IN THE MATTER OF THE COMPLAINT AGAINST DYOCORE, INC. BROUGHT BY ENERGY COMMISSION STAFF

Docket No. 11-CAI-03

RESPONSE FROM:
DYOCORE INC
663 SO. RANCHO SANTA FE. #610
SAN MARCOS, CA 92078

DYOCORES PREHEARING CONFERENCE STATEMENT

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Raoul Renaud
Hearing Officer
rrenaud@energy.state.ca.us

Dear Committee Members:

Thank you for your time and consideration in allowing DyoCore's answers to the outlined issue items presented in the Oct 11th pre-hearing outline pertaining the Complaint Against DyoCore, Inc., dated July 26, 2011 (Docket No. 11-CAI-03) (the "Complaint")

Key Issue item 5(a): Whether or not data submitted by DyoCore was false;

DyoCore's response to Key Issue item 5(a): As outlined in the program application ERP Guidebook Appendix 3(a)Small Wind;

To qualify for listing, the commissions eligibility criteria require either certification by a small wind turbine specific safety and/performance standard or monthly data of average energy produced and average wind speed for one consecutive year.[1]

DyoCore provided accurate data to the best of our ability relying on the CEC and KEMA to review, evaluate and apply the appropriate rating to our product as it applied to the ERP.

DyoCore submitted monthly power generation data and DyoCore also provided preliminary safety evaluation data from MET labs. Both met the applicable standards for qualification according to KEMA and later accepted by the CEC.[1]

[1] CEC-300-2006-001-ED8f.pdf, http://www.energy.ca.gov/2006publications/CEC-300-2006-001/CEC-300-2006-001-ED8F.PDF

There are two options to achieve ERP eligibility for small wind systems:

1. Small wind turbines must be certified as meeting the requirements of a small wind turbine-specific safety and/or performance standard adopted by a national or international standards setting body, including, but not limited to IEC (International Electrical Code) 61400-2. The Energy Commission will monitor, review, and may participate in the Interstate Renewable Energy Council's efforts to create a national certification program.

OR

2. Manufacturers of small wind systems must provide monthly data of average energy produced (kWh) and average wind speed for one consecutive year for each model of system they wish to be considered eligible for this program to demonstrate reliable operation of that model of equipment at a site with average annual wind speeds of at least 12 mph

Key Issue item 5(b): KEMA's role with respect to review of data submitted by DyoCore prior to suspension of the ERP;

DyoCore's response to Key Issue item 5(b): DyoCore was directed by the CEC to apply for inclusion of the ERP through KEMA as applicable in the Emerging Renewables Program Final Guidebook, Tenth Edition, April2010, CEC-300-2010-003-F ("Guidebook")

It was DyoCore's understanding that KEMA is the contractor hired by the CEC as the qualifying agent to review, evaluate, rate and ultimately certify or not certify products for inclusion in the ERP[2].

[2] Renewable Energy Program Technical Assistance Contract NO. 400-07-030, Work Authorization No. 13 dated August 31, 2010. "The contractor [KEMA] will initially determine if the information presented by the industry representative addresses all items necessary to meet the current requirements per the ERP guidebook, Appendix 3, Section E, or SB1 Guidelines on Non-PV requirements. The Contractors will then advise the Energy Commission Project Manager, the Contractors will: evaluate the technical merits fo the proposal, working with the requesting party to obtain any missing information"

Key Issue item 5(c): how a power curve is generated;

DyoCore's response to Key Issue item 5(c): A power curve represents the estimated performance of a power generator in reference to the given component of energy converted over a period of time. As applied to the ERP, annual monthly data over a period of one year and its respective volume of energy production is then extrapolated into a power curve.

According to the NREL, IEC Wind Energy Standards, WG-6 Power performance Measurement Techniques[3] "power performance characteristics are defined by the measured power curve and the estimated annual energy production (AEP). The measured power curve is determined by collecting simultaneous measurements of wind speed and power output at the test site for a period long enough to establish a statistically significant database over a range of wind speeds and under varying wind conditions. The AEP is estimated by applying the measured power curve to reference wind speed frequency distributions, assuming 100% availability"

[3] http://wind.nrel.gov/cert_stds/Certification/standards/iec_stds.html#WG6

Key Issue item 5(d): How the correct point on a power curve is selected for purposes of determining rated output;

DyoCore's response to Key Issue item 5(d): There was and still is no standard or guideline in place. A turbine manufacturer is permitted to choose any point in its power curve that estimates energy production of its product for certification.

This is reflected in the very wide range of listed ratings of virtually all turbines on list of approved ERP products.[4]

KEMA requested that DyoCore provide the point on the extrapolated power curve that would be most applicable to its product. DyoCore responded to KEMA requesting that KEMA provide direction in the applicable rating of its product.[5]

DyoCore submits reference: Testing the Power Curves of Small Wind Turbines by Paul Gipe Summer, 2000. http://www.wind-works.org/articles/PowerCurves.html

[4] List available at http://www.consumerenergycenter.org/cgi-bin/eligible smallwind.cgi.

