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BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop	)	
Additional Methods to Implement the California	)	Rulemaking: 06-02-012
Renewables Portfolio Standard Program	)	(Filed February 16, 2006)
	)	

Pre-Workshop Comments of GreenVolts, Cleantech America, and Community Environmental Council on the 2008 Market Price Referent

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Locational Benefits of WDG

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Pursuant to Administrative Law Judge Anne Simon's Ruling dated February 8, 2008 (ALJ Ruling), GreenVolts, Cleantech America, and Community Environmental Council (collectively the "Joint Parties") present opening comments on issues associated with the 2008 market price referent (2008 MPR). The Joint Parties' comments focus on Section 4.1.4 of the ALJ Ruling, which asks parties to discuss how locational pricing should be incorporated into the 2008 MPR. The Joint Parties' primary interest in this proceeding is ensuring that the locational benefits of intelligently-sited renewable energy generation are reflected fully in the 2008 MPR. Although locational pricing is the focus of these comments, the Joint Parties also have a strong interest in the other issues outlined in the ALJ Ruling, and support the comments on those matters that are being filed concurrently by the California Wind Energy Association (CalWEA), the California Cogeneration Council (CCC), and the Concentrated Solar Power companies (CSP).

GreenVolts is a San Francisco company with the mission of making solar energy economical. The company has developed state-of-the-art concentrating photovoltaic (CPV) technology that achieves unparalleled solar-to-electricity conversion efficiency through an innovative integration of optics and solar tracking. Like central station power plants, GreenVolts' technology is a complete power plant designed for delivering the lowest levelized

cost of energy. Also, like traditional solar panels on roof-tops, GreenVolts' power plants are sited close to loads, increasing efficiency and further reducing cost. GreenVolts is currently constructing a California Public Utilities Commission (CPUC) approved (Resolution E-4132) solar power plant that will fulfill a 20-year power purchase agreement (PPA) with Pacific Gas & Electric (PG&E). This 2 MW power plant will be interconnected to PG&E's 12kV distribution lines near Tracy, California. In addition to having a high Generator Meter Multiplier (GMM), reflecting that generation at this delivery point already reduces system average line losses, the site is within two miles of a major new housing development that will become one of the largest loads in the region. GreenVolts expects to widely replicate such utility-scale wholesale distributed generation (WDG) solar power plants, which will deliver to California's ratepayers not only significant amounts of clean solar energy, but also the tangible and quantifiable locational benefits that are the subject of these comments.

Cleantech America, Inc. is a leading California-based developer of in-grid, emission-free, photovoltaic (PV) solar farms and other renewable energy projects sized 5 MW and greater. The company recently received approval from the CPUC for a 5 MW solar PV PPA with PG&E, the largest such contract with an IOU approved to date under the state's RPS program. Cleantech's business plan is, in part, to site projects near utility distribution or transmission systems close to serviced load. The company's in-grid strategy is intended to provide ratepayers with significant locational benefits, including improved air quality, avoided congestion costs, reduced need for major new bulk transmission, and regional green collar jobs growth. Coupled with the company's strategy to reduce the cost of PV and other solar electricity generation through economies of scale, locational pricing offers ratepayer benefits that are not currently reflected in the MPR.

The Community Environmental Council is a member-supported environmental non-profit organization formed in Santa Barbara in 1970 and is the leading environmental organization in the mid-California area. In 2004, the organization shifted its primary focus to energy and transportation issues and began spearheading a regional effort to wean communities from fossil

fuels over the next two decades. The California Environmental Council combines community efforts on a number of energy and climate change-related issues with action on associated state and federal policy issues. The state and federal policy action is directly informed by the organization's extensive experience at the local level.

