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April 16, 2008

338307

Mike Monasmith  
Compliance Project Manager  
Systems Assessment & Facility Siting Division  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

**DOCKET**  
**06-AFC-4**

DATE APR 16 2008

RECD. APR 16 2008

RE: NRDC Data Response, Set 1A  
Southeast Region Energy Project (06-AFC-4)

Dear Mike:

On behalf of the City of Vernon, please find attached 12 copies and one original of the NRDC Data Responses, Set 1A, in response to the Data Requests dated February 21, 2008. We are also filing copies of this Data Response electronically.

Please call me if you have any questions.

Sincerely,

CH2M HILL



John L. Carrier, J.D.  
Program Manager

c: Project File  
Proof of Service List

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# SOUTHEAST REGION ENERGY PROJECT (06-AFC-4)

## NRDC DATA RESPONSES, SET 1A

Submitted by  
**City of Vernon**

April 16, 2008



2485 Natomas Park Drive, Suite 600  
Sacramento, California 95833-2937

**SOUTHEAST REGION ENERGY PROJECT  
(06-AFC-4)  
NRDC DATA RESPONSES, SET 1A**

1. Please describe the efforts you have made to enter into a contract or contracts for the sale of power from the proposed project, and the responses, if any, in connection with those efforts.

**Response:** The City of Vernon has been, and is, engaged in discussions and negotiations with several entities regarding a contract or contracts for the sale of power from the proposed project. In each of these cases, confidentiality requirements imposed on the City by the other entity, and/or sound business judgment prevent the City from identifying the entities or providing any details regarding the substance or status of the discussions and negotiations. As of this date, the City has not entered into a contract for the sale of power from the proposed project. The City acknowledges that this is one of the requirements that must be satisfied if the City is to obtain emission offsets from the South Coast Air Quality Management District (District) Priority Reserve.

2. Please describe your efforts, if any, to produce energy from renewable sources at the site of the proposed project.

**Response:** Please see the letter (Attachment DR2-1) submitted to the District, which describes the City of Vernon's analysis of its ability to produce energy from renewable sources at the site of the proposed project.

3. Please describe the results of any updates (from the figures presented in your Application) of the amount of emissions of criteria pollutants and air toxics predicted for the proposed project.

**Response:** In order to obtain emission offsets from the District Priority Reserve, the City of Vernon is required to comply with specific requirements set forth in District Rule 1309.1, including achieving a combined electrical generating facility particulate matter (PM<sub>10</sub>) emission rate of less than 30 pounds per hour. After review of the Southeast Region Energy Project's (formerly known as Vernon Power Plant) PM<sub>10</sub> emission rates presented in the Application for Certification (AFC), the City consulted with the turbine manufacturer and has committed to the District<sup>1</sup> to a combined electrical generating facility PM<sub>10</sub> emission rate of 29.7 pounds per hour (under certain specified ambient conditions). This compares to a rate of 35.7 pounds per hour presented in the Application for Certification (AFC).

The City of Vernon expects that the combustion turbines selected for the Southeast Region Energy Project would emit PM<sub>10</sub> at rates considerably below the 29.7 pounds per hour noted above, but has not elected to reduce the permitted emission rates used in the permitting documents. The reason for continuing to use a higher PM<sub>10</sub> emission rate in the permitting process is to allow for the worst case project impacts to be analyzed, because of

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<sup>1</sup> See Attachment DR3-1 for a copy of the September 17, 2007 letter from the City of Vernon to the District.

**SOUTHEAST REGION ENERGY PROJECT  
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uncertainties in measurement of PM<sub>10</sub> emissions from natural-gas-fired combustion equipment (due to the inherently low concentration of particulate matter formation), and lack of existing PM<sub>10</sub> emissions data for the specific combustion turbine being proposed for the project.

In order to obtain emission offsets from the District Priority Reserve, the City is also required to comply with the facility PM<sub>10</sub> pound per megawatt-hr (lb-MW hr) and oxides of nitrogen (NO<sub>x</sub>) lb-MW hr emission limits of 0.035 and 0.050, respectively. Based on the reduced facility PM<sub>10</sub> emission rate of 29.7 pounds per hour, PM<sub>10</sub> emissions in terms of lb/MW hr will be 0.0312 lb/MW hr.

Based on the revised NO<sub>x</sub> emission data provided by the turbine manufacturer, the City has also committed to the District NO<sub>x</sub> emissions rate of 0.0495 lb/MW hr. This emission rate (lb/MW hr) is based on the combined generating facility NO<sub>x</sub> emission rate of 47.10 pounds per hour (under certain specified ambient conditions). This compares to a rate of 49.5 pounds per hour presented in the Application for Certification.

4. Please describe the status of Vernon's efforts, if any, to reduce the projected emissions of criteria pollutants and air toxics from the proposed project.

**Response:** The City of Vernon carefully reviewed project emission control strategies and emission rates of both criteria and air toxics prior to developing the estimates used in the AFC and the air permit application. The focus of this review was to identify the most stringent emission controls/rates that could be achieved by the project while satisfying the City's need for efficient, cost-effective, and reliable electricity. The resulting emission rates were used in the AFC and air permit applications. Please refer to Data Response 3 for a discussion of additional reductions in emission rates that have been committed to since submission of the AFC.

5. Please describe the availability of alternative energy resources, including energy efficiency, to meet the demand that [the] proposed plant is designed to fill.

**Response:** Please refer to Data Response 2 for a discussion of the ability to produce energy from renewable sources at the site of the proposed project. Please refer to Data Responses 6, 10 and 16 for a discussion of the City's efforts to promote energy efficiency.

6. Please describe the historical and current efforts, if any, by Vernon to promote and ensure energy efficiency in its current and expected future customers.

**Response:** The City of Vernon has a Public Benefits Program designed to encourage energy efficiency, and installation of wind and solar generation within the City of Vernon. The Public Benefits Program consists of Energy Audits, Energy Education and Demonstration Workshops, Customer Incentive Program,

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Customer Directed Programs, and installation of wind and solar generation. The intent of the Energy Audits is to identify energy and cost savings for businesses in Vernon. The Energy Education and Demonstration Workshops are intended to increase customers' awareness and promote customer participation in efficiency programs. The Customer Incentive Program is designed to encourage energy efficient lighting systems and the exploration and implementation of energy efficient technologies. As a result of measures implemented under the Customer Incentive Program demand reduction of 737 kilowatts and energy savings of 8,675,054 kilowatt-hours was achieved. The Public Benefits Program provides rebates for energy savings and demand reduction achieved by customers. Please see Attachment DR6-1 for a detailed explanation of the City's Public Benefits Program.

In addition to efforts to achieve energy savings through the Public Benefits Program, the City strives for energy savings and demand reduction through distribution system upgrades and implementation of time-of-use rates. Historically, the City of Vernon has achieved demand reduction during peak periods by implementing time-of-use rates that are designed to encourage customers to shift load from peak periods to off-peak periods. Today, the City's time-of-use customers account for more than 80 percent of the retail electricity sales.

7. Please describe the anticipated energy requirements of the City of Vernon in the next 5, 10 and 15 years.

**Response:** Vernon's anticipated energy requirement in the next 15 years is provided in Table DR7-1, below.

TABLE DR7-1  
15-year Demand and Energy Forecast

Year	Energy (GWh)	Demand (MW)
2008	1,285	210
2009	1,719	296
2010	1,744	301
2011	1,771	305
2012	1,961	335
2013	1,988	339
2014	2,016	344
2015	2,044	349
2016	2,072	354
2017	2,103	359

**SOUTHEAST REGION ENERGY PROJECT  
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TABLE DR7-1  
15-year Demand and Energy Forecast

Year	Energy (GWh)	Demand (MW)
2018	2,134	364
2019	2,166	370
2020	2,199	375
2021	2,232	381
2022	2,265	387

8. Please describe the status of Vernon's due diligence efforts to secure emission reduction credits from third parties or comply with South Coast Air Quality Management District Rule 1309.1, including efforts to ensure all sources under common ownership are in compliance with all rules, variances, orders, and settlement agreements.

**Response:** The City of Vernon has procured all the required VOC emission reduction credits (ERCs) and a portion of the NO<sub>x</sub> RECLAIM Trading Credits (RTCs) for the proposed Southeast Region Energy Project from third parties. The City is planning to procure all the required PM<sub>10</sub> and SO<sub>x</sub> ERCs from the District Priority Reserve (District Rule 1309.1). As required under this rule, the City has initiated due diligence efforts to procure available ERCs from the open market. The City has been sending letters regularly (since August 2006) to offset brokers for supplying PM<sub>10</sub> and SO<sub>x</sub> ERCs from the open market. As also required under Rule 1309.1, the City is ensuring that all the sources under common ownership are in compliance with all the applicable SCAQMD rules and regulations.

9. Please describe the project alternatives, if any, considered by you that could avoid significant impacts from the project, including the "no project" scenario, and the state of analysis of all such project alternatives.

**Response:** Project alternatives were analyzed in Section 9.0 of the AFC. The "No Project" Alternative is discussed in Section 9.2. As stated in Section 9.4 of the Alternatives analysis, "...no alternative site would feasibly attain most of the basic objectives of the project while also avoiding or substantially lessening any potentially significant effects of the project."

