BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.	Rulemaking 08-08-009 (Filed August 21, 2008)

CLEAN COALITION BRIEF ON IMPLEMENTATION OF SENATE BILL 32

Tam Hunt
Attorney for:
Clean Coalition
16 Palm Ct
Menlo Park, CA 94025
(805) 705-1352

March 7, 2011

CLEAN COALITION BRIEF ON IMPLEMENTATION OF SENATE BILL 32

The Clean Coalition respectfully submits these comments on SB 32 implementation, pursuant to the *Administrative Law Judge's Ruling Setting Schedule for Briefs on Implementation of Senate Bill 32* ("ALJ Ruling") requesting comments from parties on a number of issues.

The Clean Coalition is a California-based advocacy group, part of Natural Capitalism Solutions, a non-profit entity based in Colorado. The Clean Coalition advocates primarily for vigorous feed-in tariffs and "wholesale distributed generation," which is generation that connects primarily to distribution lines close to demand centers. Clean Coalition staff are active in proceedings at the Commission, Air Resources Board, Energy Commission, the California Legislature, Congress, the Federal Energy Regulatory Commission, and in various local governments around California.

Our main points are as follows:

- The Commission should take a broad approach to SB 32 implementation and include a hard look at interconnection difficulties for wholesale distributed generation (WDG), including requiring the utilities to conduct a comprehensive third-party audit of their interconnection procedures for all WDG
- The Commission should create a 5 MW and below feed-in tariff/CLEAN program pursuant to its inherent authority, using SB 32 as guidance for this broader program. Recent changes to Fast Track interconnection procedures, allowing a maximum of 5 MW instead of 2 MW, are the primary rationale for this recommendation
- The Commission should make it clear that it may expand the 750 MW program in a later decision if experience warrants such an expansion, and

should endeavor to ensure that there is no break in the program while expansion is being considered.

- The Commission should also re-examine the SB 32 program if market interest is far weaker than expected.
- The Commission should consider the Market Price Referent, locational benefits, environmental benefits and time of delivery in creating the SB 32 feed-in tariff price; we offer guidance on how this analysis could be conducted
- We also urge the Commission to allow developers to choose the contract duration, not the utilities
- Under SB 32's pricing formula, whether or not it is tied to federal PURPA guidance, ratepayers will, by definition, be indifferent to the cost of SB 32 projects
- We urge the Commission to be proactive on data transparency requirements relating to the interconnection queue and grid access information, continuing its exemplary work in the RAM decision
- Last, we urge the Commission to hold workshops on expansion of the MW cap to 5 MW, procedures for possible expansion of the total MW cap beyond 750 MW, and pricing issues, including locational benefits

I. Introduction

The Clean Coalition again commends the Commission for recognizing the importance of unleashing the wholesale distributed generation ("WDG") market as an essential component in California's pursuit of economically and environmentally sustainable energy supplies for the State of California, and of achieving the Renewables Portfolio Standard (RPS) mandates and greenhouse gas reduction goals on schedule.

The urgency of developing the WDG market was increased by a January, 2011, Ninth Circuit decision striking down federal transmission corridors, including in California, based on its view that the federal government had failed to adequately consult with the states.[1] This decision very likely has added years of delay in building a number of new transmission lines required to meet California's 33% RPS by 2020 under the widespread assumption that central station renewables will comprise the lion's share of this mandate.

Additionally, in late February an environmental group (CARE) and a number of Native American tribes filed a federal lawsuit challenging more than 3,000 MW of concentrating solar and solar PV projects to be sited on federal lands in California.[2] The Clean Coalition has no opinion on the merits of these recent events, but they cast significant doubt on the mega-project approach to achieving California's RPS. WDG can meet much of the RPS mandate in an expedited and cost-effective manner if the Commission provides the necessary market certainty to jumpstart this market to scale.

II. General comments

As the Commission has noted in numerous recent decisions and press releases, the WDG market potential is huge and has been previously overlooked. We recognize that the Commission is working to remedy this situation with a number of new programs focused on 20 megawatt and below renewable energy projects, but many problems remain. The primary set of problems relate to interconnection to the utility grid and uncertainty in pricing; we urge the Commission to vigorously investigate these ongoing problems in this proceeding implementing SB 32. We discuss pricing in detail in Section III of these comments. We focus on interconnection issues in this section.

[1] http://tdworld.com/overhead_transmission/transmission-corridors-overturned-0211/.
[2] latimes.com/news/local/la-me-solar-suit-20110224,0,539145.story.

The current interconnection study process is clearly broken, for a variety of reasons, with interconnection studies taking literally years to complete. The Commission could do much to remedy this situation. In particular, we request that the Commission fund, or help to fund, an independent process audit of the utilities' interconnection procedures for WDG. The utilities and CAISO are completing a reform process (FERC recently approved the CAISO reform proposal and the utilities submitted their proposals to FERC in early March)[3], but the proposed reforms in many cases take us backwards from where we are today. (PG&E stands out, however, in comparison to SCE, as a positive example in terms of making some important modifications based on stakeholder comments).

For example, the utilities' proposed changes would generally increase interconnection study time for smaller projects from a theoretical 330 days to an average of 630 days, which includes up to a year-long waiting period for these studies just to begin. This is a result of changing from a serial study process under current procedures, to a cluster study process, as proposed by the utilities. There are indeed many merits to a cluster study process but these benefits may in our view be realized without adding substantial time to the study process.

Our direct experience from the CAISO interconnection reform process, and from a multitude of active developers with extensive experience navigating interconnection procedures, indicate many areas that could be improved, such as understaffed IOU interconnection departments, antiquated modeling systems that can only be accessed by one user at a time, and repeated failures to adhere to timelines specified in interconnection tariffs.

Accordingly, we have recommended in the CAISO and utility interconnection reform proceedings that the utilities and CAISO utilize an independent party to conduct a detailed process audit of their interconnection procedures in order to identify ways to

[3] FIT Coalition's protest of the CAISO proposal is here: http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12483309.

reduce this extended study timeline. This recommendation has not yet been accepted by CAISO or the utilities. Unfortunately, the IOUs have been resistant to questions from us and other stakeholders on this issue, but the anecdotal evidence we have gathered indicates two major areas for improvement: 1) The interconnection departments of the IOUs appear to be substantially understaffed and they have not added sufficient staff to meet the current and future increase in smaller renewable energy project interconnection requests; and 2) the IOUs appear to be using somewhat antiquated systems to model the interconnection studies – or at the least systems that could be substantially improved.

Our feeling is that with appropriate staffing levels matched with more modern, dynamic systems and software, the interconnection study process duration could be substantially reduced. What now takes years could, we believe, take only weeks or months in the future; as exemplified by the timely interconnection evaluations by SMUD when performing interconnection studies for 120 MW of WDG projects that applied for its new feed-in tariff program in 2010. <u>But the key first step in realizing this better future is to complete an independent process audit of the investor-owned utilities</u>.

More generally, most of the utility interconnection process is still a "black box" because so little information is shared with stakeholders or with regulators. The independent process audit would shine much-needed light into this black box.