I. SUMMARY

The Joint Parties believe there is an underserved renewable energy market segment where renewable generation supplying wholesale power can be sited on utility distribution systems near significant loads. The renewable, wholesale distributed generation (WDG)[1] supplied by new technology like GreenVolts' promises to provide ratepayers with significant locational benefits, compared to large renewable projects that typically must be sited in remote locations where large tracts of land are available. The locational benefits of WDG include:

- avoiding the need for major new bulk transmission facilities,
- meeting local resource adequacy needs,
- reducing transmission line losses,
- avoiding congestion costs,
- reducing distribution line losses,
- avoiding demand-related distribution investments.

These benefits are not currently reflected in the MPR, which serves as the key pricing benchmark for new renewable generation. The MPR has been designed, like the entire RPS program, with a focus on large renewable projects that supply tens or hundreds of megawatts of wholesale power delivered into the bulk transmission system. However, state policy is beginning to recognize the potential of renewable WDG, through initiatives such as the AB 1969 "feed-in" tariffs whose price is set at the prevailing MPR. If California is to realize the full

[1] "W<u>holesale</u> distributed generation" (WDG) projects are significantly distinguished from traditional "distributed generation" (DG), which generally refers to small, <u>retail</u> generation projects sized to serve a specific on-site load, with power flowing onto the utility distribution system only to the limited extent that on-site generation happens to exceed on-site load.

potential of renewable WDG, the MPR applicable to small renewable projects sited on the distribution system should reflect the enhanced benefits that ratepayers derive from the favorable location of this new renewable generation.

These comments respond to the ALJ's Ruling asking whether the 2008 MPR should incorporate locational pricing, and explain how the 2008 MPR should be modified to include the locational benefits of WDG projects. The Locational Marginal Pricing (LMP) under the CAISO's new Market Re-design and Technology Update (MRTU) program will provide data on transmission line loss and congestion benefits at thousands of locations on the CAISO grid. WDG projects can avoid the distribution line losses specified in the utilities' Wholesale Distribution Access Tariffs (WDATs).

Finally, the Commission's adopted E3 model for the avoided costs associated with energy efficiency programs includes a time-dependent, hourly valuation of avoided investment-related Transmission & Distribution (T&D) costs. This model can be used to value the avoided T&D costs from a WDG project; these costs should be added to the MPR applicable to the project. The Joint Parties are aware that the utilities have been reluctant to recognize that generators avoid T&D costs unless located in an area where specific costs can be avoided. In pursuit of benefits for all parties including ratepayers, the Joint Parties stand ready to work cooperatively with the utilities to identify those areas of their systems where the T&D benefits of WDG are at least as large as those specified in the E3 model, and to site renewable WDG projects in those areas. To encourage the development of renewable WDG generation, the Joint Parties recommend that the Commission direct the utilities to publish, by 31 December 2008, a list of the distribution substations on their systems where WDG would avoid T&D costs at least as high as those specified in the E3 model – in essence, a distribution-level version of the Transmission Ranking Cost Report that the utilities publish to indicate the availability and cost of bulk transmission on their systems.

II. JOINT PARTIES' INTEREST IN THIS PROCEEDING

The Joint Parties have studied the tangible and quantifiable locational benefits of wholesale distributed generation (WDG) – the market segment where utility-scale, wholesale energy is generated on the distribution network close to loads. The ability to locate renewable generation, and solar power plants in particular since those satisfy peak demand with ultra-clean energy, on the distribution network close to loads promotes local resource adequacy and avoids the challenges associated with expanding the state's transmission infrastructure. These challenges include costly transmission investment requirements; notoriously long planning, permitting and build-out times; the significant environmental impacts of new transmission lines; congestion bottlenecks; and the substantial line losses associated with the long-distance transmission of electricity. WDG also can reduce losses on the distribution system, avoid investments to expand the distribution system, and improve reliability by generating power close to where it is consumed.

Given that the MPR is the statutory benchmark for a reasonable, long-term market price for electricity from new renewable generation,[3] the MPR should recognize the enhanced benefits to ratepayers from the intelligent siting of new renewable generation at locations that offer the greatest benefit to ratepayers. Hence, the locational benefits of WDG should be incorporated into the MPR.