10. Please explain why, in your attempts to procure energy to serve your load, you have not acquired all available energy efficiency, as required by Section 9615(a) of the Public Utilities Code.

**Response:** Please see Data Response 6.

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11. Please explain why you have not identified all potentially achievable cost-effective electricity efficiency savings, as required by Section 9615(b) of the Public Utilities Code.

**Response:** The City of Vernon has identified all potentially achievable cost effective electricity efficiency savings and has established annual targets for energy savings and demand reduction for the next 10 years. The City has reported the 10-year energy savings and demand reduction goals to the State Energy Resources Conservation and Development Commission (CEC). Please see the attached report (Attachment DR11-1) that was submitted to the CEC.

12. Please explain why you have not established annual targets for energy efficiency savings and demand reduction, as required by Section 9615(b) of the Public Utilities Code.

**Response:** Please see Data Response 11.

13. Please explain why you have not reported your annual targets for energy efficiency savings and demand reduction to the State Energy Resources Conservation and Development Commission, as required by Section 9615(c) of the Public Utilities Code.

**Response:** Please see Data Response 11.

14. Please explain why you have not reported about your energy efficiency programs to your customers and to the State Energy Resources Conservation and Development Commission, as required by Section 9615(d) and (e) of the Public Utilities Code.

**Response:** Please see Data Response 11.

15. Please describe the expected health and air quality impacts to downwind communities, including, but not limited to, East Los Angeles and Boyle Heights.

**Response:** Concentrations in ambient air in the surrounding communities associated with potential emissions from the proposed project were provided previously as responses to CEC Data Request 51 (see Data Response, Set 2A, filed on March 5, 2007). For convenience, that information is reproduced here. It was estimated using the District-approved HARP software package. Selection of the receptors that reflect the locations of these communities, and the results from the revised human health risk assessment, are presented in Table PH50-1. Also included in Table PH50-1 is the project's maximum residential risk as presented in Section 8.6 of the AFC.

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TABLE PH50-1  
Vernon Health Risk Analysis Impacts on the Surrounding Communities

<b>Community</b>	<b>Location (lat/long)</b>	<b>HARP Receptor Number</b>	<b>Cancer (per million increase risk)</b>	<b>Chronic Health Hazard Index</b>	<b>Acute Health Hazard Index</b>
VPP AFC (MEIR)	See AFC Appendix 8.6C	---	0.568	0.0222	0.0544
Huntington Park	33.982N 118.224W	38053	0.0805	0.00308	0.0206
Maywood	33.987N 118.186W	24758	0.0854	0.00328	0.0251
Bell	33.978N 118.186W	41587	0.0166	0.000727	0.0255
Commerce <sup>1</sup>	34.001N 118.159W	24522	0.402	0.0192	0.0273
East LA <sup>2</sup>	34.024N 118.174W	7035	0.0462	0.00229	0.0370
South Gate <sup>3</sup>	33.955N 118.211W	46736	0.0297	0.00131	0.0260

1. The Commerce Community HRA receptor is the receptor nearest the community centroid in the existing AFC modeling grid.
2. The East LA Community HRA receptor is the receptor nearest the community centroid in the existing AFC modeling grid.
3. The South Gate Community HRA receptor is the receptor nearest the community centroid in the existing AFC modeling grid.

As shown in Table PH50-1, the highest estimated cancer risk in the surrounding communities associated with the project (0.4 in one million) was predicted by the HARP model to occur in the City of Commerce. The highest chronic hazard index associated with the project (less than 0.02) also was predicted to occur in the City of Commerce. These values are lower than the risks projected for maximum exposed individual for the proposed project. The acute hazard indices in the surrounding communities are slightly higher than the project's maximum exposed individual, but are still well below a level of significance. As discussed in the Public Health section of the AFC (Section 8.6), lifetime cancer risks less than 10 in a million are unlikely to represent public health impacts that require additional air pollution control applied to facility emissions. Noncancer hazard indices less than one also are unlikely to represent public health impacts that require additional air pollution control applied to facility emissions. Further discussion of the potential cumulative impact of these results is presented in Data Response 49 (see Data Response, Set 2A).

16. Please detail the aggregate energy requirements for the City of Vernon and the manner in which they are met. Include descriptions of recent energy efficiency programs in the City of Vernon and their effect on demand. If no programs are

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available, please describe the amount of untapped energy efficiency potential and alternative energy alternatives within the City of Vernon.

**Response:** The City of Vernon aggregate annual energy requirement for year 2007 was 206 MWs and 1,2885,569 MWhs. Vernon met its energy requirement from owned generation, long-term contracts, and spot market purchases.

The City of Vernon has a Public Benefits Program designed to encourage energy efficiency, and installation of wind and solar generation. The Public Benefits Program consists of Energy Audits, Energy Education and Demonstration Workshops, Customer Incentive Program, Customer Directed Programs, and installation of wind and solar generation. The intent of the Energy Audits is to identify energy and cost savings for businesses in Vernon. The Energy Education and Demonstration Workshops are intended to increase customers' awareness and promote customer participation in efficiency programs. The Customer Incentive Program is designed to encourage energy efficient lighting systems and the exploration and implementation of energy efficient technologies. As a result of measures implemented under the Customer Incentive Program demand reduction of 737 kilowatts and energy savings of 8,675,054 kilowatt-hours was achieved. The Public Benefits Program provides rebates for energy savings and demand reduction achieved by customers. In addition to the Public Benefits Program efforts, the City strives for energy efficiency through distribution system upgrades and implementation of time-of-use rates. The untapped energy efficiency potential, hence energy saving and demand reduction goal by the City and reported to the State Energy Resources Conservation and Development Commission is 3,069 MWs and 5.1 MW per year for the next 10 years.

## ATTACHMENT DR2-1



**LIGHT & POWER DEPARTMENT**  
Donal O'Callaghan, Director of Light & Power

November 29, 2007

Mr. Chandrashekhhar S. Bhatt  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

Dear Mr. Bhatt:

We write in response to your November 9, 2007 request for additional information regarding compliance of the Vernon Power Plant ("VPP") proposed by the City of Vernon ("City") with the requirements of South Coast Air Quality Management District ("SCAQMD") Rule 1309.1(c)(5)(B). The SCAQMD initially requested documentation that the VPP will comply with Rule 1309.1(c)(5)(B)'s renewable and alternative energy requirements on September 14, 2007. In response, the City stated that renewable or alternative energy was not a viable option to replace the generation proposed at the site of the VPP.

The SCAQMD requested a detailed analysis of renewable or alternative energy options on October 18, 2007. The City responded by explaining that these options were not viable due to site limitations, proximity to alternate sources of energy, the intermittent nature of the renewable energy sources, and economics. The SCAQMD's November 9, 2007 response requested "a more specific analysis ... for all types of renewable/alternative energy technologies, specifically solar, wind and fuel cell technology." The SCAQMD believes that the analysis should determine whether "renewable/alternative technology can be used to generate a reasonable amount of power on-site," which would be "approximately 10% of total plant generating capacity, or 94 MW." The SCAQMD selected this percentage because it is the amount of renewable energy provided by a power plant located in the City of Victorville.

Rule 1309.1(c)(5)(B) requires a demonstration

that renewable/alternative energy (for the purpose of this rule, renewable/alternative energy is hydropower, wind and wave power, solar and geothermal energy, and fossil fuel-based energy [provided the emissions are no more than those from a fuel cell]) in lieu of natural gas fired EGF is not a viable option for the power to be generated at that site.

There is nothing in Rule 1309.1, or in the record of the rulemaking proceedings, to support an interpretation that “the power to be generated at that site” means “a reasonable amount of power on-site” or that “a reasonable amount of power to be generated would be approximately 10% of total plant generating capacity.” Thus, we object to staff’s interpretation of the rule, and believe that the required demonstration should take into consideration the total amount of power associated with the proposed project (914 MW in the case of the VPP), as opposed to some arbitrary percentage of that amount. Nevertheless, we provide the following supplemental information.

#### **Solar Energy**

Recently proposed projects suggest that solar thermal collectors generate approximately 0.12 - 0.2 MW of energy per acre. The available land area at the VPP site is 13.7 acres, or about 470,000 square feet. Allowing for a buffer zone around the property boundaries, the usable area is approximately 450,000 square feet. At least 150,000 square feet must be allocated for other uses, such as roads to allow access for equipment maintenance, auxiliary electrical equipment (DC to AC inverters), an administration/control building, and a switchyard. Assuming that a solar photovoltaic (PV) system could be constructed on the remainder of the site, approximately 300,000 square feet, the array would consist of approximately 9,750 solar PV panels assembled into 975 groups. Because each solar PV panel can produce about 180 to 220 watts, this array could produce up to about 2,145 kilowatts of power. This is only a small fraction of the more than 900 MW that could be produced by the VPP, and is also far less than the approximately 90 MW benchmark that the staff is suggesting should be used in the analysis.

In addition, because solar energy can be generated only when the sun shines, a solar PV system cannot provide baseload power or satisfy fluctuations in demand for power. The project objective of providing reliable power supply could not be met by solar energy.

