE RAVINE RD.
FOLSOM, CA 95630
kalmeida@caiso.com

Kevin R. Dudley
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
kd1@cpuc.ca.gov

KEITH MCCREA
SUTHERLAND, ASBILL & BRENNAN
1275 PENNSYLVANIA AVENUE, NW
WASHINGTON, DC 20004-2415
keith.mccrea@sablaw.com

KENNY SWAIN
NAVIGANT CONSULTING
3100 ZINFANDEL DRIVE, SUITE 600
RANCHO CORDOVA, CA 95670
kenneth.swain@navigantconsulting.com

KEVIN J. SIMONSEN
ENERGY MANAGEMENT SERVICES
646 EAST THIRD AVENUE
DURANGO, CO 81301
kjsimonsen@ems-ca.com

KARLEEN O'CONNOR
WINSTON & STRAWN LLP
101 CALIFORNIA STREET 39TH FLR
SAN FRANCISCO, CA 94111
koonor@winston.com

KRIS G. CHISHOLM
CALIFORNIA ELECTRICITY OVERSIGHT BOARD
770 L STREET, SUITE 1250
SACRAMENTO, CA 95814
kris.chisholm@eob.ca.gov

Laurence Chaset
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5131
SAN FRANCISCO, CA 94102-3214
lau@cpuc.ca.gov

DONALD C. LIDDELL
DOUGLASS & LIDDELL
2928 2ND AVENUE
SAN DIEGO, CA 92103
liddell@energyattorney.com

LAWRENCE KOSTRZEWA
EDISON MISSION ENERGY
18101 VON KARMAN AVE., STE 1700
IRVINE, CA 92612-1046
lkostrzewa@edisonmission.com

LEE TERRY
CALIFORNIA DEPARTMENT OF WATER
RESOURCES
3310 EL CAMINO AVENUE
SACRAMENTO, CA 95821
lterry@water.ca.gov

MARCIE MILNER
CORAL ENERGY RESOURCES, L P
4445 EASTGATE MALL, SUITE 100
SAN DIEGO, CA 92121
marcie.milner@shell.com

BRUCE MCLAUGHLIN
BRAUN & BLAISING, P.C.
915 L STREET SUITE 1420
SACRAMENTO, CA 95814
mclaughlin@braunlegal.com

MELANIE GILLETTE
ENERNOC, INC.
115 HAZELMERE DRIVE
FOLSOM, CA 95630
mgillette@enernoc.com

MIKE JASKE
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-22
SACRAMENTO, CA 95814
mjaskel@energy.state.ca.us

MARC PRYOR
CALIFORNIA ENERGY COMMISSION
1516 9TH ST, MS 20
SACRAMENTO, CA 95814
mpryor@energy.state.ca.us

MICHAEL SHAMES
UTILITY CONSUMERS' ACTION NETWORK
3100 FIFTH AVENUE, SUITE B
SAN DIEGO, CA 92103
mshames@ucan.org

MICHAEL A. YUFFEE
MCDERMOTT WILL & EMERY LLP
600 THIRTEENTH STREET, N.W.
WASHINGTON, DC 20005-3096
myuffee@mwc.com

NANCY TRONAAS
CALIFORNIA ENERGY COMMISSION
1516 9TH ST. MS-20
SACRAMENTO, CA 95814-5512
ntronaas@energy.state.ca.us

PHILIP HERRINGTON
EDISON MISSION ENERGY
18101 VON KARMAN AVENUE, STE 1700
IRVINE, CA 92612-1046
pherrington@edisonmission.com

PHILIP D. PETTINGILL
CALIFORNIA INDEPENDENT SYSTEM OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
ppettingill@caiso.com

JOHN DUTCHER
MOUNTAIN UTILITIES
3210 CORTE VALENCIA
FAIRFIELD, CA 94534-7875
ralfd241a@cs.com

RICK C. NOGER
PRAXAIR PLAINFIELD, INC.
2711 CENTERVILLE ROAD, SUITE 400
WILMINGTON, DE 19808
rick_noger@praxair.com