III. STATE POLICY IS JUST BEGINNING TO ADDRESS RENEWABLE WHOLESALE DISTRIBUTED GENERATION.

Despite the advantages of renewable WDG, this is a market that, until very recently, has been largely ignored by California's otherwise laudable efforts to promote development of renewable technologies for electric generation. For example, the incentives available under the California Solar Initiative (CSI) are limited to distributed generation (DG) facilities serving

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[2] P.U. Code Section 399.15(c).

retail, on-site loads and to projects producing no more than 1 MW. The RPS program is structured to award power purchase contracts to very large renewable generation projects delivering wholesale power into the state's transmission grid. Large RPS projects require significant land area in regions with abundant renewable resources, the combination of which are available predominantly in locations remote from the state's load centers. As a result, the availability of adequate bulk transmission is a major challenge for large RPS projects. Further, the successful participation in the full RPS solicitation process is a complex and expensive endeavor, which presents a significant barrier to small renewable WDG projects. GreenVolts and Cleantech America both have direct experience with the full cycle of the RPS request for offer (RFO) process, and both have found that the high cost and effort associated with participating in the solicitation process significantly diminishes the economic attractiveness of the RPS for small projects, certainly including projects with a capacity of 5 MW or less.

California is beginning to take initial steps to address the needs of renewable WDG. On February 14, 2008, the Commission issued Resolution E-4137, which gave final approval to what the Commission described as "feed-in" tariffs under which small renewable generators (with up to 1.5 MW in capacity delivered to the utility) can sell wholesale power to the state's investor-owned utilities under simplified 10-, 15-, or 20-year contracts. The price under these tariffs will be the prevailing MPR price. These feed-in tariffs were mandated in AB 1969, which the Commission subsequently implemented in Decision No. 07-07-027 and Resolution E-4137.[3]

The AB 1969 tariffs will be available for up to 480 MW of new renewable generation. 250 MW of this capacity will be available only to projects owned and operated by public water and wastewater agencies, but pursuant to D. 07-07-027 PG&E and Edison will make 230 MW of capacity available to small renewable projects at any site, with a size limit per project of up to 1.5 MW delivered to the utility.[4] The Commission noted that "these 'feed-in tariffs' present a

[3] AB 1969 added P.U. Code Section 399.20.

[4] A project selling power to a utility under these tariffs can be larger than 1.5 MW, so long as the project serves an on-site load such that the utility purchases no more than 1.5 MW of the project's excess generation.

simple mechanism for small renewable generators to sell power to a utility at predefined terms and conditions, without contract negotiations." CPUC President Michael Peevey observed that the AB 1969 feed-in tariffs would allow small generators to participate in the RPS program, because "up until now, only large renewable generators were able to effectively participate in the RPS program."[5] The availability of AB 1969 contracts at the prevailing MPR price increases the importance of ensuring that the locational benefits of WDG are incorporated accurately into the 2008 MPR. As explained in more detail below, such WDG projects provide ratepayers with significant and quantifiable benefits associated with intelligent siting close to loads, and the value of these significant locational benefits is not yet reflected in the MPR price.

IV. LOCATIONAL VALUATION UNDER MRTU

Section 4.1.4 of the ALJ Ruling requests comments on how locational pricing should be incorporated into the 2008 MPR, particularly once locational marginal pricing is implemented under the CAISO's MRTU program. GreenVolts appreciates the Commission's recognition of the importance of locational pricing; it is of particular importance to WDG, such as the WDG solar power plants that GreenVolts is developing.