Furthermore, the cost of solar generation is prohibitive. Because the installed cost of a solar PV array is estimated to be \$9,000 to \$10,000 per kilowatt, the cost for a 2,145-kilowatt array would range from \$19.3 million to \$21.5 million. The California Independent System Operator testified in CPUC Case A.06-08-010 that solar thermal generation had a levelized cost of \$120 per MWh of electricity. Because this amount is for construction in remote areas where land is much less expensive than in the City, this

amount is likely to be much higher in the City. The forward price for on-peak electric energy in southern California over the next several years is \$75 to \$80 per MWh, placing the cost of solar at least 50% above market.

Accordingly, because solar energy could not meet the objectives of providing a reliable low-cost supply of power, solar energy is not a feasible option at the VPP.

### **Wind Energy**

A state-of-the-art wind turbine generator has a hub height of about 260 feet and a rotor diameter of about 295 feet, for a total height of a little over 400 feet. The closest that wind turbine generators can be spaced is about 800 feet apart. The VPP site is approximately 720 feet by 765 feet at its widest point, so it might be theoretically possible to accommodate one 2-MW wind turbine at the widest part of the parcel. However, it is not clear that the wind turbine would be at a safe clearance from neighboring structures. More importantly, while an average wind speed of 6.5 m/s is considered the minimum to provide wind energy economically, the average wind speed at the VPP site is considerably less. Accordingly, a wind turbine at the VPP site would generate little, if any, electricity. Wind energy is thus not a feasible option at the VPP.

### **Fuel Cell Technology**

It is not clear that the rule language requires an analysis of fuel cell technology. The specific rule language includes in the definition of renewable/alternative energy “fossil fuel-based energy [provided the emissions are no more than those from a fuel cell].” This suggests an analysis of alternative fossil fuel based energy, rather than an analysis of fuel cell technology. Notwithstanding this ambiguity, we provide the following analysis of fuel cell technology.

Only two companies, UTC Power and Fuel Cell Energy, sell large fuel cells under commercial terms and conditions. The cost of installing either manufacturer’s fuel cell system is so high as to be economically infeasible. The installed cost of a fuel cell system is estimated to be about \$4,000 to \$5,000 per kilowatt; by contrast, a combined cycle natural gas plant can cost significantly below \$1,000 per kilowatt. According to the United States Department of Energy, fuel cells are clearly uneconomic at the present time and, at the current price, are used only in high-value “niche” markets.

Adding to the much higher cost of a fuel cell system is the increased operating and maintenance costs on a per-MWh basis, which are much higher for a fuel cell system than a combined-cycle power plant such as the VPP. Moreover, even if massive cost subsidies were available to purchasers to make fuel cell systems more economically feasible, they are not available in sufficient volume. Because the cost of energy generated from fuel

Mr. Chandrashekhar S. Bhatt  
November 29, 2007  
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cells would be so much higher than the cost of energy generated by the VPP, fuel cell technology would not meet the project objective of providing a low-cost reliable source of power.

Furthermore, the hydrogen necessary to operate a fuel cell system must be produced. While we have not undertaken a detailed analysis, given the efficiency of the VPP, it is possible that the emissions associated with the hydrogen production necessary to generate an equivalent amount of electricity would be greater than the emissions associated with the proposed natural gas fired technology.

Based on the foregoing, the renewable or alternative technologies analyzed are impracticable and/or economically infeasible at the VPP site. We hope that this additional information is helpful. Please let me know if you have any further questions.

Sincerely,

CITY OF VERNON



Donal O'Callaghan  
Director, Light & Power

DO:rmt

c: Krishna Nand  
Michael J. Carroll  
Document Control

# ATTACHMENT DR3-1



LIGHT & POWER DEPARTMENT  
Donal O'Callaghan, Director of Light & Power

September 17, 2007

Mr. Chandrashekar S. Bhatt  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

Dear Mr. Bhatt:

This letter responds to the August 16, 2007 letter from Mr. Mohsen Nazemi of your agency requesting that the City of Vernon provide documentation demonstrating that the proposed Vernon Power Plant ("VPP") will comply with the requirements of South Coast Air Quality Management District ("SCAQMD") Rule 1309.1 as amended on August 3, 2007. Mr. Nazemi's letter indicates that the SCAQMD staff has made a preliminary determination that the VPP is located in an Environmental Justice Area ("EJA"), as defined in Rule 1309.1, which we will assume to be the case for purposes of this response. The letter also correctly points out that the VPP will have an output of greater than 500 megawatts.

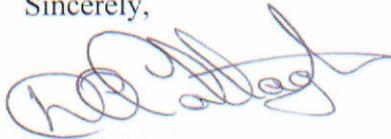
The attached information (Attachments A and B) documents the ability of the VPP to meet the requirements applicable to an electric generating facility of greater than 500 megawatts in an EJA, as set forth in the attachment to Mr. Nazemi's letter.

We would also like to take this opportunity to request that the SCAQMD formally initiate the process for obtaining Governing Board approval of the plan to invest the anticipated mitigation fees from the VPP pursuant to paragraph (d)(13) of the revised rule. While the City would welcome an opportunity to participate in this process, we assume that it will be largely a SCAQMD staff driven process with input from the local community. Please let us know what the next steps in this process will be.

Mr. C.S. Bhatt  
September 17, 2007  
Page 2 of 2

Please contact Dr. Krishna Nand at (323) 583-8811, Ext 211, if you have any questions or if you need additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Donal O'Callaghan". The signature is stylized and cursive.

Donal O'Callaghan  
Director of Light & Power

Attachments

cc: Mohsen Nazemi, SCAQMD  
Roger Johnson, CEC  
James Reede, CEC  
Mike Carroll, Latham & Watkins LLP  
John Carrier, CH2MHill  
Krishna Nand  
Document Control

**Attachment A**  
**Supporting Documentation for Compliance Demonstration with Amended Rule**  
**1309.1 for the Proposed Vernon Power Plant**  
**(located in an Environmental Justice Area and Capacity greater than 500 MW)**

<b>TOXIC REQUIREMENTS</b>		
<b>Parameter</b>	<b>Amended Rule 1309.1 Requirement</b>	<b>Value for the Proposed Vernon Power Plant</b>
Cancer	< 0.5 in-a-million	Maximum cancer risk is estimated at 0.276 in-a-million
Hazard Index	< 0.1	Maximum chronic and acute hazard indices are estimated at 0.0198 and 0.0537, respectively.
Cancer Burden	< 0.05	Cancer burden is 0.007 for a cancer risk of 1-in-10 million (1-in-10-million risk level).
<b>CRITERIA POLLUTANT REQUIREMENTS</b>		
PM10 Emission Controls	NG Only & $\leq 0.035$ lb/MW-hr	NG Only & 0.0312 lb/MW-hr (also see Attachment B)
NOx Emission Controls	$\leq 0.050$ lb/MW-hr	0.0495 (also see Attachment B)
Total Combined Gas Turbines PM10 Hourly Emissions	$\leq 30.0$ lbs/hr	PM10 hourly emissions from three combustion gas turbines and three duct burners have been estimated at 29.7 lbs/hr.
Total Combined Gas Turbines PM10 24-hr Impact	$\leq 2.5$ $\mu\text{g}/\text{m}^3$	Maximum 24-hr impact from three combustion gas turbines and three duct burners has been estimated at 1.96 $\mu\text{g}/\text{m}^3$ .
Total Combined Gas Turbines PM10 Annual Impact	$\leq 0.5$ $\mu\text{g}/\text{m}^3$	Maximum annual impact from three combustion gas turbines and three duct burners has been estimated at 0.45 $\mu\text{g}/\text{m}^3$ .
Annual Hours of Operation Limit, if Simple Cycle	$\leq 3,000$ hrs/yr	Not Applicable. Vernon Power Plant will be a Combined Cycle Facility

## Attachment B

### Vernon Power Plant (VPP) Compliance Determination New SCAQMD Rule 1309.1 (August 3, 2007) at 59 deg F

**NOTE:**

1. PM10 and NOx emission limits in lb/MW-hr are based on gross output (see SCAQMD Final Staff Report, page 20, dated July 2007), Ref.1.
2. Emission limits applicable to the Vernon Power Plant are from the Mohsen Nazemi's letter dated August 16, 2007 to the City of Vernon.

#### 1. Compliance with PM10 Emission Limit of 30 lb/hr (all three CTGs and three Duct Burners)

Duct Burner Firing Condition (Design Basis Duct Burner, 142 MMBtu/hr, HHV), Evaporative Cooler ON: VPP will be in compliance (PASS)

PM10 emission rate/CTG plus Duct Burner	9.9 lb/hr	Ref. 2
<b>PM10 emission rate/3 CTGs and 3 Duct Burners</b>	<b>29.7 lb/hr</b>	

#### 2. Compliance with PM10 lb/MW-hr Emission Limit of 0.035

Duct Burner Firing Condition (Design Basis Duct Burner, 142 MMBtu/hr, HHV), Evaporative Cooler ON: VPP will be in compliance (PASS)

PM10 emission rate/CTG plus Duct Burner	9.9 lb/hr	
PM10 emission rate/3 CTGs and 3 Duct Burners	29.70 lb/hr	
Facility Gross Power Output (includes power from steam turbine)	951 MW/hr	Ref. 2
<b>Emission in lb/MW-hr</b>	<b>0.0312 lb/MW-hr</b>	

#### 3. Compliance with NOx lb/MW-hr Emission Limit of 0.050

Duct Burner Firing Condition (Design Basis Duct Burner, 142 MMBtu/hr, HHV), Evaporative Cooler ON: VPP will be in compliance (PASS)

NOx emission rate/CTG plus Duct Burner	15.70 lb/hr	Ref. 2
NOx emission rate/3 CTGs and 3 Duct Burners	47.10 lb/hr	
Facility Gross Power Output (includes power from steam turbine)	951 MW/hr	Ref. 2
<b>Emission in lb/MW-hr</b>	<b>0.0495 lb/MW-hr</b>	

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**Final Staff Report**

**Proposed Amended Rule 1309.1 – Priority Reserve; and  
Proposed Re-Adopted Rule 1315 – Federal New Source Review Tracking System**

**July 2007**

**Deputy Executive Officer  
Planning, Rule Development and Area Sources  
Elaine Chang, DrPH**

**Assistant Deputy Executive Officer  
Planning, Rule Development and Area Sources  
Laki Tisopoulos, Ph.D., P.E.**

**Planning & Rules Manager  
Planning, Rule Development and Area Sources  
Larry M. Bowen, P.E.**

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**Author:** Shams Hasan – Air Quality Specialist

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conditions. The actual operating conditions will then be converted to ISO conditions of 59 degrees Fahrenheit, 60% relative humidity, and 14.7 psia; and using gross MW output.