KERRY HATTEVIK
MIRANT CORPORATION
696 WEST 10TH STREET
PITTSBURG, CA 94565
kerry.hattevik@mirant.com

GREGORY S.G. KLATT
DOUGLASS & LIDDELL
411 E. HUNTINGTON DRIVE, SUITE 107-356
ARCADIA, CA 91007
klatt@energyattorney.com

AVIS KOWALEWSKI
CALPINE CORPORATION
3875 HOPYARD ROAD, SUITE 345
PLEASANTON, CA 94588
kowalewska@calpine.com

KEN SIMS
SILICON VALLEY POWER
1601 CIVIC CENTER DR. NO. 201
SANTA CLARA, CA 95050
ksims@siliconvalleypower.com

LAURA GENAO
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
LAW DEPARTMENT
ROSEMead, CA 91770
laura.genao@sce.com

LINDA Y. SHERIF
CALPINE CORPORATION
3875 HOPYARD ROAD, SUITE 345
PLEASANTON, CA 94588
linda.sherif@calpine.com

LORENZO KRISTOV
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
lkristov@caiso.com

LEEANNE UHLER
CITY OF RIVERSIDE
2911 ADAMS STREET
RIVERSIDE, CA 92504
luhler@riversideca.gov

MARK J. SMITH
FPL ENERGY
3195 DANVILLE BLVD, STE 201
ALAMO, CA 94507
mark_j_smith@fpl.com

MICHAEL B. DAY
GOODIN MACBRIDE SQUERI DAY & LAMPREY
LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
mday@goodinmacbride.com

MICHAEL A. BACKSTROM
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
ROSEMead, CA 91770
michael.backstrom@sce.com

Matthew Deal
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5215
SAN FRANCISCO, CA 94102-3214
mjd@cpuc.ca.gov

MANUEL RAMIREZ
CITY AND COUNTY OF SAN FRANCISCO
1155 MARKET STREET, 4TH FLOOR
SAN FRANCISCO, CA 94103
mramirez@sfgwater.org

Mark S. Wetzell
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5009
SAN FRANCISCO, CA 94102-3214
msw@cpuc.ca.gov

Nancy Ryan
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5217
SAN FRANCISCO, CA 94102-3214
ner@cpuc.ca.gov

SHMUEL S. OREN
UNIVERSITY OF CALIFORNIA AT BERKELEY
ETCHEVERRY HALL 4119
BERKELEY, CA 94720-1777
oren@ieor.berkeley.edu

PHILIPPE AUCLAIR
11 RUSSELL COURT
WALNUT CREEK, CA 94598
philha@astound.net

PETER TELLEGEN
COMPLETE ENERGY
1331 LAMAR, SUITE 650
HOUSTON, TX 77010
ptellegen@complete-energy.com

RICHARD H. COUNIHAN
ENERNOC, INC.
594 HOWARD ST., SUITE 400
SAN FRANCISCO, CA 94105
rcounihan@enernoc.com

RONALD MOORE
GOLDEN STATE WATER/BEAR VALLEY ELECTRIC
630 EAST FOOTHILL BOULEVARD
SAN DIMAS, CA 91773
rkmoore@gswater.com

KATHLEEN ESPOSITO
CRESTED BUTTE CATALYSTS LLC
PO BOX 668
CRESTED BUTTE, CO 81224
kesposito@cbccatalysts.com

KIMBERLY KIENER
IMPERIAL IRRIGATION DISTRICT
504 CATALINA BLVD.
SAN DIEGO, CA 92106
kмкиener@cox.net

Karen P. Paull
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4300
SAN FRANCISCO, CA 94102-3214
kpp@cpuc.ca.gov