Renewable WDG is generally interconnected to a utility's distribution system and produces more power than is needed by any on-site load. The excess power exported to the grid typically is consumed by nearby loads served from the same distribution system to which the generator is connected. The locational value of such generation is not captured in the current MPR, which is designed as a benchmark for large, transmission-level RPS projects comparable in size to the 500 MW combined-cycle gas turbine (CCGT) facility on which the MPR is based. The MPR is a statewide value designed to capture a "representative statewide" estimate for the

[5] See the CPUC's February 14, 2008 press release, "CPUC Approves Feed-In Tariffs...," available at http://docs.cpuc.ca.gov/WORD_PDF/NEWS_RELEASE/78824.PDF.

costs of a new CCGT plant built in California.[6] The MPR calculation uses a 50/50 average of the delivered costs of natural gas in northern and southern California, and includes a line loss adjustment based on an average of line losses only on the California Independent System Operator's (CAISO) transmission grid. Thus, the current MPR represents the statewide average cost of large amounts of wholesale electricity delivered to the load center at transmission voltages.

Renewable WDG such as GreenVolts' Tracy project will provide locational benefits to California ratepayers that are not now reflected in the MPR, including:

- lower transmisison line losses,
- lower intra-zonal congestion,
- reduced distribution line losses, and
- avoided transmission and distribution investments.

Each of these benefits is discussed in the sections below. MRTU will enable the more accurate pricing of the first two of these benefits, and the Commission has existing methodologies to value the other two, which are discussed in Section V.

A. Transmission Line Losses.

Today, GMMs are used for the locational valuation of line loss impacts on the CAISO transmission grid. GMMs measure the average transmission line losses to deliver power to a virtual load center. The MPR price is adjusted by the system average GMM,[7] and the Joint Parties understand that typical RPS contracts pay renewable generators for their generation adjusted by their site-specific GMM.

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[6] See D. 03-06-071, at 21.

[7] Currently, the system average GMM used in the MPR model is the simple average of the GMMs on the CAISO grid. The use of the simple average GMM appears to understate average transmission losses on the CAISO grid; the accurate representation of CAISO system line losses would be the average GMM weighted by the output of each generator. The Joint

The valuation of line losses will change under MRTU. The new LMP method will provide a line loss component of the market price at each node. This market-based loss component will reflect marginal losses at each node, a significant change from the GMM methodology, which uses losses scaled to system average losses. Under MRTU, the CAISO also will provide aggregated losses across all of the nodes on its system and across each utility's service territory. For example, assume a new renewable generator's node has an annual average loss component of $1.50 per MWh vs an annual system average loss component of $2.00 per MWh. The MPR applicable to that project should be increased by $0.50 per MWh to reflect the ratepayer benefit of the reduced losses associated with that project's favorable location. In this way, an MPR specific to each project could be determined, in order to reflect accurately a project's site-specific annual losses under MRTU compared to the system average losses.

B. Congestion

Today, intra-zonal congestion is not priced in the market or in the MPR. However, under MRTU, the explicit valuation of intra-zonal congestion at each node will be possible, as congestion, like line losses, also will be an explicit component of the LMP price at each node. It will be possible to calculate system average congestion costs and to include them in the statewide MPR. Most important, similar to line losses, the MPR applicable to a specific project could be adjusted to reflect a project's site-specific annual congestion costs under MRTU, compared to the system's annual average congestion costs measured either over the whole CAISO system or over the purchasing utility's service territory.

C. MRTU Timing

While MRTU is not expected to "go live" until the September 2008 time-frame, the Commission should work toward incorporating MRTU line loss and congestion constructs into the 2008 MPR. The Joint Parties urge the Commission to devote effort at the upcoming workshop to incorporate MRTU constructs into the 2008 MPR. Active participation by CAISO and Energy Division personnel familiar with LMP pricing should make this process effective.

Parties support the comments of CalWEA / CCC / CSP on this point.

V. AVOIDED TRANSMISSION AND DISTRIBUTION COSTS

Renewable WDG located on the distribution system, and serving local loads, can allow the IOUs to avoid both distribution losses and investment-related T&D costs. The impact of WDG will be to reduce demand on the distribution system, just as on-site DG and energy efficiency/demand-side management programs effectively reduce distribution system loads. As discussed below, the Commission has well-established tools to evaluate the benefits of such reductions.