Comment: Are the PM10 and NOx emissions rates based on net output or gross output?

Response: *The PM10 and NOx emissions rates are based on gross output.*

Comment: Is the hourly limit on mass emissions of PM10 intended to apply to all equipment, permitted and exempt at the facility, or only to electrical generating units?

Response: *For new EGFs with a generation capacity of greater than 500 MW and located in Zone 3 or in an EJ Area, the cumulative hourly limit based on mass emissions of PM10 shall apply only to proposed electrical generating equipment requiring permits at the facility. It shall not apply to existing permitted equipment, Rule 219 exempt equipment, or new non-electric producing equipment.*

Comment: Are the limitations on 24-hour and annual modeled PM10 impacts based on emissions from all equipment, permitted and exempt at the facility, or only to electrical generating units?

Response: *The cumulative PM10 24-hr and annual impacts as required under Zones 2, 3, and the EJ Areas shall apply only to proposed electrical generating equipment requiring permits at the facility, but they apply to all new or modified equipment. It does not apply to existing permitted equipment, Rule 219 exempt equipment, or new non-electric producing equipment.*

Comment: What is the rounding convention that will be applied to the proposed standards? For example, if the standard is 0.050, will a level of 0.0503 be deemed compliant?

Response: *There is no rounding convention. For example, for Zone 3, the rule requires the rate of NOx emissions does not exceed 0.050 lbs/MW-hr. Any emission level above this, such as 0.0503, would not be in compliance. Staff has reviewed the rounding convention used in other District rules, other air quality data and standards and the rounding convention used by other public agencies for similar standards. Staff proposes to use that same rounding convention for the purposes of the standards in paragraph (b)(5). The values to be rounded up or down using the digit just beyond the given number of decimal places of the standard according to the standard rounding conventions that values below 5 round down, while those that are equal to or greater than 5 round up. For example, for the standard of 0.050, the value of 0.0504999 or less rounds to 0.050 and would comply.*

# SIEMENS

September 13, 2007

Mr. Donal O'Callahan  
City of Vernon  
4305 Sante Fe Avenue  
Vernon, CA 90058

Subject: Vernon SCC6-5000F 3x1 Emissions

Dear Donal:

We understand that the City of Vernon would like to have the following data for the proposed Vernon Power Plant to show compliance with the South Coast Air Quality Management District's Amended Rule 1309.1:

1. PM10 emissions from one combustion turbine generator and one duct burner in pounds per hour at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure.
2. NOx emissions from one combustion turbine generator and one duct burner in pounds per hour at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure.
3. Gross power generation from the Vernon Power Plant in MW/hr (all three combustion turbine generators and the steam turbine) at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure.

Siemens has reviewed the Gas Turbine Performance data for the proposed Vernon Power Plant Project and we are pleased to provide the above information in the following Table 1:

**Table 1**  
**Vernon Power Plant Gas Turbine Performance Data**

Parameter	Siemens SGT6-5000F Gas Turbine Estimated Performance Data
PM10 emissions from one combustion turbine generator and one duct burner at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure. <b>Note: Duct burner heat input is 142 MMBtu/hr (HHV)</b>	9.9 lb/hr
NOx emissions from one combustion turbine generator and one duct burner at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure. <b>Note: Duct burner heat input is 142 MMBtu/hr (HHV)</b>	15.7 lb/hr
Gross power generation from the Vernon Power Plant (all three combustion turbine generators and the steam turbine) at full load at 59 deg F, 60% relative humidity, and 14.7 psia pressure. <b>Note: Duct burner heat input is 142 MMBtu/hr (HHV)</b>	951 MW/hr

Best regards,

  
Jerry Stretch  
District Sales Manager

CC: Thomas Karastamatis

**Siemens Power Generation, Inc.**

4400 Alafaya Trail  
Orlando, FL 32826-2399

# **ATTACHMENT DR6-1**

## **CITY OF VERNON UTILITIES DEPARTMENT PUBLIC BENEFITS PROGRAM**

### **BACKGROUND**

California Assembly Bill 1890 (AB 1890) was passed by the State Legislature in August 1996 and signed into law by Governor Pete Wilson in September 1996.

The legislation requires publicly owned utilities like the City of Vernon (the “City”) to collect a nonbypassable usage based Public Benefits Charge (PBC) on local distribution service to fund investments in energy efficiency, low-income services, renewable energy, and Research, Development and Demonstration (RD&D) programs. The amount that publicly owned utilities must designate for these programs is tied to historical levels of funding by the IOUs. The legislation was interpreted by the California Municipal Utilities Association to require publicly owned utilities to collect and spend the equivalent of 2.85% of the utility's revenues during the years 1998 through 2000, and 2.7% of revenues in 2001.<sup>1</sup>

Assembly Bill 995, which was approved by Governor Gray Davis on September 30, 2000, extended the collection of the nonbypassable PBC through January 1, 2012 at a rate not to exceed the level that was used to collect these charges on January 1, 2000.

At its meeting on December 16, 1997, the City Council of the City of Vernon approved implementation of the public benefits charge effective January 1, 1998. The City Council approved a public benefits charge for electric customers equal to 2.85% of the total bill before any special fees or charges to be used for certain defined public benefits pursuant to AB 1890.

### **POLICY STATEMENT**

It is the policy of the City of Vernon to allocate revenues derived from the Public Benefits Charge, less the cost to administer programs, in a fair and equitable manner. Specific projects and expenditures will be consistent with Section 385 of the Public Utilities Code.

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<sup>1</sup> California Municipal Utilities Association, Energy Services and Marketing Committee, AB1890 Public Benefits Program Guidebook May 7, 1997. Sacramento, California.

The full text of AB 1890, Article 8 is as follows:

Article 8. Publicly Owned Utilities

385. (a) Each local publicly owned electric utility shall establish a nonbypassable, usage based charge on local distribution service of not less than the lowest expenditure level of the three largest electrical corporations in California on a percent of revenue basis, calculated from each utility's total revenue requirement for the year ended December 31, 1994, and each utility's total annual expenditure under paragraphs (1), (2), and (3) of subdivision (c) of Section 381 and 382, to fund investments by the utility and other parties in any or all of the following:
- (1) Cost effective demand-side management services to promote energy efficiency and energy conservation.
  - (2) New investment in renewable energy resources and technologies consistent with existing statutes and regulations, which promote those resources, and technologies.
  - (3) Research, development and demonstration programs for the public interest to advance science or technology, which is not adequately provided, by competitive and regulated markets.
  - (4) Services provided for low-income electricity customers, including but not limited to, targeted energy efficiency services and rate discounts.

**PROGRAMS**

The City from time to time will approve programs consistent with its policy statement. All programs approved by the City will be made public through the Utilities Department Customer Service Division.

**ELIGIBILITY**

Each program described herein is targeted to utility customers. Only customers with valid and active City customer accounts may participate.

## **ENERGY AUDITS**

The Department believes that it is advantageous for companies to conduct energy studies of facilities in order to identify opportunities for energy and cost savings. The Department intends to achieve these objectives through customer participation in the Energy Audit Program.

### **How the Energy Audit Program satisfies the Intent of Assembly Bill 1890**

The Energy Audit Program provides interested City utility customers with the initial energy usage analyses needed to develop a broader energy management plan. Informed decision-making is a critical first step to implementing energy efficiency and conservation measures, which are key objectives of the Public Benefits Programs required by AB 1890.

### **Marketing**

Department staff and consultants will meet with interested customers and provide an overview of energy audits. The following definitions and descriptions are intended to provide City customers with an understanding of the concepts which shape the energy audit process.

### **Background**

Audits will be conducted on all facility types, such as residential, commercial and industrial buildings. Audits may include the entire facility or can focus on a targeted area of the structure, identified equipment, or specific processes and systems. Energy audits can provide groundwork for greater equipment and structural retrofits, certification of compliance to governmental laws and regulatory codes, corporate energy planning and financing of projects.