SB 32 (section 399.20(e)) requires that utilities streamline interconnection for projects three megawatts and below, as specified, and we recognize that the Commission has asked for comments on this provision:

> An electrical corporation shall provide expedited interconnection procedures to an electric generation facility located on a distribution circuit that generates electricity at a time and in a manner so as to offset the peak demand on the distribution circuit, if the electrical corporation determines that the electric generation facility will not adversely affect the distribution grid.

We also request that the Commission include in this rulemaking an examination of the merits of reasserting Commission jurisdiction over all WDG interconnection procedures. Recent consultant reports for the Commission have used a revised Rule 21 approach (allowing up to 30% of a circuit's peak load for solar instead of 15%) for estimating WDG potential. IREC and NREL are advocating using 50% of minimum circuit load instead, with some additional details in each proposal (for example, IREC proposes to use minimum load data between 10 AM and 3 PM only). The Clean Coalition would like to see a revised Screen 2 approach, which leads to a higher cap for Rule 21 or Fast Track projects while maintaining grid reliability, formalized by the Commission.[4] Which tariff is used – a revised Rule 21 or the WDAT under Commission jurisdiction – is less important to the Clean Coalition than the reassertion of Commission jurisdiction over all WDG interconnection matters, which is within the Commission's authority, pursuant to federal guidance on this matter (as long as no power is sold to customers other than the Participating Transmission Owner).[5]

The Clean Coalition alternatively requests the Commission's advice on other approaches to funding an independent process audit and motivating the utilities to consent to such an audit. It is our view that the audit would cost around $500,000 and would, at this level, constitute a wise investment of ratepayer funds because it would likely result in substantial improvements to utility interconnection procedures and thus benefit all ratepayers.

[4] The Commission's recent ReDEC meeting included robust discussion of this and other issues: http://www.cpuc.ca.gov/PUC/energy/Renewables/Re-DEC.htm.

[5] *Florida Power & Light Company*, 113 FERC ¶ 61,121 (Issued Nov. 3, 2010). This decision states, in part:

> [FERC] jurisdiction will attach (thereby requiring that the interconnection agreement be filed) as soon as and only if the QF is provided with an express right to sell output to third parties rather than on the date that sales to third parties occur. However, where a PPA or related interconnection agreement expires or is silent on the right to sell to third parties, we will not assume third party sales are occurring or planned.

III. Commission Questions

The Commission's questions are in *italics* below, with Clean Coalition responses after.

1. Customers and eligibility

- *Elimination of separate tariffs for (a) water/wastewater and (b) other customers;*
- *Elimination of "retail customer" requirement; and*
- *Tariff language regarding eligible facility requirements*

The Clean Coalition fully supports the elimination of separate tariffs for water/wastewater and other customers. We can see no good rationale for keeping these separate. We also fully support eliminating the "retail customer" requirement for the same reason: there appears to be no good rationale to maintain this artificial distinction.

We support SB 32's definition of "electric generation facility" in terms of its location within the off-taking utility's service territory. A major advantage of WDG is its location close to load and on distribution lines. SB 32 doesn't require distribution-interconnected projects but the project size limit of 3 MW will virtually require that such projects be distribution-interconnected because it will almost always be too expensive to interconnect to higher-voltage lines for these relatively small projects. By interconnecting within the off-taking utility service territory, projects will necessarily be closer to load than out-of-state projects and will, by connecting to distribution lines, require far lower interconnection costs than larger projects that require expensive line upgrades and interconnection facilities.

2. *Increase in size of eligible facility to three MW:*

- *Commission's discretion to reduce three MW capacity limit to maintain system reliability.*

The Clean Coalition strongly supports SB 32's size limit expansion to 3 MW. Moreover, we urge the Commission to go beyond SB 32's requirements and use its inherent authority under the California Constitution to expand the size limit to 5 MW. Recent interconnection procedure changes by CAISO and the utilities provide a powerful rationale for expanding the size limit to 5 MW. CAISO expanded its Fast Track program from 2 MW to 5 MW in late 2010, arguing that it makes little difference to the CAISO-controlled transmission grid whether Fast Track projects are 2 MW or 5 MW.

More importantly for SB 32, PG&E has recently proposed expanding its Fast Track procedure to 5 MW for distribution lines 33 kV and higher (3 MW for 21 kV lines and 2 MW for 12 kV and 4 kV lines, but these lower limits are proposed as advisory limits only, rather than mandatory limits), based on a similar rationale to that invoked by CAISO. We hope Southern California Edison will follow suit in its adopted WDAT reform proposal, though this also won't be known until FERC issues its final order on the SCE proposal.

This 5 MW Fast Track limit is a substantial advantage for projects that can qualify for Fast Track because it can take up to two years for interconnection studies to be completed under the new cluster process, which will apply to all projects regardless of size if Fast Track is <u>not</u> used. (The cluster study process will require about 420 days for the actual studies but <u>also</u> up to a year-long waiting period for the cluster studies to begin each June 1). Accordingly, Fast Track is a major advantage for bringing new renewable energy projects online far quicker than under the alternative interconnection procedures.

Many counties will also grant an expedited environmental review procedure for projects 5 MW and below. For example, Kern County has granted a Mitigated Negative Declaration (MND) pursuant to its CEQA review of a number of solar projects, instead of requiring a full Environmental Impact Review (EIR).[6] Butte County granted an MND for a 1 MW solar project in 2010.[7] Similarly, Merced County granted an MND for a 1 MW ground-mounted solar project in 2010.[8] Requiring only an MND results in a large difference in cost and permitting time because a full EIR can easily take a year or more to complete, whereas an MND will generally be a matter of months.

Accordingly, California is poised, with the right feed-in tariff policy to see a much-needed boom in this 5 MW and below renewable energy niche. It is our hope that the 5 MW and below niche, due to the many advantages outlined here, will be a major component in achieving the 33% RPS. All ratepayers will benefit if this is the case because such projects can be interconnected, permitted and constructed in an expedited and cost-effective manner.

While we urge the Commission to expand SB 32's cap from 3 to 5 MW, the best path for achieving this expansion is not entirely clear. Section 399.20(b) of the Public Utilities Code states:

> (b) As used in this section, "electric generation facility" means an electric generation facility located within the service territory of, and developed to sell electricity to, an electrical corporation that meets all of the following criteria:
> (1) Has an effective capacity of not more than three megawatts.

While the code limits "electric generation facility" to "not more than three megawatts," this limit does not prevent the Commission from going beyond this definition or

---

[6]

[7] http://www.gridley.ca.us/documents/agendas/cc/2010/20101004/F5.pdf.

[8] http://www.co.merced.ca.us/DocumentView.aspx?DID=2240.

beyond the SB 32 program to create a 3-5 MW program. The Commission has broad authority under the California Constitution to regulate utilities and to create new programs such as the recently created RAM program and the CSI program created in 2006, both of which were created without legislative mandates.

Article 12, Section 6 of the California Constitution states: "The commission may fix rates, establish rules, examine records, issue subpoenas, administer oaths, take testimony, punish for contempt, and prescribe a uniform system of accounts for all public utilities subject to its jurisdiction."