[5] Email correspondence from David Raine to Pete Baumstark, KEMA representative, dated February 16, 2010 3:27 PM. "The 800 W output is based on a 75% load – average load when charging batteries or running a motor or other object in real time plugged directly into an inverter. The output without load at 12mph is approximately 1.5 kW. Most companies rate their products at substantially higher wind speeds. We would like to present a much more realistic rating for the average user of our units. If you have experience in this area it would be helpful in a direction towards correctly labeling our product." Attached exhibit [E(1)].

Key Issue item 5(e): what the correct amount of the rebate for DyoCore turbines would have been under the pre-suspension ERP if the turbine's listed output was at the level Staff contends is accurate;

DyoCore's response to Key Issue item 5(e): Based on KEMA's re-evaluation of DyoCore's power curve, as it was intended to apply to the standard, DyoCore would still qualify at 1.6kW at approximately 34mph.

Key Issue item 5(f): whether the ERP regulations in existence at the time DyoCore submitted its application permitted rebates up to 100 percent of the installed system cost to the consumer;

DyoCore's response to Key Issue item 5(f): DyoCore's understanding was that the ERP covered $3 per rated system total installed cost as applied to eligible equipment. If a qualified install was within that cost it would be covered 100% as evidence by our correspondence with CEC clearly that discussed and acknowledged DyoCore's product's price points as they applied to the ERP.[6]

DyoCore applied for rebates as stated in the R1 instructions.[7]

The ERP Statute Pub. Resources Code§ 25744[b][2] provides that "incentives shall be limited to a maximum percentage of the system price, as determined by the commission" and allows rebates up to 100% of the cost of the eligible wind turbine. There are no maximum percentage limits other than not to exceed the net purchase price as outlined in the ERP Guidebook.

DyoCore reference's KEMA's tasks as outlined in Work Authorization No. 4 Amendment no 2 of the REP Contract No. 400-07-030 signed 4/16/2009, whereas KEMA was tasked in sections 2.1 through 2.4 - Utility Generation Data for Small Wind System Performance, Economic Potential / Cost Effectiveness, Current rebate and Rebate Design.

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[6] Email correspondence between Rick Berry of DyoCore and Sarah Taheri of the CEC on Feb 4, 2011;

-----Original Message-----
From: Sarah Taheri [mailto:STaheri@energy.state.ca.us]
Sent: Friday, February 4, 2011 05:50 PM
To: rick@dyocore.com
Subject: More info needed

Hi Rick, Realized there were a few applications that I didn't catch earlier. A few notes and requests: McChesney - utility bill is for address 825 Cape Breton; we need bill for 3030 Overhill. This will receive a rebate of $4808 (equivalent to total system cost), as rated output is limited to 2000 watts due to inverter (rather than 3200 watt capacity of turbines). Almodovar - need more recent utility bill. This will receive a rebate of $4904 (equivalent to total system cost), as rated output is limited to 2000 watts due to inverter (rather than 3200 watt capacity of turbines). The total output of these systems could be increased by installing a larger inverter; granted, this would also increase the total cost and potentially increase the rebate. This may be something you could discuss with the clients if you like. If you choose to change the installations, let me know, as we'll need new paperwork. Thanks, Sarah _____ Sarah Taheri California Energy Commission Efficiency & Renewables Division Renewable Energy Office Tel: (916) 654-3929 Email: staheri@energy.state.ca.us

[7] INSTRUCTIONS FOR THE RESERVATION REQUEST FORM (CEC-1038 R1)
Quantity x Equipment Rating x Inverter Efficiency Rating = System Output (watts)

If the sum of the inverter rated output is less than the system output (watts), the inverter rated output will be used to calculate the rebate. Where more than one type of inverter is used the average inverter efficiency will be weighted based on inverter rated capacity. The sum of the inverters' continuous rated output capacities will specify the maximum system output for determining the rebate.

Provide the system installed cost (before the ERP rebate). The ERP requires that incentives from other sources be accounted for before determining the rebate from the ERP. Five percent of any incentive received or expected from a utility incentive program, a State of California or federal government sponsored incentive program, other than tax credits, must be subtracted from the ERP rebate amount requested. The "Total Request" should therefore be based on the ERP rebate level in place at the time the application is received by the Commission and the system cost after subtracting other incentives.

Check the box indicating whether the incentive is to be paid to the purchaser or seller. If any, identify incentives expected or received from other sources. If an incentive from the ERP was received previously for this site, include the incentive amount and, if known, the reservation number, for the prior application.

Key Issue item 5(g): details of the pricing methodology used by distributors of the DyoCore turbine including the costs of the turbines and associated equipment, sales commissions, salaries, labor costs, overhead and profit margins;

DyoCore's response to Key Issue item 5(g): DyoCore manufactures and sells its product SolAir to authorized Distributors. We had a basic build cost based on projections of large volume manufacturing and our

anticipated distribution. We applied overhead and expectations of costs and priced our product accordingly at approximately $1,100 per unit.

Over the past year, we have learned that our cost projections were insufficient. As DyoCore moves forward we will require a substantial increase in our per unit cost to authorized distributors.