### **Basic Definitions**

Energy audits will consist of three key parts:

- **data gathering**: identification of where and how a structure, process or equipment uses energy along with the costs affecting the energy consumption;
- **data analysis**: identification of energy conservation measures that when implemented, will make the energy usage more efficient, less expensive or more environmentally friendly; and
- **recommendations**: a final report detailing the findings, areas for improvement and recommended actions accompanied by economic justification for such actions.

The audit will typically identify and quantify energy (both electrical and natural gas) conservation measures that can meet reasonable investment justification. This audit is normally sufficient for most applications where completeness and cost-effectiveness is desired without excessive detail or unnecessary depth.

## **ENERGY EDUCATION AND DEMONSTRATION WORKSHOPS**

The Department believes that a necessary first step in promoting energy efficiency measures among utility customers is creating heightened awareness of existing opportunities for energy conservation. The “market transformation” intended by AB 1890 begins with imparting the knowledge and tools crucial for customers to become active participants and beneficiaries of the Public Benefits Programs.

To this end and to accomplish the education function contemplated by AB 1890, the Department will expend funds to ensure that energy consumers have information about managing energy consumption.

### **Basis of Design**

The workshops will cover a variety of topics relative to energy efficiency and current technologies. The Department intends for the range of topics to meet the interests and needs of Vernon’s broad business base. The Department expects that presentations will heighten the awareness of customers by focusing on topics, including but not limited to, the following:

- Financing energy efficiency projects
- Selling energy efficiency projects internally
- Benefits of an energy audit
- Motor retrofits
- Lighting technologies
- Chiller technologies
- Energy accounting
- Preventative maintenance

### **Marketing**

Department staff will aggressively outreach to Vernon customers in order to generate awareness and encourage participation in the proposed Energy Education and Demonstration Workshops. The Department will use various channels for outreach, including informational packets, customer on-site visits, postcards, brochures, monthly bill inserts, the City web site, and telemarketing.

### **Program Measurement and Verification**

The Department expects energy and/or cost savings resulting from customers’ increased awareness and subsequent implementation of energy efficiency measures. The workshops are designed to stimulate customers’ interest in implementing energy efficiency measures.

Feedback from participating customers will serve as an indicator of program success. The feedback customers provide will gauge the effectiveness of the workshops and the level of customer interest. Customer support for the energy education seminars will be the overriding indicator of program success.

## **CUSTOMER INCENTIVE PROGRAM**

### **Objectives**

The Customer Incentive Program is designed to assist the Department in achieving demand-side management goals. The program objectives are as follows:

- Promote long-term energy efficiency by encouraging commercial and industrial customers to implement energy efficiency measures that exceed the minimum standards established by Title 24 of the California Building Code or general industry standards;
- Provide incentives for customers to apply the latest technology and energy using devices that otherwise may be cost-prohibitive;
- Promote economic development and business retention by serving as an instrument to attract and retain customers who will enjoy the long-term benefits of energy efficiency;
- Encourage customer investigation of efficiency opportunities;
- Improve competitiveness of City businesses; and
- Increase customer awareness of efficient practices (including operation and maintenance).

### **Eligible Projects**

Energy efficiency projects involving replacement of existing equipment or systems with high efficiency equipment and new installation may be eligible. In order to ensure ongoing energy savings for City customers, equipment or systems installed must be expected to operate for at least five years from the date of installation. Proposed projects may not overlap with other projects funded under the Department's Public Benefits Program.

Electrical generation and fuel-switching projects are not eligible. Projects that receive incentives from other sources (excluding tax related incentives) are also not eligible.

### **Program Description**

The Customer Incentive Program is designed to encourage energy efficient lighting systems and the exploration and implementation of energy efficient technologies. Often, such technologies are overlooked because customers are either unfamiliar with them, think they are too costly to apply at their facilities, or do not believe such technologies can effectively meet their energy needs. These technologies may

address either equipment or operational change; therefore, if the Department can quantify a demand reduction and/or energy savings, there is a basis for providing an incentive to assist the customer.

This program provides incentives in two separate areas -lighting and energy efficient equipment.

## **Lighting**

The lighting incentive portion of the program is designed to provide a cash incentive to City customers interested in implementing the latest lighting technology. Developments in technology have produced new lamps and related equipment, including T-8 and T-5 fluorescent lamps, electronic ballasts, and more affordable compact fluorescent lamps that use less energy and last longer. The future promises continuing advancement in lighting technology in the future.

De-lamping measures (removal of bulbs) and reflector retrofit are eligible if undertaken as an integral part of a lighting upgrade.

This program provides rebates of \$0.075 per annualized kWh saved. The maximum annual rebate for lighting improvements by qualified customers is \$75,000 or 50% of the total cost, whichever is less.

## **Small Business Lighting**

This program provides rebates for interior lighting improvements by small businesses. For the purpose of this program, small business is defined as a commercial facility that is less than 5,000 square feet. The program provides rebates of \$15 per Fixture or 50% of the installed cost, whichever is less, for T-8, T-5 and compact fluorescent lamps with electronic ballast installations. Lamps must be rated for a minimum Color rendering index (CRI) of 76 and have initial operating lumens of 2,950.

## **Equipment and Devices**

The non-lighting incentive portion of this program includes, but is not limited to, variable speed drives, air compressors, motors, refrigeration, chiller replacement, air conditioner replacement, building envelope, energy management systems and other load and energy controlling devices.

The following is a list of the measures and incentives covered under the non-lighting portion of the Customer Incentives Program:

**Motors** – Rebates will be based upon qualifying equipment exceeding the standards set by the National Electrical Manufacturers Association (NEMA). Customers will

receive \$200 per kW of reduced demand above NEMA standards whether the motor is new or a replacement. See Attachments A and B.

**Air Compressors** – Rebates will be based upon the efficiency of the installed device. There are two sets of efficiencies for two different types of air compressors—oil flooded and oil-free. The rebate will be \$0.075 per annualized kWh of reduced energy above the set standard for new or replacement air compressors. For motor efficiency standards see Attachments A and B. For air compressor efficiency standards see Attachment C.

**Air Conditioning** – All qualifying electric air conditioning equipment (including heat pumps), which is installed, as replacement equipment shall qualify for rebates based on cooling capacity. Rebates for customers will range between \$100 to \$200 per ton. See Attachment D.

**Other Equipment** – Rebate will be based upon \$200 per kW of reduced demand or \$.075per annualized kWh saved, whichever is greater for replacement of existing equipment. Savings will be established either through customer metering of load for the existing and new machines or by the Department's calculation of savings. Variable volume pumps qualify for rebates in other applications whenever kWh savings can be verified.

**Lighting Controls** - This measure provides rebates of \$0.075 per annualized kWh saved or 50% of the installed cost, whichever is less, for installation of lighting controls such as occupancy sensors, time clocks, and lighting energy management systems for lighting replacements and existing lighting fixtures. For lighting control installation, energy savings are calculated as the product of the prevailing lighting energy demand (kW) and reduction of operating hours.

**LED Traffic Signals** - This measure provides rebates of \$0.075 per annualized kWh saved or 50% of the installed cost, whichever is less, for replacement or retrofit of incandescent traffic signals with LED traffic signals.

**LED Exit Sign** - This measure provides rebates of \$30 per fixture or 50% of the installed cost; whichever is less, for replacement of incandescent or compact fluorescent exit signs.

**Other Unspecified Measures** – All other measures not specified above that qualify (including building envelope, refrigeration equipment and operational modification, motor controllers, variable volume pumps, variable speed drives, chiller replacement, energy management systems, etc.) will earn rebates in the following manner:

- 1) \$200 per kW of reduced demand, or
- 2) \$0.075 per annualized kWh saved

The greater amount resulting from the two methods for determining rebates will be applied at the Department's discretion.

The maximum annual rebate per customer for all measures under the non-lighting portion of this program will be the lesser of \$75,000 or 50% of the investment (material and labor and taxes).

In addition to cash incentives, the Customer Incentive Program will include funding for approved feasibility studies to show savings available by upgrading lighting, heating, ventilation and air conditioning (HVAC), equipment and more. The feasibility study is often the first step in determining whether a particular technology applies to a specific operation or energy-using device. Feasibility studies reimbursement will be limited to the lesser of \$10,000 per customer per year or one-twelfth of the customer's electric bill for the prior twelve months for the site being studied.

## **PROGRAM IMPLEMENTATION**

### **Application and Approval**

The Department will develop program implementation application forms. Customers electing to participate in the Customer Incentive Program must follow the following application procedure. Sample application forms are included herewith for information purposes only.

#### **1. Pre-Installation Application**

Applicants must submit pre-installation application before beginning project work. Customer initiated installations prior to Department acceptance of the pre-installation application may be rejected. The pre-installation application contains the information necessary to determine the savings and shall be the basis for the rebate. Subject to availability of funds, the Department reserves money for the project, pending timely completion of installation. The pre-installation application shall consist of the following:

- Customer and project site information
- A technical description of the project
- Documentation of the savings estimated, i.e., an engineering calculation
- New/old equipment specification (if applicable)

Based on its review of the application, the Department will determine eligibility of the project under the Customer Incentive Program guidelines and will notify the applicant. The Department may conduct a pre-installation site inspection in order to verify the existing equipment baseline.