Accordingly, we urge the Commission to create a CLEAN (Clean Local Energy Accessible Now; a type of feed-in tariff) program for projects 5 MW and below, based on the guidance provided by SB 32, but going beyond SB 32 in some aspects. A recent report[9] from the Center for American Progress highlighted the potential for CLEAN programs to kick-start renewable energy projects and mitigate the effects of climate change. CLEAN programs take the best features from feed-in tariff programs around the world. The CAP report states (p. 1):

> This paper looks at the one policy that has helped to bring more renewable electricity into the marketplace than any other: the Clean Local Energy Accessible Now, or CLEAN, contract, also known as a "feed-in tariff." These are national, state, or local policies that allow renewable energy project owners to sell their electricity to utilities at a predetermined, fixed price for a long period of time.

We are agnostic as to whether the Commission should create a parallel program for 3-5 MW projects at the same time as it implements SB 32, with the same program rules, or whether it should create a single program for all 5 MW and below projects, with SB 32 as the primary guidance for all projects 5 MW and below or only for those projects 3 MW and below.

[9] http://www.americanprogress.org/issues/2011/01/clean_contracts.html.

It is clear, however, that the Commission has the authority to expand the size limit to 5 MW (or a higher number) for a true CLEAN/feed-in tariff program and we strongly urge it to do so at this time. If the Commission chooses instead to examine a 3-5 MW CLEAN/feed-in tariff program at a later date, this would not only delay what is a needed new program to promote projects in the 3-5 MW range, it would also involve a substantial amount of duplicated effort because the issues involved in creating a CLEAN/feed-in tariff program for 3-5 MW are almost identical to the issues involved in creating a 3 MW and below feed-in tariff program. We look forward to other parties' comments on this issue.

3. Utility reporting requirements.

The Clean Coalition favors maximum information transparency, including the requirements of section 399.20(m). We also encourage the Commission in this proceeding or elsewhere to mandate and fund a detailed process audit of utility interconnection procedures, as described in our general comments.
In the short-term, we urge the Commission to go beyond section 399.20(m)'s limited mandate and require that all key aspects of SB 32 projects be tracked by each utility over time, reported by each utility on a quarterly basis, including:

- Number of SB 32 applications received
- Number of applications deemed complete, with reasons listed for rejection of each application
- Projected costs of interconnection for each project after Fast Track, Phase II or Facilities Study has been completed for each project
- Actual costs of interconnection after construction has been completed

Additionally, we encourage the Commission to mandate increased reporting of IOU performance with respect to interconnection procedures, specifically with regard to the deadlines mandated in tariffs and the success rates of Fast Track and other accelerated options like the Independent Study Process.

4. *Adjustment of program cap and allocation to 750 MW.*
    - *Identification of basis for determining statewide electrical capacity and utilities' shares. A list of investor-owned utilities and publicly owned utilities is attached as Attachment A.*

The Clean Coalition accepts a 750 MW program cap as an appropriately-sized first tranche. This limit is high enough to allow a significant number of projects (at least 150 at a 5 MW project size limit and 250 at 3 MW) to come online statewide. We urge the Commission, however, to include in its decision language indicating that the Commission may, under its inherent authority, expand the program cap upwards if experience with the new program over the first year or two warrants expansion.

We also urge the Commission to ensure that there is no gap between exhaustion of the first 750 MW tranche and an expanded program – if the experience with the first tranche warrants expansion. Certainty is the *sine qua non* of effective renewable energy programs and it does great harm to developers and the market in general to have fits and starts (pardon the pun) in programs like SB 32. For example, the Commission could spell out in its decision: "When 2/3 of total approved program capacity has been contracted, the Commission will review the merits of expanding the program beyond 750 MW and may also re-examine the pricing methodology. The Commission shall endeavor to complete any approved expansion of the program so as to prevent any programmatic gap between the first tranche and later expansions."

Similarly, if the market response to SB 32 is poor, the Commission should indicate in its decision that it will conduct a review of the program to determine why the response

was poor. The Clean Coalition recommends that if the program has seen less than 20% of the 750 MW program allocated after its first year, the Commission should re-convene this proceeding to re-examine pricing and other aspects of the program.

5. Yearly inspection and maintenance report.

The Clean Coalition has no comments on this provision.

6. New contract provisions.

The Clean Coalition has no comments on this provision.

7. Utility discretion to deny tariff, subject to appeal to the Commission.

The Clean Coalition is concerned about section 399.20(n) in SB 32, particularly subsections (2) and (4).[10] The legislation in this case seems to have been drafted without sufficient knowledge of interconnection procedures. It will never be the case for a three MW (or even five MW) project that the "transmission or distribution grid" will be "inadequate" because interconnection is simply a function of cost and cost

[10] P.U. Code section 399.20(n) (the ALJ Ruling contains a mis-citation for this provision):

> An electrical corporation may deny a tariff request pursuant to this section if the electrical corporation makes any of the following findings:
> …
> (2) The transmission or distribution grid that would serve as the point of interconnection is inadequate.
> …
> (4) The aggregate of all electric generating facilities on a distribution circuit would adversely impact utility operation and load restoration efforts of the distribution system.

determinations for any required upgrades are built into current interconnection procedures.

Literally any project can be interconnected anywhere on the distribution grid if cost is no object. Moreover, many projects, as made clear through new utility maps identifying locations for easy interconnection,[11] can be connected with very minimal costs under Fast Track procedures. In each case, utilities will study an interconnection request and determine whether the project can be interconnected under Fast Track (soon to be available for five MW and below for CAISO and PG&E, and hopefully also SCE as it catches up); the new Independent Study Process; or in the worst case scenario the annual Cluster Study Process. In each case, the utility will determine the likely cost of interconnection for the project at issue, in light of its grid reliability and other studies. In short, subsection (2) is entirely redundant in light of existing interconnection procedures.

Accordingly, we request that the Commission provide more guidance as to what "inadequate" means in this context. Specifically, the Commission should spell out in its final decision: "'Inadequate' means, as it is used in subsection (2), that, after the appropriate interconnection studies have been performed for the project at issue, there is some other insurmountable hurdle preventing the proposed project from interconnecting in a manner that protects grid reliability." And, similarly, the Commission should clarify in its decision: "'Adversely impact' means, in the context of subsection (4), that, after the appropriate interconnection studies have been performed for the project at issue, there is some other insurmountable hurdle preventing the proposed project from interconnecting in a manner that protects grid reliability."

---

[11] PG&E's map: http://www.pge.com/b2b/energysupply/wholesaleelectricsuppliersolicitation/PVRFO/pvmap/. SCE's map: http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=http:%2F%2F02d46c9.netsolhost.com%2Fkml%2FSCE_SPVP_Areas.kmz&sll=33.865854,-117.780304&sspn=0.524539,0.837021&safe=on&ie=UTF8&z=8 .