A. Avoided Distribution Losses

The Commission has long recognized that QF generation located on the distribution system allows the utilities to avoid distribution system losses.[8] The Commission generally has looked to the utilities' Wholesale Distribution Access Tariffs (WDAT) as the source for avoided distribution losses. For example, in the Commission's most recent review of QF line losses – D. 01-01-007 – the Commission adopted Southern California Edison's and San Diego Gas & Electric's WDAT distribution loss factors as the measure of the distribution line losses avoided by QFs that deliver into the distribution systems of these utilities.[9] **Table 1** below summarizes the existing WDAT loss factors of the three major California IOUs, and recommends that they be used to assess the benefits of WDG in avoiding line losses on the distribution system. As losses increase significantly during periods of high demand, the Joint Parties submit that the use of these average loss factors will be conservative for renewable peaking projects. The MPR applicable to renewable WDG interconnected to the distribution system should be increased by one plus the distribution loss factors in Table 1, as given by the following formula:

WDG Distribution Loss Factor = 1 / (1 – WDAT Energy Loss Factor)

[8] D. 82-12-120, D.84-03-092, and D.87-12-066.
[9] D. 01-01-007, at 18 and Conclusion of Law 15.

Table 1: *Utility WDAT Energy Loss Factors*

Utility	Distribution Voltage	WDAT Energy Loss Factors
PG&E	Primary	1.25%
	Secondary	3.62%
SCE	Subtransmission	1.12%
	Primary	3.73%
SDG&E	All voltages	0%

Sources: PG&E WDAT tariff, D. 01-01-007 (SCE and SDG&E).

B. Avoided T&D Investments

The question of whether generation interconnected at the distribution-level, or energy efficiency programs that reduce end-use demand, allow the utilities to avoid T&D investments has been the subject of considerable debate. The Commission's adopted E3 model for the avoided costs associated with energy efficiency programs includes a time-dependent, hourly valuation of avoided investment-related T&D costs. The E3 model uses system-wide measures of avoided T&D costs – typically, marginal T&D costs calculated for use in electric rate design. When the Commission reviewed the E3 model in 2004 - 2005, the utilities opposed the inclusion of avoided T&D costs in the model, arguing that energy efficiency resources avoid T&D costs only in certain specific, case-by-case circumstances, such as on a rapidly-growing distribution circuit where an upgrade is needed in the near future.[10] The Commission rejected this position in D. 05-04-024, finding that "while a case-by-case analysis should be applied to determine payments related to specific projects for long-term conservation measures it is appropriate to credit programs with T&D avoided costs for program evaluation purposes."[11] The Joint Parties submit that the primary purpose of the MPR is to provide a benchmark for the RPS contract costs that ratepayers should bear; in effect, to determine what level of RPS program costs are fair and cost-effective for ratepayers to support. This function is similar to the use of the E3 model to

[10] *See* D. 05-04-024, at 35-36.

develop cost-effectiveness tests "for program evaluation purposes." From this perspective, it would be appropriate for the MPR to recognize generally that distribution-level generators can avoid investment-related T&D costs.

Additionally, the MPR is beginning to be used as a price for direct payments to certain renewable generators – for example, the MPR price is used directly in the AB 1969 feed-in tariffs. The Joint Parties expect that the utilities will oppose the use of the E3 model's avoided T&D costs as a component of the MPR used for such payments, unless the avoidance of such costs can be specifically documented "in the field." Hence, the Joint Parties propose to work cooperatively with the IOUs' T&D planners to identify sites that offer greater T&D benefits than the average avoided T&D values produced by the E3 model. GreenVolts and Cleantech welcome the opportunity to cooperate with the utilities to locate solar WDG at sites on the utility distribution systems where the solar peaking generation provides the greatest benefits for ratepayers, in terms of meeting load growth and peak period demands, and thus avoiding T&D investments. Projects sited in this cooperative way should receive an adder to their MPR value equal to the expected avoided T&D costs calculated by the adopted E3 model. The avoided T&D costs in the E3 model are average values for each IOU division or planning region. As a result, if renewable WDG is sited in locations with higher-than-average incremental T&D costs, ratepayers would be assured that they have received excess value if the MPR for such projects only includes average avoided T&D costs for that area, as calculated by the E3 model.