#### **2. Post-Installation Application**

The post-installation application shall be submitted by the applicant after the project is installed. The post-installation application shall be the basis for the rebate. The application consists of the following:

- Customer and project site information
- A technical description of the project
- Documentation showing actual kW and/or kWh savings
- Original, itemized, paid proof of purchase (sales slip or invoice)
- New/old equipment specifications and performance data (if applicable)

#### **3. Participating customers must allow the Department to conduct scheduled site visits to verify energy efficiency equipment recommendations, installation, and impacts.**

4. In order to maintain eligibility, energy efficient equipment installations must commence within 90 days of approval of the customer's application. Installation must be completed within a subsequent 90-day period.
5. The Utilities Department staff will verify the installation of approved energy efficient equipment or lighting improvements. Upon verifying that all eligible efficiency measures have been installed and the required documentation has been provided, the Department will process the application. Upon final approval the customer's rebate check will be mailed within six weeks.

## **Marketing**

There are a variety of methods available to effectively promote the program. These include use of the Internet, direct mail to the top 500 customers, newsletters, customer visits by Department staff, trade show displays, presentations at business forums and Chamber of Commerce meetings.

## **Program Benefits**

The Customer Incentive Program is an umbrella approach to energy efficiency. The customer is rewarded for exercising innovation to achieve energy efficiency. A principal benefit of long-term energy efficiency investment is reduced energy costs.

The community benefits to the extent that the load and energy usage is reduced and, conceivably, the environment is spared further pollution due to a decrease in generation requirements over time.

**CUSTOMER INCENTIVE PROGRAM  
ATTACHMENT A**

**OPEN MOTORS**

<b>MINIMUM QUALIFYING EFFICIENCY</b>				
<b>Hp</b>	<b>2 Pole</b>	<b>4 Pole</b>	<b>6 Pole</b>	<b>8 Pole</b>
1.0	-	82.5	80.0	74.0
1.5	82.5	84.0	84.0	75.5
2.0	84.0	84.0	85.5	85.5
3.0	84.0	86.5	86.5	86.5
5.0	85.5	87.5	87.5	87.5
7.5	87.5	88.5	88.5	88.5
10.0	88.5	89.5	90.2	89.5
15.0	89.5	91.0	90.2	89.5
20.0	90.2	91.0	91.0	90.2
25.0	91.0	91.7	91.7	90.2
30.0	91.0	92.4	92.4	91.0
40.0	91.7	93.0	93.0	91.0
50.0	92.4	93.0	93.0	91.7
60.0	93.0	93.6	93.6	92.4
75.0	93.0	94.1	93.6	93.6
100.0	93.0	94.1	94.1	93.6
125.0	93.6	94.5	94.1	93.6
150.0	93.6	95.0	94.5	93.6
200	94.5	95.0	94.5	93.6
250	94.5	95.4	95.4	94.5
300	95.0	95.4	95.4	94.5
350	95.0	95.4	95.4	94.5
400	95.4	95.4	95.4	94.5
450	95.8	95.8	95.8	94.5
500	95.8	95.8	95.8	94.5

Motor efficiencies stated at 100% load.  
 Shaded area indicates NEPA minimum efficiency standard.  
 Rebates based on motor size, type and efficiency. Rebate is \$200/kW of reduced demand above the minimum qualifying efficiency whether the motor is new or a replacement.

**CUSTOMER INCENTIVE PROGRAM  
ATTACHMENT B**

**ENCLOSED MOTORS**

<b>MINIMUM QUALIFYING EFFICIENCY</b>				
<b>Hp</b>	<b>2 Pole</b>	<b>4 Pole</b>	<b>6 Pole</b>	<b>8 Pole</b>
1.0	75.5	82.5	80.0	74.0
1.5	82.5	84.0	85.5	77.0
2.0	84.0	84.0	86.5	82.5
3.0	85.0	87.5	87.5	84.0
5.0	87.5	87.5	87.5	85.5
7.5	86.5	89.5	89.5	85.5
10.0	89.5	89.5	89.5	88.5
15.0	90.2	91.0	90.2	88.5
20.0	90.2	91.0	90.2	90.2
25.0	91.0	92.4	91.7	89.5
30.0	91.0	92.4	91.7	91.0
40.0	91.7	93.0	93.0	91.0
50.0	92.4	93.0	93.0	91.7
60.0	93.0	93.6	93.6	91.7
75.0	93.0	94.1	93.6	93.0
100.0	93.6	94.5	94.1	93.0
125.0	94.5	94.5	94.1	93.0
150.0	94.5	95.0	95.0	93.6
200	95.0	95.0	95.0	94.1
250	94.5	95.0	95.0	94.5
300	95.4	95.4	95.0	
350	95.4	95.4	95.0	
400	95.4	95.4		
450	95.4	95.4		
500	95.4	95.8		

Motor efficiencies stated at 100% load.  
 Shaded area indicates NEPA minimum efficiency standard.  
 Rebates based on motor size, type and efficiency. Rebate is \$200/kW of reduced demand above the minimum qualifying efficiency whether the motor is new or replacement.

**CUSTOMER INCENTIVE PROGRAM  
ATTACHMENT C**

**AIR COMPRESSORS**

<b>TYPE</b>	<b>SIZE</b>	<b>EFFICIENCY (ACFM/BHP)</b>
<b>Oil Flooded</b>	Below 50 Hp	3.6
	50 to 100 Hp	4.2
	Above 100 Hp	4.6
<b>Oil-Free</b>	Below 50 Hp	3.2
	50 to 100 Hp	3.7
	Above 100 Hp	4.1

Rebate will be \$0.075 per annualized kWh of reduced energy above the set standard for new or replacement air compressors.

**CUSTOMER INCENTIVE PROGRAM  
ATTACHMENT D**

**AIR CONDITIONER REPLACEMENT PROGRAM**

**Through the Wall Air Conditioner**

Less than 65,000 Btu/hr

<u>Efficiency Rating</u>	<u>Rebate</u>
EER 8.7 and above	\$ 100/ton

**Air-Cooled Central Package and Split System**

Less than 65,000 Btu/hr

<u>Efficiency Rating</u>	<u>Rebate</u>
SEER 11 to 11.9	\$ 100/ton
SEER 12 to 12.9	\$ 150/ton
SEER 12 to 12.9	\$ 200/ton

65,000 Btu/hr to less than 135,000 Btu/hr

<u>Efficiency Rating</u>	<u>Rebate</u>
EER 9.2 to 9.4	\$ 100/ton
EER 9.5 to 9.9	\$ 150/ton
EER 10 and above	\$ 200/ton

135,000 Btu/hr to less than 760,000 Btu/hr

<u>Efficiency Rating</u>	<u>Rebate</u>
EER 8.7 to 8.9	\$ 100/ton
EER 9.0 to 9.5	\$ 150/ton
EER 9.6 and above	\$ 200/ton

760,000 Btu/hr and greater

<u>Efficiency Rating</u>	<u>Rating</u>
EER 8.4 to 8.6	\$ 100/ton
EER 8.7 to 9.2	\$ 150/ton
EER 9.3 and above	\$ 200/ton

CITY OF VERNON  
 Customer Incentive Program  
 Pre-Installation Application  
 (For Information Only)

Customer Name: \_\_\_\_\_

DBA Business Name: \_\_\_\_\_ Federal Tax ID: \_\_\_\_\_

Customer Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Installation Address: \_\_\_\_\_ Vernon, CA Zip Code \_\_\_\_\_

CUSTOMER MAILING ADDRESS FOR REBATE CHECK

Name of Payee: \_\_\_\_\_

Address: \_\_\_\_\_ City: Vernon State: CA Zip Code: \_\_\_\_\_

(To be eligible for rebates, this application must be completed, signed and submitted to the City of Vernon before beginning project work.)

Thank you for your interest in the Customer Incentive Program. Please provide a summary of your project proposal. In particular, please describe the energy savings and/or replacement equipment of your proposed project.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

MEASURE DESCRIPTION	kW h AND kW (Existing)	KW h AND kW Savings (Estimated)	Size & Efficiency (Existing)	Size & Efficiency (Proposed)

AGREEMENT CLAUSE: I/We agree as follows: 1) To begin the project within 90 days of initial registration and finish within 90 days of project commencement; 2) To allow the Vernon Utilities Department to conduct scheduled site visits to verify installation of the hardware specified in this project; 3) To provide the original, itemized, paid proof of purchase (sales slip or invoice), complete a post-installation application form, and worksheet showing actual kW or kWh saved and size, speed and efficiency of installed equipment (as applicable) all at completion of project; 4) This rebate is not to exceed seventy-five thousand dollars or fifty percent of the paid proof of purchase (sales slip or invoice), whichever is less; 5) Rebate will be calculated per the rebate schedule in effect at the time of approval of this application; 6) Rebates are subject to availability of funds; 7) That the City of Vernon may withhold payment of any rebate until satisfaction of any and all of the above listed conditions are met.

Customer Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Vernon Utilities Dept. Only (Worksheet must be Attached for Each Project)  Date Pre-Inspection: _____  Inspected by: _____
--

CITY OF VERNON  
 Customer Incentive Program  
 Post-Installation Application  
 (For Information Only)

Customer Name: \_\_\_\_\_  
 DBA Business Name: \_\_\_\_\_ Federal Tax ID: \_\_\_\_\_  
 Customer Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 Installation Address: \_\_\_\_\_ Vernon, CA Zip Code \_\_\_\_\_

CUSTOMER MAILING ADDRESS FOR REBATE CHECK

Name of Payee: \_\_\_\_\_  
 Address: \_\_\_\_\_ City: Vernon State: CA Zip Code: \_\_\_\_\_

ATTACHMENTS TO BE INCLUDED WITH THIS FORM : A) Installer's statement of actual equipment installation (size and specifications) and/or kWh or kW savings computation. B) Copies of manufacturer's specifications and performance data, C) Original, itemized, paid proof of purchase (sales slip or invoice).