KEITH SWITZER
GOLDEN STATE WATER COMPANY
630 EAST FOOTHILL BLVD.
SAN DIMAS, CA 91773-9016
kswitzer@gswater.com

LISA A. COTTLE
WINSTON & STRAWN LLP
101 CALIFORNIA STREET, 39TH FLOOR
SAN FRANCISCO, CA 94111
lcottle@winston.com

LISA M. DECKER
CONSTELLATION ENERGY GROUP, INC.
111 MARKET PLACE, SUITE 500
BALTIMORE, MD 21202
lisa.decker@constellation.com

LYNN MARSHALL
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-22
SACRAMENTO, CA 95814
lmarshall@energy.state.ca.us

LISA G. URICK
SAN DIEGO GAS & ELECTRIC COMPANY
101 ASH STREET, HQ-12
SAN DIEGO, CA 92101
LURick@sempra.com

MARY LYNCH
CONSTELLATION ENERGY COMMODITIES GROUP
2377 GOLD MEDAL WAY, SUITE 100
GOLD RIVER, CA 95670
mary.lynych@constellation.com

MARC D. JOSEPH
ADAMS, BROADWELL, JOSEPH & CARDOZO
601 GATEWAY BLVD., STE. 1000
SOUTH SAN FRANCISCO, CA 94080
mdjoseph@adamsbroadwell.com

MIKE EVANS
CORAL POWER, LLC
4445 EASTGATE MALL, SUITE 100
SAN DIEGO, CA 92121
michael.evans@shell.com

MICHAEL MAZUR
3 PHASES RENEWABLES, LLC
8333 ZITOLA TER
PLAYA DEL REY, CA 90293-7835
mmazur@3phasesRenewables.com

MIKE RINGER
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-20
SACRAMENTO, CA 95814
mringer@energy.state.ca.us

MICHAEL TEN EYCK
CITY OF RANCHO CUCAMONGA
10500 CIVIC CENTER DRIVE
RANCHO CUCAMONGA, CA 91730
MTENEYCK@CI.RANCHO-CUCAMONGA.CA.US

JESSICA NELSON
PLUMAS-SIERRA RURAL ELECTRIC CO-OP
73233 HIGHWAY 70 STE A
PO BOX 2000
PORTOLA, CA 96122-2000
notice@psrec.coop

PATRICIA GIDEON
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000
PG&E, MAIL CODE B9A
SAN FRANCISCO, CA 94177
peg8@pge.com

PHILLIP J. MULLER
SCD ENERGY SOLUTIONS
436 NOVA ALBION WAY
SAN RAFAEL, CA 94903
philm@scedenergy.com

PATRICIA THOMPSON
SUMMIT BLUE CONSULTING
2920 CAMINO DIABLO, SUITE 210
WALNUT CREEK, CA 94597
pthompson@summitblue.com

BOB EMMERT
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
remmert@caiso.com

Robert L. Strauss
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
rls@cpuc.ca.gov

KEITH JOHNSON
CALIFORNIA INDEPENDENT SYSTEM OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
kjohnson@caiso.com

KIM KIENER
504 CATALINA BLVD.
SAN DIEGO, CA 92106
kмкиener@fox.net

Katie Liu
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4103
SAN FRANCISCO, CA 94102-3214
kql@cpuc.ca.gov

KURT DUVAL
CITY OF CORONA
730 CORPORATION YARD WAY
DEPT. OF WATER AND POWER
CORONA, CA 92880
kurt.duval@ci.corona.ca.us

LES PEREIRA
NORTHERN CALIFORNIA POWER AGENCY
180 CIRBY WAY
ROSEVILLE, CA 95678
Les.Pereira@ncpa.com

LISA WEINZIMER
PLATTS MCGRAW-HILL
695 NINTH AVENUE, NO. 2
SAN FRANCISCO, CA 94118
lisa_weinzimer@platts.com

LYNN M. HAUG
ELLISON & SCHNEIDER
2015 H STREET
SACRAMENTO, CA 95814-3109
lmh@eslawfirm.com