The appeal process provided by section 399.20(o) provides potential relief from any arbitrary decisions by utilities in these matters, but it would be far preferable to make it clear from the outset that the provisions in section 399.20(n) may not be used in a way that ignores safeguards built into current interconnection study procedures – and thus avoid the need for disgruntled interconnection customers to appeal to the Commission.

8. Contract termination provisions.

The Clean Coalition has no issue with the language in section 399.20(l), but we do urge the Commission to clarify what entity will make the determination regarding eligibility in this case because this is not specified. In particular, subsection (1) states:

> An owner or operator of an electric generation facility electing to receive service under a tariff or contract approved by the commission shall continue to receive service under the tariff or contract until either of the following occurs:
>
> (1) The owner or operator of an electric generation facility no longer meets the eligibility requirements for receiving service pursuant to the tariff or contract.

We request that the Commission clarify that it is the Commission itself that will make this determination. If, however, the utilities are instead permitted to make this determination, we ask the Commission to ensure that an appeal process like that contained in section 399.20(p) is available. As mentioned, programmatic and contractual certainty are crucial features of successful renewable energy programs and all reasonable efforts should be made to remove clouds of uncertainty.

The Clean Coalition has learned from various sources that some AB 1969 FIT contracts, SCE's contract in particular, which contains extremely broad termination language, are considered unfinanceable by banks because of the contract termination provision. How

can a bank confidently invest millions of dollars under a contract that could be canceled unilaterally? The Proposed Decision for the new RAM program initially included similar contract termination provisions. After pushback from parties, including the Clean Coalition, the final decision removed any language on termination. However, by not discussing this issue in the final decision, the Commission left open the (strong) possibility that the IOUs will include a similar termination clause in their proposed RAM contracts. This is a significant remaining cloud hanging over the RAM program that will only be removed once the Commission makes its final determination on the IOU RAM Advice Letters. The Commission should be more proactive in the present proceeding and make every reasonable effort to ensure that no similar obstacles crop up with respect to SB 32.

9. Performance standards to be established by the Commission.

The Clean Coalition feels that no performance standards should be required. A FIT/CLEAN provides, by definition, payment for power produced. If no power is produced, no payments are received. This is, alone, the only performance standard FITs/CLEAN programs require, and this is a major benefit of these type of programs. Payment is received for performance only and ratepayers are, accordingly, protected.

More generally, however, we urge the Commission to require an 18-month online date, from the time of CPUC contract approval, with one six-month extension allowed due to regulatory delays. This matches the RAM program requirements and we believe this time period achieves the appropriate balance between encouraging expedited project development and acknowledging the need to have some project development flexibility. As interconnection procedures are improved – with the Commission's help – we hope that the construction deadlines may be reduced further.

We also recommend that the Commission adopt the same deposit requirements as under the RAM program: $20/kW. This will ensure that the COD deadline has some teeth.

10. Commission discretion to make adjustments for small utilities.

The Clean Coalition has no comment on this provision.

11. Setting the tariff price

Pricing is as important an issue as any other in this proceeding. Section 399.20(d) provides:

> (1) The tariff shall provide for payment for every kilowatthour of electricity purchased from an electric generation facility for a period of 10, 15, or 20 years, as authorized by the commission. The payment shall be the market price determined by the commission pursuant to Section 399.15 and shall include all current and anticipated environmental compliance costs, including, but not limited to, mitigation of emissions of greenhouse gases and air pollution offsets associated with the operation of new generating facilities in the local air pollution control or air quality management district where the electric generation facility is located.
> (2) The commission may adjust the payment rate to reflect the value of every kilowatthour of electricity generated on a time-of-delivery basis.
> (3) The commission shall ensure, with respect to rates and charges, that ratepayers that do not receive service pursuant to the tariff are indifferent to whether a ratepayer with an electric generation facility receives service pursuant to the tariff.

A preliminary issue concerns contract length. The paragraph just quoted requires that the Commission authorizes contract lengths of 10, 15 or 20 years. We strongly recommend that the Commission require utilities to offer all three contract lengths and, crucially, that utilities must allow developers to choose the contract length. Longer

contract lengths are generally required for financing renewable energy projects. For smaller projects, especially, longer contract lengths are important. However, there are some situations in which shorter contract lengths may be preferred, but this decision should rest with the developer, not the utility.

Section 399.20(e) also requires the Commission to consider "locational benefits" in setting prices and specifies that the Commission "may" provide payment for locational benefits. There are, accordingly, four price components that the Commission should consider: the Market Price Referent (mandatory), Time of Delivery payments (voluntary), "all current and anticipated environmental compliance costs" (mandatory), and locational benefits (mandatory consideration, optional inclusion). The Clean Coalition urges the Commission to include all four cost components in the SB 32 payment.

The Market Price Referent itself is straightforward. The Commission's latest guidance on the MPR is the 2009 MPR Resolution. SB 32 rates should reflect the 2009 MPR Resolution unless the Commission updates the MPR tables prior to completion of this proceeding.

Time of Delivery rates are equally straightforward because they are part of the MPR resolution.

Current and anticipated environmental compliance costs are harder to calculate, though there is significant precedent to draw upon. Greenhouse gas compliance costs are already included in the MPR to some degree. A small portion of the 2009 MPR payment (about 13%) is added to the projected cost of power from a new natural gas combined cycle plant in order to capture the future costs of greenhouse gas mitigation requirements. The 2009 MPR also includes Emissions Reduction Credits (ERCs), based on required ERCs from the three natural gas power plants surveyed. The MPR does not,

however, include costs, current or future, of any other environmental compliance requirements. The Clean Coalition notes that CalSEIA's excellent report[12] on the value to ratepayers of solar PV includes quantification of many environmental benefits, including avoided methane, NO_x, CO, SO_2, VOCs, and PM10 emissions. We urge the Commission to examine CalSEIA's methodology as a rigorous precedent for calculating SB 32's environmental benefits pricing.

See below for our discussion of locational benefits.

With respect to SB 32's customer indifference requirement (section 399.20(d)(3)), the MPR plus TOD plus locational benefits plus environmental compliance costs formula will, by definition, leave ratepayers indifferent because these costs will be borne by all ratepayers independent of the existence of any SB 32 projects. The key concept behind SB 32's pricing is that it will leave ratepayers indifferent because it captures the value to ratepayers from these projects. In other words, SB 32 creates a "value-based" feed-in tariff, which is by definition ratepayer indifferent.

FERC has made clear in recent decisions[13] that states have authority to set "multi-tiered" FIT rates under PURPA's avoided cost methodology, if state law requires that utilities procure renewables under, for example, a Renewable Portfolio Standard, and if projects are registered as Qualifying Facilities (which is not a particularly onerous requirement). The methodology prescribed in SB 32, which we have commented on in this section, will not, however, result in a multi-tiered FIT. Rather, it will create a single-tiered FIT – a single base price applicable to all renewable energy technologies. As such, there is even less room for disagreement over federal precedent in this area because the Commission will be setting just one base rate for all SB 32 technologies, with Time of Delivery pricing varying by technology and location of projects.