The E3 model's time-dependent valuation of avoided T&D costs includes avoided T&D costs for each hour of the year, and for each IOU division or planning region. Given the hourly output profile of a new renewable generator, the model can easily calculate an "avoided T&D adder" for that generator that could be added to the MPR applicable to the project. The general formula for such a WDG T&D adder is as follows:

$$\textbf{WDG T\&D Adder} = \Sigma_{\textbf{All hours}} \textbf{[E3 T\&D Costs x WDG Generation]} / \Sigma_{\textbf{All hours}} \textbf{WDG Generation}$$

[11] *Ibid.,*at 36.

Table 2 shows the results from using the E3 model to calculate such avoided T&D adders for each IOU division or planning region included in the E3 model, for both a baseload (7x24) output profile and for a representative solar photovoltaic (PV) output profile from a south-facing flat-plate PV system at a 38.5 degree tilt located in Sacramento, California. Table 2 also shows T&D breakouts. Note that the E3 model calculates that the solar generation profile produces about 75% of the avoided T&D benefits of the baseload profile; this is because PV output is high during the peak afternoon hours when peaks occur on the distribution system.

The Joint Parties note that actual experience with behind-the-meter solar DG developed under the Commission's Self Generation Incentive Program (SGIP) is beginning to validate the ability of distributed PV systems to reduce peak demands on utility distribution systems. The August 2007 evaluation report on the SGIP program shows that, in the summer of 2006, installed PV systems reduced distribution line loadings on peak summer afternoons by 42% to 56% of the PV systems' installed capacity.[12] The evaluation consultant, Itron, concluded that "SGIP technologies are seen to provide the potential for significant reduction in peak loading of the distribution system."[13] Itron noted a number of reasons why SGIP projects have not achieved an even greater level of capital-related savings on the distribution system:

> In addition to limited penetration of SGIP facilities within the distribution system, a number of other factors contribute to a lack of distribution capital savings. One of these is that the SGIP generators operate independently of the distribution system. Therefore, the SGIP owner does not know when the distribution peak is, nor do they have any incentive to operate during the peak even if they did know. In fact, the current SGIP rules prohibit an additional incentive to operate during the local capacity peak. Similarly, the distribution utility planners do not necessarily know which SGIP generators are being served by overloaded equipment, likely because the penetration of SGIP generators is not currently high enough to warrant close attention for capacity planning at the distribution level. In addition, SGIP owners choose where to install their systems, not the utility; therefore, there are not a concentrated number of installations in a single area of need that could provide significant load relief on a particular overloaded feeder or substation.[14]

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[12] GreenVolts' PV technology tracks the sun, and thus will sustain its output at higher levels than flat-plate PV over the course of a peak summer afternoon. As a result, GreenVolts' plants will achieve higher reductions in distribution line loadings, as a percent of project capacity, than the flat plate PV systems installed under SGIP.

[13] Itron, "CPUC Self-Generation Incentive Program – Sixth Year Impact Evaluation Report" (August 30, 2007), at Table 4-1 and pages 1-10 to 1-14.

[14] *Ibid.*, at 5-28.

E3 Model T&D Values (Levelized 20-year in 2008$)