LANA WONG
CALIFORNIA ENERGY COMMISSION
1516 NINTH ST., MS-20
SACRAMENTO, CA 95814
lwong@energy.state.ca.us

UNIVERSITY OF CALIFORNIA
1111 FRANKLIN STREET, 6TH FLOOR
OAKLAND, CA 94607
matthew.stclair@ucop.edu

MICHEL PETER FLORIO
THE UTILITY REFORM NETWORK (TURN)
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO, CA 94102
mflorio@turn.org

MICHAEL J. GERGEN
LATHAM & WATKINS LLP
555 ELEVENTH STREET, NW
SUITE 1000
WASHINGTON, DC 20004-1304
michael.gergen@lw.com

MARGARET E. MCNAUL
THOMPSON COBURN LLP
1909 K STREET, N.W., SUITE 600
WASHINGTON, DC 20006
mmcnaul@thompsoncoburn.com

MRW & ASSOCIATES, INC.
1814 FRANKLIN STREET, SUITE 720
OAKLAND, CA 94612
mrw@mrwassoc.com

MARIO VILLAR
SIERRA PACIFIC POWER COMPANY
6226 W SAHARA AVENUE MS26
LAS VEGAS, NV 89146
mvillar@nevpc.com

NANCY RADER
CALIFORNIA WIND ENERGY ASSOCIATION
2560 NINTH STREET, SUITE 213A
BERKELEY, CA 94710
nrader@calwea.org

MARK L. PERLIS
DICKSTEIN SHAPIRO LLP
1825 EYE STREET, NW
WASHINGTON, DC 20006
perlism@dicksteinshapiro.com

PAMELA J. MILLS
SAN DIEGO GAS & ELECTRIC
8330 CENTURY PARK COURT, CP32H
SAN DIEGO, CA 92123
pmills@semprautilities.com

RACHEL MCMAHON
CEERT
1100 11TH STREET, SUITE 311
SACRAMENTO, CA 95814
rachel@ceert.org

RAYMOND HUNG
PG&E
PO BOX 770000 MAIL CODE B9A
SAN FRANCISCO, CA 94177
RHHJ@pge.com

Rahmon Momoh
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4205
SAN FRANCISCO, CA 94102-3214
rmm@cpuc.ca.gov

RANDY NICHOLSON
SAN DIEGO GAS & ELECTRIC
8830 CENTURY PARK COURT, CP32H
SAN DIEGO, CA 92123
RNicholson@Semprautilities.com

ROBIN SMUTNY-JONES
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
rsmutny-jones@caiso.com

RYAN FLYNN
PACIFICORP
825 NE MULTNOMAH, SUITE 1800
PORTLAND, OR 97232
ryan.flynn@pacificorp.com

SARA O'NEILL
CONSTELLATION NEW ENERGY, INC.
ONE MARKET STREET
SPEAR TOWER, 36TH FLOOR
SAN FRANCISCO, CA 94105
sara.oneill@constellation.com

Simon Baker
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
seb@cpuc.ca.gov

Sudheer Gokhale
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 4209
SAN FRANCISCO, CA 94102-3214
skg@cpuc.ca.gov

STACY AGUAYO
APS ENERGY SERVICES
400 E. VAN BUREN STREET, SUITE 750
PHOENIX, AZ 85004
stacy.aguayo@apses.com

STEVEN KELLY
INDEPENDENT ENERGY PRODUCERS ASSN
1215 K STREET, SUITE 900
SACRAMENTO, CA 95814
steven@iepa.com

TOM BRILL
SEMPRA ENERGY CORPORATE CENTER
101 ASH STREET-HQ13A
SAN DIEGO, CA 92101-3017
tbrill@sempra.com

THOMAS DARTON
PILOT POWER GROUP, INC.
9320 CHESAPEAKE DRIVE, SUITE 112
SAN DIEGO, CA 92123
tdarton@pilotpowergroup.com