[12] http://calseia.org/wp-content/uploads/2010/05/pv-above-mpr-methodology-final-20100423.pdf.
[13] Particularly *FERC Order Granting Clarification and Dismissing Rehearing, 133 FERC ¶ 61,059 (October 21, 2010) and FERC Order Denying Rehearing, 134 FERC ¶ 61,044 (January 20, 2011).*

With respect to any PURPA avoided cost calculation (of which the Market Price Referent is a sub-type), ratepayers are also, by definition, indifferent to projects that receive avoided cost pricing. This is what "avoided cost" means. FERC has made clear in recent decisions that states may create single- or multi-tiered FITs if there is a state RPS, because the existence of the state RPS means that ratepayers must share in any cost burden in achieving the RPS. Thus, SB 32 projects will contribute to achieving the RPS and, if pricing is determined in such a manner that complies with federal avoided cost criteria, will also leave ratepayers indifferent to any costs resulting from SB 32 projects.

12. Expedited interconnection procedures.

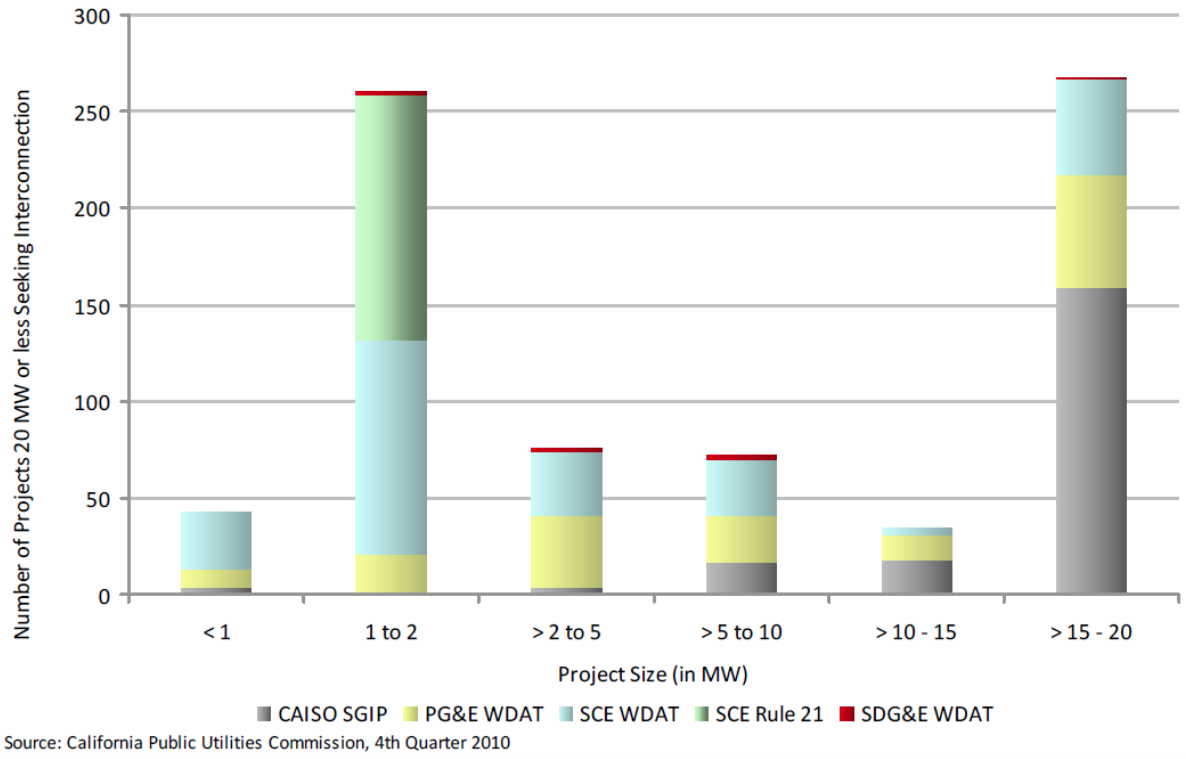
As mentioned in our general comments, the Clean Coalition urges the Commission to reassert state jurisdiction over all WDG interconnection (distribution-interconnected projects). The Commission has broad inherent authority under the California Constitution to regulate all aspects of utility business, including interconnection procedures for distribution lines (transmission lines are clearly under federal authority) and FERC has made it clear in recent guidance that states have authority over interconnection for WDG projects that do not sell power to third parties.

The key problem for WDG interconnection is the inordinately long timeframe (about two years) for the waiting period and for utility interconnection studies to be completed, let alone the additional time required for interconnection agreement negotiation and construction of any required upgrades. A very important secondary issue is enforcement of existing interconnection rules. Even if new and ideal interconnection procedures were put in place, such improvements may make no difference at all if the required timelines are not enforced. At this time, there is minimal oversight of utility interconnection procedures by the Commission or by FERC and no consequences seem to result when utilities fail to meet deadlines time and time again.

The Clean Coalition receives information on a regular basis from small developers regarding interconnection problems with the utilities. While we don't yet have comprehensive interconnection data (because the utilities have refused to share this data despite our repeated requests), we know anecdotally that missed deadlines are rampant and that there is almost no IOU accountability on this issue. For example, we have heard from several developers that even a simple step such as being informed by a utility that an application is deemed valid and complete can take weeks longer than the tariff timeline. Mandating a publicly-available queue that shows IOU performance relative to tariff-mandated timelines would be an important first step in addressing this issue.

The Commission discussed interconnection issues for WDG in some detail in its most recent quarterly RPS report to the Legislature. The following figure shows the number of interconnections pending in the queue as of the end of 2010.

Figure 1. *Commission analysis of all WDG interconnection requests since 2008.*



We urge the Commission to be proactive in reasserting jurisdiction over all WDG interconnection as part of the instant proceeding and to examine in detail the problem of enforcing utility interconnection procedure deadlines and other rules. While much could be done in the short term to improve interconnection procedures, including increasing data transparency for both grid access and the interconnection queues, the most substantial reform the Commission could achieve would result from a robust third party audit of utility interconnection procedures, as we described in Section II.

13. Commission consideration of locational benefits.

Section 399.20(e) provides: "The commission shall consider and may establish a value for an electric generation facility located on a distribution circuit that generates

electricity at a time and in a manner so as to offset the peak demand on the distribution circuit."

A number of entities have examined the locational benefits of solar and other renewable energy resources. GreenVolts, the former employer of the Clean Coalition's executive director Craig Lewis, and the Community Environmental Council (through Tam Hunt, formerly with the Council and now consulting attorney for the Clean Coalition), submitted detailed comments to the Commission in 2008 on locational benefits. These comments are available at the Commission's website.[14] We reproduce here the summary table from the analysis completed by Crossborder Energy for the GreenVolts and Community Environmental Council comments to the Commission in 2008 (Figure 2).