		Transmission + Distribution				Transmission				Distribution			
Utility	Division	Baseload Profile		Solar Profile		Baseload Profile		Solar Profile		Baseload Profile		Solar Profile	
		$/kW-year	$/MWh	$/kW-year	$/MWh	$/kW-year	$/MWh	$/kW-year	$/MWh	$/kW-year	$/MWh	$/kW-year	$/MWh
PG&E	Central Coast	$46.07	$5.26	$35.70	$24.60	$1.55	$0.18	$1.20	$0.83	$44.51	$5.08	$34.50	$23.77
	De Anza	$58.67	$6.70	$46.95	$32.35	$1.55	$0.18	$1.24	$0.86	$57.11	$6.52	$45.71	$31.49
	Diablo	$55.62	$6.35	$44.51	$30.67	$1.55	$0.18	$1.24	$0.86	$54.06	$6.17	$43.27	$29.81
	East Bay	$11.57	$1.32	$8.97	$6.18	$1.55	$0.18	$1.20	$0.83	$10.02	$1.14	$7.77	$5.35
	Fresno	$48.24	$5.51	$37.08	$25.55	$1.55	$0.18	$1.19	$0.82	$46.68	$5.33	$35.89	$24.72
	Kern	$30.87	$3.52	$23.73	$16.35	$1.55	$0.18	$1.19	$0.82	$29.32	$3.35	$22.54	$15.53
	Los Padres	$46.82	$5.34	$37.47	$25.81	$1.55	$0.18	$1.24	$0.86	$45.26	$5.17	$36.23	$24.96
	Mission	$70.36	$8.03	$54.53	$37.57	$1.55	$0.18	$1.20	$0.83	$68.80	$7.85	$53.32	$36.74
	North Bay	$47.46	$5.42	$36.78	$25.34	$1.55	$0.18	$1.21	$0.83	$45.90	$5.24	$35.57	$24.51
	North Coast	$64.43	$7.35	$40.41	$27.84	$1.55	$0.18	$0.97	$0.67	$62.87	$7.18	$39.43	$27.17
	North Valley	$80.30	$9.17	$63.33	$43.63	$1.55	$0.18	$1.23	$0.84	$78.74	$8.99	$62.10	$42.78
	Peninsula	$20.90	$2.39	$16.19	$11.16	$1.55	$0.18	$1.20	$0.83	$19.34	$2.21	$14.99	$10.33
	Sacramento	$60.93	$6.96	$48.05	$33.11	$1.55	$0.18	$1.23	$0.84	$59.37	$6.78	$46.83	$32.26
	San Francisco	$16.89	$1.93	$13.09	$9.02	$1.55	$0.18	$1.20	$0.83	$15.34	$1.75	$11.89	$8.19
	San Jose	$44.65	$5.10	$35.74	$24.62	$1.55	$0.18	$1.24	$0.86	$43.10	$4.92	$34.49	$23.76
	Sierra	$66.84	$7.63	$52.71	$36.32	$1.55	$0.18	$1.23	$0.84	$65.29	$7.45	$51.49	$35.47
	Stockton	$69.90	$7.98	$55.94	$38.54	$1.55	$0.18	$1.24	$0.86	$68.34	$7.80	$54.69	$37.68
	Yosemite	$42.73	$4.88	$34.20	$23.56	$1.55	$0.18	$1.24	$0.86	$41.18	$4.70	$32.96	$22.70
SCE	Dominguez Hills	$45.91	$5.24	$32.93	$22.69	$26.09	$2.98	$18.71	$12.89	$19.82	$2.26	$14.21	$9.79
	Foothills	$59.90	$6.84	$42.96	$29.59	$26.09	$2.98	$18.71	$12.89	$33.80	$3.86	$24.24	$16.70
	Santa Ana	$55.19	$6.30	$39.58	$27.27	$26.09	$2.98	$18.71	$12.89	$29.10	$3.32	$20.87	$14.38
	SCE Rural	$72.95	$8.33	$53.87	$37.11	$26.09	$2.98	$19.27	$13.27	$46.86	$5.35	$34.60	$23.84
	Ventura	$57.57	$6.57	$41.29	$28.45	$26.09	$2.98	$18.71	$12.89	$31.48	$3.59	$22.58	$15.56
SDG&E	SDG&E	$114.15	$13.03	$84.35	$58.11	$13.84	$1.58	$10.23	$7.05	$100.31	$11.45	$74.12	$51.07

Note: assumes 2008 - 2027 project lifespan, 2.5% inflation, 8.93% discount rate, and 2008 $

As set forth in these comments, the Joint Parties believe that WDG projects can address benefit constraints associated with capacity limitations of behind-the-meter PV systems under SGIP. Renewable WDG is thereby positioned to amplify the well documented tangible and quantifiable locational T&D benefits already being reaped by DG and SGIP projects. Of course, properly compensated renewable WDG will also assure that this important market segment develops effectively so it can help to deliver the achievement of RPS objectives on schedule.