TONY ZIMMER
NORTHERN CALIFORNIA POWER AGENCY
180 CIRBY WAY
ROSEVILLE, CA 95678-6420
Tony.Zimmer@nepa.com

VALERIE WINN
PACIFIC GAS & ELECTRIC
77 BEALE STREET, B9A
SAN FRANCISCO, CA 94105
vfw3@pge.com

WAYNE TOMLINSON
RUBY PIPELINE, LLC
2 NORTH NEVADA AVENUE, 14TH FLR
COLORADO SPRINGS, CO 80903
william.tomlinson@clpaso.com

RANDALL PRESCOTT
BP ENERGY COMPANY
69 WINN STREET, FIRST FLOOR
BURLINGTON, MA 1803

ROGER VANHOY
MSR PUBLIC POWER AGENCY
1231 11TH STREET
MODESTO, CA 95352
roger@mid.org

ROBERT STODDARD
CRA INTERNATIONAL
200 CLARENDON ST., T-32
BOSTON, MA 2116
RStoddard@crai.com

STEPHANIE LA SHAWN
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000, MAIL CODE B9A
SAN FRANCISCO, CA 94177
SIL7@pge.com

C. SUSIE BERLIN
MC CARTHY & BERLIN, LLP
100 PARK CENTER PLAZA, SUITE 501
SAN JOSE, CA 95113
sberlin@mccarthyllaw.com

SHAUN HALVERSON
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000
PG&E MAIL CODE B9A
SAN FRANCISCO, CA 94177
SEHC@pge.com

SEEMA SRINIVASAN
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA 94104
sls@a-klaw.com

STEVE KOERNER
EL PASO CORPORATION
2 NORTH NEVADA AVENUE
COLORADO SPRINGS, CO 80903
steve.koerner@elpaso.com

SUE MARA
RTO ADVISORS, LLC.
164 SPRINGDALE WAY
REDWOOD CITY, CA 94062
sue.mara@rtoadvisors.com

TOM BRILL
SEMPRA ENERGY CORPORATE CENTER
101 ASH STREET, HQ13A
SAN DIEGO, CA 92101-3017
tbrill@sempra.com

TREVOR DILLARD
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD, MS 84A50
PO BOX 10100
RENO, NV 89520-0024
tdillard@sppc.com

TRACEY DRABANT
BEAR VALLEY ELECTRIC SERVICE
PO BOX 1547
BIG BEAR LAKE, CA 92315-1547
traceydrabant@bves.com

VIDHYA PRABHAKARAN
GOODIN,MACBRIDE,SQUERL,DAY,LAMPREY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
vprabhakaran@goodinmacbride.com

WILLIAM W. WESTERFIELD, III
ELLISON, SCHNEIDER & HARRIS, LLC
2015 H STREET
SACRAMENTO, CA 95814
www@eslawfirm.com

MIKE KASABA
QUIET ENERGY
3311 VAN ALLEN PLACE
TOPANGA, CA 90290

ROD AOKI
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA 94104
rsa@a-klaw.com

ROBIN J. WALTHER, PH.D.
1380 OAK CREEK DRIVE., 316
PALO ALTO, CA 94305
rwalther@pacbell.net

SAEED FARROKHPAY
FEDERAL ENERGY REGULATORY COMMISSION
110 BLUE RAVINE RD., SUITE 107
FOLSOM, CA 95630
saeed.farrokhpay@ferc.gov

SCOTT TOMASHEFSKY
NORTHERN CALIFORNIA POWER AGENCY
180 CIRBY WAY
ROSEVILLE, CA 95678-6420
scott.tomashefsky@ncpa.com

STEVE ISSER
GOOD COMPANY ASSOCIATES
816 CONGRESS AVE., SUITE 1400
AUSTIN, TX 78701
sisser@goodcompanyassociates.com