Figure 2. *Crossborder Energy calculation of WDG locational benefits (2008).*

Value boost of Locational Benefits to MPR ($/MWh)						
(20-Year MPR Starting in 2009)						
Issue	Fixed	Variable	Total	Increase*	% Change	Cumulative
Adopted 2007 MPR	$27	$70	$97	NA	NA	NA
Proposed 2008 MPR with GreenVolts Locational Adjustments						
Avoided Distribution Line Losses (prim	$29	$73	$102	$5	5%	5%
Avoided Distribution Investment	$29	$89	$118	$16	17%	22%
Avoided Transmission Investment	$29	$102	$131	$13	13%	35%
Avoided Tranmission Congestion	(to be determined based on MRTU values)					

Based on these previous comments and subsequent analysis by the Clean Coalition and others, the Clean Coalition believes that WDG projects provide on average a 35 percent additional value over and above transmission-interconnected projects.

If we apply this formula to the existing 2009 MPR tables, we achieve the pricing in Table 1 (assuming for present purposes a 1 c/kWh payment for non-greenhouse gas environmental benefits). It is our view that this is itself a rational and defensible pricing formula and also one that achieves pricing sufficient to support all types of renewables

[14] http://docs.cpuc.ca.gov/efile/CM/80092.pdf.

in the 1-5 MW range, when Time of Delivery is added. However, we recommend a hybrid approach to actual SB 32 PPA pricing, as described further below, to ameliorate some of the concerns expressed to FERC by the utilities with respect to the 10 percent PPA boost under the AB 1613 cogeneration feed-in tariff.

Table 1. *Projected SB 32 pricing based on 2009 MPR plus locational and environmental benefits (before Time of Delivery is added).*

Adopted 2009 Market Price Referents (Nominal - dollars/kWh)					SB 32? (MPR + 35% LB + 1 cent/kWh)			
	10-Year	15-Year	20-Year	25-Year	10-Year	15-Year	20-Year	25-Year
2011	0.084	0.091	0.097	0.100	**0.124**	**0.132**	**0.141**	**0.145**
2012	0.088	0.095	0.101	0.104	**0.129**	**0.138**	**0.146**	**0.151**
2013	0.092	0.099	0.105	0.109	**0.134**	**0.143**	**0.152**	**0.157**
2014	0.095	0.102	0.109	0.112	**0.139**	**0.148**	**0.157**	**0.162**
2015	0.099	0.106	0.113	0.116	**0.143**	**0.153**	**0.162**	**0.167**
2016	0.102	0.109	0.116	0.120	**0.147**	**0.158**	**0.167**	**0.172**
2017	0.105	0.113	0.120	0.124	**0.152**	**0.163**	**0.172**	**0.177**
2018	0.108	0.117	0.124	0.128	**0.156**	**0.168**	**0.177**	**0.182**
2019	0.112	0.121	0.128	0.132	**0.161**	**0.173**	**0.183**	**0.188**
2020	0.116	0.125	0.132	0.136	**0.167**	**0.179**	**0.188**	**0.193**

CalSEIA has also studied this issue in some depth, focusing on solar PV ratepayer benefits.[15] Their study concludes that solar PV provides additional ratepayer value of 0.5 to 5.3 c/kWh, depending on the utility and area at issue. The middle of this range accords well with our 35 percent of MPR figure above.

[15] http://calseia.org/wp-content/uploads/2010/05/pv-above-mpr-methodology-final-20100423.pdf.

Table 2. *CalSEIA conclusions re locational benefits for solar PV (2010).*

Cost components (c/kWh)	Low	High
Grid support	0.051	0.249
Avoided transmission	0.045	0.746
Avoided distribution	0.2	3.0
Avoided line losses	0.145	0.436
Reliability and blackout prevention	0.009	0.742
Improved power quality	0.001	0.111
Total	0.451	5.284

We also note that the RETI calculations[16] for all projects in each CREZ found an average of 3.5 c/kWh for transmission costs for out-of-state RPS projects. This data could be easily used to generate an avoided transmission cost component to support the Commission's locational benefits analysis.

A Hybrid Locational Benefits "PPA Boost" Approach

While there is a strong rationale for an "average locational benefits" PPA price boost, the Clean Coalition recommends instead a hybrid approach using zone-based benefits and averaged state-wide benefits to calculate the total locational benefits PPA boost for each project. We recommend the following formula (Eq. 1):

> Eq. 1: Locational benefits PPA boost = 0.5 x (average statewide locational benefits) + (zone-based benefits)

Taking our 35% of MPR figure from the previous section, we arrive at 17.5% of MPR for the averaged locational benefits under Equation 1. This matches well with the avoided distribution line construction cost benefit calculated by Crossborder Energy in Figure 2

[16] http://www.energy.ca.gov/reti/documents/phase2B/CREZ_name_and_number.xls.

(17%). This first term in Equation 1 represents, accordingly, the most significant benefit of WDG and SB 32 projects: avoided distribution line construction.

Calculating zonal benefits requires significant additional data, specific to each utility. These calculations should include, at a minimum, the same items CalSEIA included in its study EXCEPT for avoided distribution line construction, which is already included in the averaged locational benefit component of Equation 1:

- Grid support
- Avoided transmission
- Avoided line losses
- Reliability and blackout prevention
- Improved power quality

We recommend also that each utility modify their existing PV program and RAM maps to include a color-based zone system for three levels of locational benefits under Equation 1. Each utility should create a methodology, updatable on a regular basis, to implement the above formula and create three pricing bands under Equation 1 that are represented by different color zones in their online maps.

We understand that all of these pricing issues will be contentious and we, accordingly, recommend that the Commission hold a workshop on this issue.

14. Refunds of incentives pursuant to the California Solar Initiative and the Self-Generation Incentive Program.

The Clean Coalition has no comments on these provisions of SB 32 other than to note our agreement that any incentives previously received for SB 32 projects should be refunded if ratepayer value has not already been recouped.

Proposed workshops, hearings or other activities. If a party believes that further activities, such as a workshop or evidentiary hearing, are necessary, the party should state, in a separate section in its brief:

1. On which specific issue or issues the further activity is warranted;

2. What activity should be undertaken (e.g., workshop);

3. Specific reasons that the activity would be necessary or beneficial;

4. A proposed time frame for the activity (e.g., evidentiary hearing in August 2011).

The Clean Coalition believes that workshops on at least two issues should be held as soon as possible after briefs are due (March or April at the latest):

- Should the Commission expand the FIT/CLEAN program to 5 MW instead of 3 MW? This is likely to be a contentious issue and it would be good to air all debates in a workshop. We recommend also that this workshop consider procedures for Commission expansion of the SB 32 750 MW program, if experience warrants such expansion.
- What is the appropriate pricing under SB 32? This workshop should include discussion of MPR, Time of Delivery, environmental compliance benefits and locational benefits. These issues will probably be similarly contentious so would also benefit greatly from open discussion in a workshop.

Respectfully submitted,

TAM HUNT

Attorney for:
Clean Coalition
2 Palo Alto Square
3000 El Camino Real, Suite 500
Palo Alto, CA 94306
(805) 705-1352

Dated: March 7, 2011

CERTIFICATE OF SERVICE

I hereby certify that I have served by electronic service a copy of the foregoing CLEAN COALITION BRIEF ON IMPLEMENTATION OF SENATE BILL 32 on all known interested parties of record in R.08-08-009 included on the service list appended to the original document filed with this Commission. Service by first class U.S. mail has also been provided to those who have not provided an email address.