Thank you for your interest in the Customer Incentive Program. Please provide a summary of your project. In particular, please describe the energy savings and/or replacement equipment of your project.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

MEASURE DESCRIPTION	kWh AND kW (Pre-installation)	KWh AND kW Savings (Actual)	Size & Efficiency (Pre-installation)	Size & Efficiency (Post-installation)

AGREEMENT CLAUSE: I/We agree as follows: 1) To begin the project within 90 days of initial registration and finish within 90 days of project commencement; 2) To allow the Vernon Utilities Department to conduct scheduled site visits to verify installation of the hardware specified in this project; 3) To provide the original, itemized, paid proof of purchase (sales slip or invoice), and worksheet showing actual kW or kWh saved and size, speed and efficiency of installed equipment (as applicable) all at completion of project; 4) This rebate is not to exceed seventy-five thousand dollars or fifty percent of the paid proof of purchase (sales slip or invoice), whichever is less; 5) Rebate will be calculated per the rebate schedule in effect at the time of approval of this application; 6) Rebates are subject to availability of funds; 7) That the City of Vernon may withhold payment of any rebate until satisfaction of any and all of the above listed conditions are met.

Customer Signature: \_\_\_\_\_ Title: \_\_\_\_\_  
 Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Vernon Utilities Dept. Only (Worksheet must be Attached for Each Project)  Date Post-Inspection: _____  Inspected by: _____
---

CITY OF VERNON  
 Customer Incentive Program  
 Air Compressor Pre-Installation Application  
 (For Information Only)

Customer Name: \_\_\_\_\_

DBA Business Name: \_\_\_\_\_ Federal Tax ID: \_\_\_\_\_

Customer Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Installation Address: \_\_\_\_\_ Vernon, CA Zip Code \_\_\_\_\_

CUSTOMER MAILING ADDRESS FOR REBATE CHECK

Name of Payee: \_\_\_\_\_

Address: \_\_\_\_\_ City: Vernon State: CA Zip Code: \_\_\_\_\_

(To be eligible for rebates, this application must be completed, signed and submitted to the City of Vernon before project work starts.)

Thank you for your interest in the Customer Incentive Program. Please provide a summary of your project proposal. In particular, please describe the energy savings and/or replacement equipment of your proposed project.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COMPRESSOR INFORMATION

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_ Compressor Type: \_\_\_\_\_

Type of Control: \_\_\_\_\_

COMPRESSOR PERFORMANCE SPECIFICATIONS @ FullLoad)	
Pressure	Psig
Air Flow (Load)	ACFM
BHP	
BHP/100 ACFM	
COMPRESSOR OPERATING CONDITIONS	
Nominal Operating Press. At Compressor Discharge	Psig
ACFM (Corrected)	

MOTOR INFORMATION :

Motor Size (HP): \_\_\_\_\_ Service Factor: \_\_\_\_\_ Efficiency (nameplate): \_\_\_\_\_ (at full load)

ENERGY USAGE ESTIMATE

Load Level (ACFM)	Hours of Operation @ Load Level	BHP/ kW @ Load Level	kWh
TOTAL		N/A	

AGREEMENT CLAUSE: I/We agree as follows: 1) To begin the project within 90 days of initial registration and finish within 90 days of project commencement; 2) To allow the Vernon Utilities Department to conduct scheduled site visits to verify installation of the hardware specified in this project; 3) To provide the original, itemized, paid proof of purchase (sales slip or invoice), complete a post-installation application, manufacturers specifications and performance sheets, and worksheet showing actual kW or kWh saved and size, and efficiency of installed equipment (as applicable) all at completion of project; 4) This rebate is not to exceed seventy-five thousand dollars or fifty percent of the paid proof of purchase (sales slip or invoice), whichever is less; 5) Rebate will be calculated per the rebate schedule in effect at the time of approval of this application; 6) Rebates are subject to availability of funds; 7) That the City of Vernon may withhold payment of any rebate until satisfaction of any and all of the above listed conditions are met.

Customer Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Vernon Utilities Dept. Only (Worksheet must be attached for Each Project) Date Pre-Inspection: _____ Inspector Name: _____
---

CITY OF VERNON  
 Customer Incentive Program  
 Air Compressor Post-Installation Application  
 (For Information Only)

Customer Name: \_\_\_\_\_

DBA Business Name: \_\_\_\_\_ Federal Tax ID: \_\_\_\_\_

Customer Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Installation Address: \_\_\_\_\_ Vernon, CA Zip Code \_\_\_\_\_

CUSTOMER MAILING ADDRESS FOR REBATE CHECK

Name of Payee: \_\_\_\_\_

Address: \_\_\_\_\_ City: Vernon State: CA Zip Code: \_\_\_\_\_

ATTACHMENTS TO BE INCLUDED WITH THIS FORM : A) Installer's statement of Actual equipment installation (size and specifications) and/or kWh or kW savings computation . B) Copies of manufacturer's specifications and performance data, C) Original, itemized, paid proof of purchase (sales slip or invoice).

Thank you for your interest in the Customer Incentive Program. Please provide a summary of your project. In particular, please describe the energy savings and/or replacement equipment of your project.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COMPRESSOR INFORMATION

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_ Compressor Type: \_\_\_\_\_

Type of Control: \_\_\_\_\_

COMPRESSOR PERFORMANCE SPECIFICATIONS @ FullLoad	
Pressure	Psig
Air Flow (Load)	ACFM
BHP	
BHP/100 ACFM	
COMPRESSOR OPERATING CONDITIONS	
Nominal Operating Press. At Compressor Discharge	Psig
ACFM (Corrected)	

MOTOR INFORMATION

Motor Size (HP): \_\_\_\_\_ Service Factor: \_\_\_\_\_ Efficiency (nameplate) \_\_\_\_\_ (at full load)

ENERGY USAGE

Load Level (ACFM)	Hours of Operation @ Load Level	BHP/ kW @ Load Level	kWh
TOTAL		N/A	

AGREEMENT CLAUSE: I/We agree as follows: 1) To begin the project within 90 days of initial registration and finish within 90 days of project commencement; 2) To allow the Vernon Utilities Department to conduct scheduled site visits to verify installation of the hardware specified in this project; 3) To provide the original, itemized, paid proof of purchase (sales slip or invoice), manufacturers specifications and performance sheets, and worksheet showing actual kW or kWh saved and size, and efficiency of installed equipment (as applicable) all at completion of project; 4) This rebate is not to exceed seventy-five thousand dollars or fifty percent of the paid proof of purchase (sales slip or invoice), whichever is less; 5) Rebate will be calculated per the rebate schedule in effect at the time of approval of this application; 6) Rebates are subject to availability of funds; 7) That the City of Vernon may withhold payment of any rebate until satisfaction of any and all of the above listed conditions are met.

Customer Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Vernon Utilities Dept. Only (Worksheet must be attached for Each Project) Date Pre-Inspection: _____ Inspector Name: _____
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## **CUSTOMER-DIRECTED PROGRAM**

### **Objectives**

The portfolio of energy efficiency public benefits programs established by the Department does not exhaust all energy efficiency opportunities. The Customer Directed Program is intended to provide funds for customer-directed projects involving the use of energy efficient technologies and research, development and demonstration (RD&D) of energy-related technologies. Projects that are covered by the Customer Incentive Program are not eligible. The following are the objectives of the program:

- Help business customers develop sound and effective energy projects to grow their businesses through appropriate strategies and partnerships.
- Increase the efficiency and productivity of energy use, while limiting environmental impacts.
- Support the development and demonstration of new energy technologies and products for business opportunities.
- Stimulate increased energy efficiency in buildings and operations.
- Lead community efforts to develop and utilize efficient energy technologies and to accelerate their acceptance and use at the community level.
- Strengthen working relationships and networking among the business community in Vernon.

### **Program Description**

The Customer-Directed Program may fund up to \$150,000 for each project approved that demonstrates energy-related and/or future commercial market potential in the area of energy efficiency. The customer must provide at least 25% (twenty-five percent) of the total project cost. All Vernon commercial and industrial customers are eligible to participate in the program.

Projects may fall within one of the following two categories:

#### **1. In-house Opportunities**

In-house opportunities consist of installing or retrofitting company facilities with RD&D technologies. Examples here could include electric vehicles charging systems, electro technologies, and energy efficient or new energy

technologies that are applied to facilities and/or processes.

## 2. Product Commercialization

Product commercialization consists of developing new technologies that will be used for production and sale. These items will most likely fall in the RD&D category and must be energy related. Products must be ready for testing and/or production to be considered for funding. Some examples of past technologies that were developed for commercialization include: nickel-metal hydride batteries, aerosol duct sealer, which plugs air leaks in duct systems; and compact fluorescent lights.

All expenses related to proposal preparation and submission and the oral presentation will be the sole responsibility of the customer. Customers are allowed to receive funding for one project per year.