SEBASTIEN CSAPO
PG&E PROJECT MGR.
PO BOX 770000
MAIL CODE B9A
SAN FRANCISCO, CA 94177
sscb@pge.com

STEVEN HUHMANN
MORGAN STANLEY CAPITAL GROUP INC.
2000 WESTCHESTER AVENUE
PURCHASE, NY 10577
steven.huhmann@morganstanley.com

SOUMYA SASTRY
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000
MAIL CODE B9A
SAN FRANCISCO, CA 94177
svs6@pge.com

TRENT CARLSON
RELIANT ENERGY, INC.
1000 MAIN STREET
HOUSTON, TX 77002
tcarlson@reliant.com

THERESA L. MUELLER
CITY ATTORNEY'S OFFICE
CITY HALL, ROOM 234
SAN FRANCISCO, CA 94102
theresa.mueller@sfgov.org

THEODORE ROBERTS
SEMPRA GLOBAL
101 ASH STREET, HQ 13D
SAN DIEGO, CA 92101-3017
troberts@sempra.com

WAYNE AMER
MOUNTAIN UTILITIES
PO BOX 205
KIRKWOOD, CA 95646
wamer@kirkwood.com

WILLIAM W. WESTERFIELD III
ELLISON SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO, CA 95814
www@eslawfirm.com

DAVID J. COYLE
ANZA ELECTRIC COOPERATIVE, INC
58470 HIGHWAY 371
ANZA, CA 92539-1909

REED V. SCHMIDT
BARTLE WELLS ASSOCIATES
1889 ALCATRAZ AVENUE
BERKELEY, CA 94703
rschmidt@bartlewells.com

REID A. WINTHROP
PILOT POWER GROUP, INC.
8910 UNIVERSITY CENTER LANE, SUITE 520
SAN DIEGO, CA 92122
rwinthrop@pilotpowergroup.com

Aram Shumavon
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
sap@cpuc.ca.gov

SETH D. HILTON
STOEL RIVES
111 SUTTER ST., SUITE 700
SAN FRANCISCO, CA 94104
sdhilton@stoel.com

STEPHEN KEEHN
SEMPRA ENERGY CORPORATE CENTER
101 ASH STREET-HQ13A
SAN DIEGO, CA 92101-3017
skeehn@sempra.com

STEPHEN J. SCIORTINO
CITY OF ANAHEIM
201 SOUTH ANAHEIM BLVD., SUITE 802
PUBLIC UTILITIES DEPARTMENT
ANAHEIM, CA 92805
ssciorfino@anaheim.net

STEVEN S. SCHLEIMER
BARCLAYS BANK, PLC
200 PARK AVENUE, FIFTH FLOOR
NEW YORK, NY 10166
steven.schleimer@barclayscapital.com

Traci Bone
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
ROOM 5206
SAN FRANCISCO, CA 94102-3214
tbo@cpuc.ca.gov

THOMAS CORR
SEMPRA GLOBAL
101 ASH STREET, HQ 08 C
SAN DIEGO, CA 92101-3017
tcorr@sempraglobal.com

THOMAS S KIMBALL
MODESTO IRRIGATION DISTRICT
1231 11TH STREET
MODESTO, CA 95352-4060
tomk@mid.org

Melissa Semcer
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
AREA 4-A
SAN FRANCISCO, CA 94102-3214
unc@cpuc.ca.gov

WILLIAM H. BOOTH
LAW OFFICES OF WILLIAM H. BOOTH
67 CARR DRIVE
MORAGA, CA 94596
wbooth@booth-law.com

JUSTIN C. WYNNE
BRAU & BLAISING, P.C.
915 L STREET, SUITE 1270
SACRAMENTO, CA 95814
wynne@braunlegal.com

ROBERT MARSHALL
PLUMAS SIERRA RURAL ELECTRIC COOP.
PO BOX 2000
PORTOLA, CA 96122-2000