Dated at Santa Barbara, California, this 7th day of March, 2011.

Tamlyn Hunt

cadowney@cadowneylaw.com

chris.leveriza@glacialenergy.vi

ccasselman@pilotpowergroup.com

douglass@energyattorney.com

liddell@energyattorney.com

klatt@energyattorney.com

jnelson@psrec.coop

jleslie@luce.com

matthew@turn.org

wplaxico@axiopower.com

AMSmith@SempraUtilities.com

dbodine@libertypowercorp.com

jna@speakeasy.org

lwisland@ucsusa.org

Laurie.Mazer@bp.com

martinhomec@gmail.com

nrader@calwea.org

patrick.vanbeek@commercialenergy.net

rhardy@hardyenergy.com

ted@fitcoalition.com

dgulino@ridgewoodpower.com

rresch@seia.org

keith.mccrea@sablaw.com

jim_p_white@transcanada.com

jkern@bluestarenergy.com

mkuchera@bluestarenergy.com

kb@enercalusa.com

jordan.white@pacificorp.com

dsaul@pacificsolar.net

GouletCA@email.laccd.edu

kelly.cauvel@build-laccd.org

eisenblh@email.laccd.edu

rkeen@manatt.com

npedersen@hanmor.com

mmazur@3PhasesRenewables.com

susan.munves@smgov.net

ej_wright@oxy.com

pssed@adelphia.net

cathy.karlstad@sce.com

mike.montoya@sce.com

rkmoore@scwater.com

kswitzer@gswater.com

cponds@ci.chula-vista.ca.us

mary@solutionsforutilities.com

DAKing@SempraGeneration.com

fortlieb@sandiego.gov

KHassan@SempraUtilities.com

GBass@SempraSolutions.com

TRoberts@SempraUtilities.com

CentralFiles@SempraUtilities.com

marcie.milner@shell.com

GloriaB@anzaelectric.org

kerry.eden@ci.corona.ca.us

phil@reesechambers.com

Joe.Langenberg@gmail.com

dorth@krcd.org

ek@a-klaw.com

bruce.foster@sce.com

cec@cpuc.ca.gov

nao@cpuc.ca.gov

jeanne.sole@sfgov.org

marcel@turn.org

arno@recurrentenergy.com

CRMd@pge.com

ECL8@pge.com

nes@a-klaw.com

abrowning@votesolar.org

bcragg@goodinmacbride.com

jsqueri@gmssr.com

jarmstrong@goodinmacbride.com

mday@goodinmacbride.com

stevegreenwald@dwt.com

shong@goodinmacbride.com

dhuard@manatt.com

todd.edmister@bingham.com

jkarp@winston.com

edwardoneill@dwt.com

jeffgray@dwt.com

michael.hindus@pillsburylaw.com

ssmyers@att.net

gpetlin@3degreesinc.com

mrh2@pge.com

bill@fitcoalition.com

ralf1241a@cs.com

wbooth@booth-law.com

kowalewskia@calpine.com

info@calseia.org

rick_noger@praxair.com

jpross@sungevity.com

jody_london_consulting@earthlink.net

kfox@keyesandfox.com

sstanfield@keyesfox.com

gmorris@emf.net

ndesnoo@ci.berkeley.ca.us

clyde.murley@comcast.net

tomb@crossborderenergy.com

dweisz@marinenergyauthority.org

anders.glader@elpower.com

janreid@coastecon.com

michaelboyd@sbcglobal.net

johnrredding@earthlink.net

jweil@aglet.org

jsanders@caiso.com

cmkehrein@ems-ca.com

dcarroll@downeybrand.com

davidb@cwo.com

jmcfarland@treasurer.ca.gov

jim.metropulos@sierraclub.org

contact@aecaonline.com

blaising@braunlegal.com

sgp@eslawfirm.com

abb@eslawfirm.com

dkk@eslawfirm.com

lmh@eslawfirm.com

wwester@smud.org

Christine@consciousventuresgroup.com

kmills@cfbf.com

jcolive@bpa.gov

Tom.Elgie@powerex.com

renewablegroup@cpuc.ca.gov

freesa@thirdplanetwind.com

Andrew.Luscz@glacialenergy.com

acitrin@prosoliana.com

WBlattner@SempraUtilities.com

davidmorse9@gmail.com

dtownley@infiniacorp.com

elvine@lbl.gov

Erin.Grizard@BloomEnergy.com

HYao@SempraUtilities.com

jpepper@svpower.com

janice@strategenconsulting.com

kmills@cfbf.com

sahm@fitcoalition.com

kristin@consciousventuresgroup.com

lsherman@orrick.com

moxsen@calpine.com

matt.miller@recurrentenergy.com

mpf@stateside.com

michael.wheeler@recurrentenergy.com

nedrayoung@gmail.com

stephaniec@greenlining.org

tam.hunt@gmail.com

tdarton@pilotpowergroup.com

ttutt@smud.org

todd.johansen@recurrentenergy.com

legal@silveradopower.com

mrw@mrwassoc.com

regulatory@silveradopower.com

artrivera@comcast.net

CKebler@SempraGeneration.com

cynthia.brady@constellation.com

cynthia.brady@constellation.com

Derek@AltaPowerGroup.com

pstoner@lgc.org

imcgowan@3degreesinc.com

Jennifer.Barnes@Navigantconsulting.com

James.Stack@CityofPaloAlto.org

judypau@dwt.com

lmitchell@hanmor.com

m.stout@meridianenergyusa.com

mniroula@water.ca.gov

pblood@columbiaenergypartners.com

pshaw@suntechamerica.com

richard.chandler@bp.com

r.raushenbush@comcast.net

pletkarj@bv.com

SEHC@pge.com

shess@edisonmission.com

thomase.hobson@ge.com

TCorr@SempraGlobal.com

tphillips@tigernaturalgas.com

mpr-ca@coolearthsolar.com

dwtcpucdockets@dwt.com

Harry.Singh@RBSSempra.com

Karen.Kochonies@MorganStanley.com

Morgan.Hansen@MorganStanley.com

nicole.fabri@clearenergybrokerage.com

ron.cerniglia@directenergy.com

vsuravarapu@cera.com

tjaffe@energybusinessconsultants.com

garson_knapp@fpl.com

cswoollums@midamerican.com

jcasadont@bluestarenergy.com

abiecunasjp@bv.com

nblack@calbioenergy.com

echiang@elementmarkets.com

jpittsjr@pcgconsultants.com

jon.jacobs@paconsulting.com

kjsimonsen@ems-ca.com

ccollins@Energystrat.com

jenine.schenk@apses.com

emello@sppc.com

tdillard@sppc.com

jgreco@terra-genpower.com