### **Application Process And Rebate Payment**

Payment for approved projects is subject to available program funds. Priority for payment eligibility is established based on date of project approval by the Department.

### **Application Process**

1. To qualify for incentive payment, applicants must submit a completed application with the necessary attachments before beginning project work starts. A sample application form is included herewith for information purposes only. Customer initiated projects implemented prior to Department acceptance of the application may be rejected. Subject to availability of funds, the Department reserves monies for the project, pending timely completion and meeting eligibility requirements.
2. In order to maintain eligibility, the project must commence within six-months of application approval by the Department. The funded project must be completed within a subsequent six-months period.
3. The Department may conduct a site inspection in order to verify the existing equipment baseline and/or project progress.
4. At the completion of the project, applicant must submit a completion report with necessary attachments. The completion report is basically an update of the initial application with actual results. For projects that involve installation of equipment, "completion" occurs when the equipment is installed and operational.

5. As a condition of incentive payment, participating customers must allow the Department to conduct reasonably scheduled site visits to verify equipment installation and operation.
6. Total incentive payment shall not exceed the total incentive reserved. Payments will be made only after the appropriate documents have been submitted (within the deadline established) and approved, and a site verification visit has been satisfactorily completed. Upon final approval of the project, the Department will process the customer's application and mail the customer's rebate check within six weeks.

### **Evaluation Criteria**

The Customer-Directed Program applications will be evaluated based on the following criteria:

- Concept description
- Electricity related innovation/project tasks
- Energy savings
- Environmental impacts
- Economic competitiveness
- Commercialization/technology transfer
- Community benefits

After the Department staff evaluates the applications, applicants may be required to provide an oral presentation to the Department. Projects will be evaluated on the comprehensive knowledge and understanding of the types of technologies developed or implemented. Research, barriers, and processes for technology development will be discussed. Other project evaluation components will include a business plan and budget; cost controls, the probability of fulfillment of contract deliverables, corporate commitment and dedication to the project, and schedule.

### **Application Approval**

In order to award a project, the Department would first seek City Council approval and a written agreement may be required at the discretion of the City.

### **Program Benefits**

The priority of the program is to foster increased use of energy efficiency and facilitate the adoption of new technologies.

The specific benefits to the Department will depend on the types of projects selected. RD&D projects may result in efficient use of energy. The Department is also expected to benefit from improved communications with business customers, new value added services and energy efficiency opportunities.

Customers can select projects that best meet their needs and concerns, therefore, adding value to their company's operations. Customers benefits will include financial assistance for new technologies that may result in business expansion, improved energy efficiencies in operations and improved environmental applications.

**CUSTOMER-DIRECTED ENERGY SOLUTIONS PROGRAM APPLICATION**  
**Public Benefits Programs**  
**City of Vernon Utilities Department**  
**(For Information Only)**

All commercial and industrial electric customers are eligible to submit applications for matching funds for projects that qualify in the areas of energy efficiency and RD&D. This program permits customers to self-design energy efficiency measures that derive a public benefit. The Department will evaluate the projects and award funds to qualifying customers. The priorities of the program are to foster increased use of energy efficiency and facilitate the adoption of new technologies. The Customer-Directed Program is intended to address unique needs not met through any of the other Public Benefits Programs.

Title of Project:

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Company:

---

Address:

---

Project Manager: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Project Manager: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Subcontractor(s) if applicable, including contact name, address, and phone number:

---

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**Duration of Project:** \_\_\_\_\_

Proposed Start Date: \_\_\_\_\_

Proposed Completion Date: \_\_\_\_\_

**Amount of funds requested**

\$ \_\_\_\_\_

**Funding and Other Sources**

List each amount from other grants or the proposing company, if applicable. Also, indicate whether the contribution is in-kind or monetary.

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\$ \_\_\_\_\_

---

\$ \_\_\_\_\_

---

\$ \_\_\_\_\_

**Total Project Budget**

\$ \_\_\_\_\_

Please provide description in response to the following topics. Please be as specific as possible. The length of the application should be no longer than six pages, including the cover sheet. Attach additional pages as needed for subcontractor and other information pertinent to the proposed project.

**1. Project Description Summary**

Provide a summary description of the project, including general scope, location, and the expected end result of the project.

2. **Project Objective(s)**

List the goals and objectives of this project. What does it fix, what does it improve, what benefits are derived? Include all economic, technical, energy, and environmental aspects.

3. **Scope of Work**

Sufficiently detail the scope of work in chronological order.

4. **Perceived Risks**

List all potential risks associated with implementing the project.

5. **Financial Analysis**

Provide costs for implementation of the project. Sufficiently itemize all labor, material, operational processes, and all associated project costs. Indicate the basis for these costs or provide sufficient back up, such as contractor bids and vendor proposals. Also, summarize the total financial benefits that result from the project.

6. **Tasks Time Schedule**

Provide a project schedule. Show all project milestones and expected completion date(s).

7. **Approval Process**

Describe your company's internal approval process for this project. Indicate if this project has been discussed and has received authorized approval.

8. **Energy Savings Calculations**

Provide calculations for energy and energy cost savings. Provide a summary of all key assumptions and inputs. Provide sufficient detail for review.

9. **Measurement and Verification**

Provide an evaluation criteria and methodology to which the project's effectiveness can be measured. (Projects that replace or modify lighting or HVAC energy consuming systems may follow the procedures outlined in the International Performance, Measurement, and Verification Protocol published by the Department of Energy.)

## 10. **Project Type**

Please answer one of the appropriate questions below based on whether your project is for your own facility or for product development and commercialization.

### a) **In-House Opportunities Projects**

How will the project benefit your organization and the community?

### b) **Product Commercialization Projects**

Have you conducted a literature or product search to determine if information resulting from a similar project already exists? If so, describe any similar projects. Please explain how this proposed project would be different from the one identified in the search.

## 11. **Project Stage**

At what stage of development is the project? Please check one of the stages below:

Projects must be in Stage 3, 4, or 5 to be considered for funding. Please check off the appropriate stage of the proposed project:

### **Stage 1: Conceptual**

The objective is to demonstrate through tests or analyses the performance and the implementation potential of a concept.

### **Stage 2: Technical Feasibility**

The objective is to confirm the performance of the new product by experimenting or preparing engineering analyses. This stage validates that there are no technical or economical barriers for implementation.

### **Stage 3: Development**

The objective is to make improvements on the materials, designs, and processes of the product, as well as to confirm that the product will perform as specified. This stage entails the construction of testing prototypes.

### **Stage 4: Commercial Validation or Demonstration**

The objective is to develop manufacturing techniques and the introduction of a new process in a system.

## \_\_\_\_\_ **Stage 5: Full Scale Production and Deployment**

The objective is to build the manufacturing or process facility and to make full-scale production runs.

### **12. Attachments**

Provide all additional documents such as plans and process diagrams that support the project application. Please do not attach originals, as the attachments will not be returned to applicants. Upon approval, the City of Vernon will provide you with a Customer-Directed contract that will specify the terms and conditions for project acceptance and the total funding allotted for this project.

# ATTACHMENT DR11-1

City of Vernon

LEONIS C. MALBURG  
Mayor

THOMAS A. YBARRA  
Mayor Pro-Tem

WM. "BILL" DAVIS  
Councilman

H. "LARRY" GONZALES  
Councilman

W. MICHAEL McCORMICK  
Councilman



4305 Santa Fe Avenue, Vernon, California 90058  
Telephone (323) 583-8811

MARK C. WHITWORTH  
Fire Chief

LEWIS J. POZZEBON  
Director of Environmental Health

S. KEVIN WILSON  
Director of Community Services

SHARON L. DUCKWORTH  
City Treasurer

DONAL O'CALLAGHAN  
Director of Light & Power

**February 19, 2008**

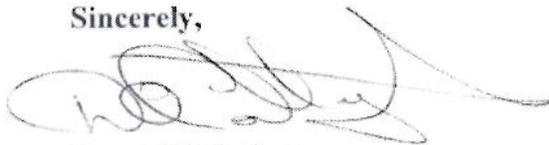
**Ms. Kae Lewis  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA. 95814-5512**

**Subject: AB 2021 10 Year Energy Saving Targets**

**Dear Ms. Lewis:**

**Enclosed is the City of Vernon ten year plans for energy efficiency and demand reduction in accordance with Assembly Bill 2021.**

**Sincerely,**



**Donal O' Callaghan  
Director of Light & Power**

**Do:AS  
Enclosure**

**C: Abraham Alemu  
Document Control**

**Exclusively Industrial**

Publicly Owned Utility	Cumulative Energy Reduction Targets (MWh)											10-yr Total Energy Reduction	10-yr Total Forecasted Electrical	Average Annual Energy Reduction	2016 Cumulative Annual Energy Saving Target as Percent of 2016 Energy Forecast
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016					
	Vermont	3,069	6,236	9,618	12,932	16,461	19,990	23,519	27,048	30,577	34,106				

Publicly Owned Utility	Cumulative Demand Reduction Targets (MW)											Total Demand Reduction Target (MW)	Average Forecasted Demand (MW)	Average Annual Demand Reduction Target (%/Yr)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				
	Vermont	5.1	10.1	15.2	20.2	25.3	30.3	35.4	40.4	45.5	50.5			