The Joint Parties strongly believe the best way for the Commission to promote renewable WDG is to encourage the utilities and developers such as GreenVolts and Cleantech to work cooperatively to identify sites that offer the greatest benefits to ratepayers, in terms of avoiding T&D investments. The MPR applicable to such renewable WDG projects should include avoided T&D costs as determined by the Commission's adopted E3 model. In order to encourage the broadest development of WDG technologies, the utilities should make public to interested parties the locations on their systems where WDG would have benefits greater than the average avoided T&D costs contained in the E3 model. Accordingly, the Joint Parties recommend that Commission direct the utilities to publish, by 31 December 2008, a list of the distribution substations on their systems where WDG would allow the utility to avoid T&D costs at least as high as those specified in the E3 model. In essence, this list would constitute a distribution-level version of the Transmission Ranking Cost Report that the utilities publish to indicate the availability and cost of bulk transmission on their systems.

VI. CONCLUSION

Renewable WDG provides significant and quantifiable locational benefits to the RPS program and to the ratepayers of California; and renewable WDG should be compensated through MPR for its true and reasonable value. This proposal addresses an existing "gap" in the CPUC's programs that encourage renewable generation. Projects in the 1 to 5 MW range are currently underserved: They exceed the qualification limits for CSI or SGIP incentives plus net metering; and they are smaller than what was envisioned with the RPS program and the large overhead costs associated with participating in the standard RPS process. Renewable WDG such as GreenVolts' solar technology can be sited in load centers on distribution systems that serve significant local loads; thereby delivering substantial locational benefits. A feed-in tariff at the MPR price and with simplified standard contracts are now available to renewable WDG projects that are 1.5 MW or smaller, which will help to alleviate transaction costs for the smallest of the renewable WDG projects, but the large costs associated with participating in RPS solicitations, and negotiating contracts with the utilities, are challenging to leverage over a broader range of project sizes, definitely including projects up to 5 MW. As such, the AB 1969 feed-in tariff provides an important model.

The MPR, however, still needs to be modified to reflect the tangible and quantifiable locational benefits of renewable WDG. Proper reflection of these tangible and quantifiable benefits will stimulate development of this highly beneficial generation; thereby delivering the advantages of the currently underserved renewable WDG market segment to California, including higher probability of achieving RPS objectives <u>on schedule</u> and providing both environmental and <u>economic value</u> to California's ratepayers. Importantly, GreenVolts and Cleantech are ready to work cooperatively with utilities to locate solar WDG where the addition of renewable peaking generation will provide the greatest benefits to ratepayers.

Finally, the Joint Parties support the comments on other 2008 MPR issues filed by other parties representing renewable and distributed generators (e.g. CalWEA/CCC/CSP).

GreenVolts, Cleantech, and Community Environmental Council appreciate the Commission's attention to these comments, and look forward to participating actively in the upcoming 2008 MPR workshop.

Respectfully submitted,

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6 March 2008

CERTIFICATE OF SERVICE

I hereby certify that on this 6th day of March 2008, I have caused a copy of the foregoing

Pre-Workshop Comments
of GreenVolts, Cleantech America, and Community Environmental Council
on the 2008 Market Price Referent

to be served on all known parties to R0602012 listed on the most recently updated service list available on the California Public Utilities Commission website, via email to those listed with email addresses and via US mail to those without.

/s/ CRAIG LEWIS
Craig Lewis

Service List for R0602012
(last changed 4 March 2008)

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