Jeff.Newman@bth.ca.gov

ctorchia@chadbourne.com

ktendy@chadbourne.com

fyanney@fulbright.com

igoodman@commerceenergy.com

Douglas@Idealab.com

vjw3@pge.com

fhall@solarelectricsolutions.com

jackmack@suesec.com

case.admin@sce.com

george.wiltsee@sce.com

Joni.Templeton@sce.com

Laura.Genao@sce.com

kswitzer@gswater.com

chad@cenergypower.com

rjgilleskie@san.rr.com

j.miles.cox@sbcglobal.net

ggisel@indenergysolutions.com

SNelson@Sempra.com

farrellytc@earthlink.net

HRasool@SempraUtilities.com

DNiehaus@SempraUtilities.com

CentralFiles@SempraUtilities.com

fwnoble@WintecEnergy.com

peter.pearson@bves.com

csteen@bakerlaw.com

rblee@bakerlaw.com

chestonem@sharpsec.com

john@deweygroup.com

leichnitz@lumospower.com

hanigan@encous.com

pfmoritzburke@gmail.com

janet.gagnon@solarworldusa.com

Jeff.Hirsch@DOE2.com

hal@rwitz.net

sue.mara@rtoadvisors.com

mdjoseph@adamsbroadwell.com

paulfenn@local.org

Dan.adler@calcef.org

mramirez@sfwater.org

srovetti@sfwater.org

tburke@sfwater.org

norman.furuta@navy.mil

andre.devilbiss@recurrentenergy.com

dcover@esassoc.com

reg@silveradopower.com

jim.howell@recurrentenergy.com

luke.dunnington@recurrentenergy.com

sam.maslin@recurrentenergy.com

snuller@ethree.com

mcarboy@signalhill.com

avege@firstwind.com

RegRelCPUCCases@pge.com

ELL5@pge.com

MGML@pge.com

jay2@pge.com

jsp5@pge.com

filings@a-klaw.com

ldri@pge.com

MMCL@pge.com

mginsburg@orrick.com

spauker@wsgr.com

tjl@a-klaw.com

cmmw@pge.com

nxk2@pge.com

Eriks@ecoplexus.com

amartin@nextlight.com

fderosa@nextlight.com

jstoddard@manatt.com

jwoodruff@nextlight.com

jscancarelli@crowell.com

mchediak@bloomberg.net

rafi.hassan@sig.com

sdhilton@stoel.com

tkaushik@manatt.com

vidhyaprabhakaran@dwt.com

tsolomon@winston.com

bobgex@dwt.com

Diane.Fellman@nrgenergy.com

cem@newsdata.com

sho@ogrady.us

atk4@pge.com

CPUCCases@pge.com

BXSZ@pge.com

GXL2@pge.com

S2B9@pge.com

rwalther@pacbell.net

ryan.heidari@endimensions.com

wetstone@alamedamp.com

beth@beth411.com

kerry.hattevik@nrgenergy.com

andy.vanhorn@vhcenergy.com

sean.beatty@mirant.com

barmackm@calpine.com

JChamberlin@LSPower.com

phanschen@mofo.com

timea.Zentai@navigantconsulting.com

masont@bv.com

dietrichlaw2@earthlink.net

alex.kang@itron.com

ramonag@ebmud.com

bepstein@fablaw.com

nellie.tong@us.kema.com

cpucdockets@keyesandfox.com

cwooten@lumenxconsulting.com

rschmidt@bartlewells.com

gteigen@rcmdigesters.com

mcmahon@solarmillennium.com

sgallagher@stirlingenergy.com

gtrobinson@lbl.gov

ed.smeloff@sunpowercorp.com

erasmussen@marinenergyauthority.org

sara@solaralliance.org

juliettea7@aol.com

lynn@lmaconsulting.com

tfaust@redwoodrenewables.com

tim@marinemt.org

johnspilman@netzero.net

ed.mainland@sierraclub.org

keithwhite@earthlink.net

wem@igc.org

eric.cherniss@gmail.com

shani@scvas.org

renee@gem-corp.com

tom_victorine@sjwater.com

jrobertpayne@gmail.com

davido@mid.org

joyw@mid.org

brbarkovich@earthlink.net

dgrandy@caonsitegen.com

rmccann@umich.edu

tobinjmr@sbcglobal.net

saeed.farrokhpay@ferc.gov

e-recipient@caiso.com

dennis@ddecuir.com

rick@sierraecos.com

david.oliver@navigantconsulting.com

kenneth.swain@navigantconsulting.com

cpucrulings@navigantconsulting.com

lpark@navigantconsulting.com

pmaxwell@navigantconsulting.com

tpomales@arb.ca.gov

amber@iepa.com

tbrunello@calstrat.com

mclaughlin@braunlegal.com

danielle@ceert.org

jluckhardt@downeybrand.com

bernardo@braunlegal.com

steveb@cwo.com

steven@iepa.com

Tiffany.Roberts@lao.ca.gov

dseperas@calpine.com

bsb@eslawfirm.com

cte@eslawfirm.com

jjg@eslawfirm.com

rroth@smud.org

mdeange@smud.org

vwood@smud.org

lterry@water.ca.gov

hurlock@water.ca.gov

varanini@sbcglobal.net

karen@klindh.com

atrowbridge@daycartermurphy.com

dsanchez@daycartermurphy.com

DocToxics@aol.com

dbranchcomb@spi-ind.com

c.mentzel@cleanenergymaui.com

sas@a-klaw.com

mpa@a-klaw.com

californiadockets@pacificorp.com

Tashiana.Wangler@PacifiCorp.com

dws@r-c-s-inc.com

castille@landsenergy.com

john_dunn@transcanada.com

meredith_lamey@transcanada.com

mark.thompson@powerex.com

Nancy.Norris@powerex.com

AEG@cpuc.ca.gov

CNL@cpuc.ca.gov

DBP@cpuc.ca.gov

MWT@cpuc.ca.gov

SMK@cpuc.ca.gov

TRH@cpuc.ca.gov

cleni@energy.state.ca.us

lgonzale@energy.state.ca.us

jmcmahon@8760energy.com

ab1@cpuc.ca.gov

as2@cpuc.ca.gov

aes@cpuc.ca.gov

bwm@cpuc.ca.gov

cjm@cpuc.ca.gov

clu@cpuc.ca.gov

ctd@cpuc.ca.gov

dot@cpuc.ca.gov

gtd@cpuc.ca.gov

jm3@cpuc.ca.gov

jls@cpuc.ca.gov

jzr@cpuc.ca.gov

jp6@cpuc.ca.gov

jaa@cpuc.ca.gov

jf2@cpuc.ca.gov

jmh@cpuc.ca.gov

kar@cpuc.ca.gov

kho@cpuc.ca.gov

kwh@cpuc.ca.gov

lau@cpuc.ca.gov

mpo@cpuc.ca.gov

mrl@cpuc.ca.gov

mjs@cpuc.ca.gov

mjd@cpuc.ca.gov

mc3@cpuc.ca.gov

sha@cpuc.ca.gov

nlr@cpuc.ca.gov

nil@cpuc.ca.gov

psd@cpuc.ca.gov

rmm@cpuc.ca.gov

rkn@cpuc.ca.gov

svn@cpuc.ca.gov

tbo@cpuc.ca.gov

ys2@cpuc.ca.gov