Key Issue item 5(h): the results of any tests that have been conducted to determine the output of the DyoCore turbine;

DyoCore's response to Key Issue item 5(h): DyoCore has continued ongoing internal testing from both field installed turbines and from within its testing facility and wind tunnel in San Diego. DyoCore was not aware that there was a concern with our power curve as published within the ERP until we received formal notice from the CEC in the Complaint filed on July 29th, 2011.

DyoCore has allways published on its website the estimated power curve as new testing data was available.

DyoCore has begun the process of obtaining 3rd party evaluation of our products power performance.

Key Issue item 5(i): whether or not any such testing is currently underway or contemplated, the expected date of completion, and the cost for such testing;

DyoCore's response to Key Issue item 5(i):

SWCC contract in place Sept 2011
3rd party physicist review of the site raw data – attached Exhibit "SolAir Power Curve"
TUV – Field evaluation of product electrical safety
Engineering testing by Dunn Savoie
Sound testing by Eilar Associates

Key Issue item 5(j): the identities of any qualified testing entities; and

DyoCore's response to Key Issue item 5(j):

Qualified Testing Agent	Address	Phone	Email
Dunn Savoie Inc.	908 S. Cleveland St. Oceanside, CA 92054	760-966-6355	dsi@surfdsi.com
TUV SUD	10040 Mesa Rim Rd. San Diego, CA 92121	858-678-1400	cskinner@tuvam.com
Eilar Associates, Inc. Douglas K. Eilar Amy Hool, Acoustical Consultant	539 Encinitas Boulevard, Suite 206, Encinitas, CA 92024	760-753-1865	info@eilarassociates.com
John Lavery, physicist	Carlsbad, CA	(760) 533-2709	jsdclavery@roadrunner.com
SWCC	Clifton Park, NY	518-213-9438	Brent@smallwindcertification.org

Key Issue item 5(k): proposals for handling of the applications for rebates that have not yet been paid.

DyoCore's response to Key Issue item 5(k): Honor all qualified and complete ERP submitted reservations

Respectfully submitted by,

David Raine
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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

1516 NINTH STREET, SACRAMENTO, CA 95814

1-800-822-6228 – WWW.ENERGY.CA.GOV

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DYOCORES EXHIBIT AND WITNESS LIST

Exhibit	Brief Description	Offered	Admitted
DyoCore's Exhibits			
1	John Livery's statement and SolAir power curve. 3rd party physicist that reviewed DyoCore's Hampshire IL Test Site raw data for assessment and compilation to a power curve as suggested by the IEC standard. http://www.dycoroe.com/material/cec/solar_pc_jl.pdf		
2	TUV Field Electrical Safety Evaluation. Link: http://www.dycore.com/material/cec/TUV_evaluation.pdf		
3	DUNN SAVOIE INC. Structural Engineers, Structural Calculations for DyoCore SolAir Wind/Soar Hybrid Generator. December 15, 2010. Link: http://www.dycore.com/material/cec/Dyocore_structural_justification_Calcs.pdf		
4	Eilar Associates, Inc. Sound test. Links: (1) http://www.dycore.com/material/cec/Sound_Report_Twin_Oaks_Site-de.pdf (2) http://www.dycore.com/material/cec/SolAir_Sound_Report-ah.pdf (3) http://www.dycore.com/material/cec/SolAir_Sound data_summary_033010.pdf		
5	Paul Gipe's Report on Testing Power Curves of Small Wind Turbines. Link: http://www.dycore.com/material/cec/Testing_the_Power_Curves_of_Small_Wind_Turbines.docx		
6	DyoCore's SolAir stamped Engineering Drawings. Link: http://www.dycore.com/material/cec/Dyocore_Drawings_Stamped_121610.pdf		
7	DyoCore's agreement with SWCC. Link: http://www.dyocore.com/material/cec/dyocore_agree_SWCC.PDF		

DyoCore's Witnesses and Statements			
1	Notarized Statements of fact from Richard Berry, primary DyoCore representative who corresponded with CEC staff members. http://www.dyocore.com/material/cec/Rick_Berry_Statement.PDF		

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IN THE MATTER OF THE COMPLAINT AGAINST DYOCORE, INC. BROUGHT BY ENERGY COMMISSION STAFF

Docket No. 11-CAI-03
(Revised 9/16/2011)

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CA Green Team
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rayw@cagreenteam.com

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bob@prevailingwindpower.com

INTERESTED ENTITIES/AGENCIES (cont.)

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77380 Michigan Dr.
Palm Desert, CA 92211

San Diego Small Wind
3125 Tiger Run Ct. #103
San Marcos, CA 92009

Apple Acres, Inc. DBA Gridnot
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DECLARATION OF SERVICE

I, David Raine declare that on Monday October 3rd, 2011 I served and filed copies of the attached DyoCore's Pre-Hearing Response and Answers dated October 2, 2011. The original document, filed with the Docket Unit or the Chief Counsel, as required by the applicable regulation, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[http://www.energy.ca.gov/renewables/emerging_renewables/11-cai-03/].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(C*heck all that Apply*)

For service to all other parties:

__X__ Served electronically to all e-mail addresses on the Proof of Service list;

__X__ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail service preferred."

AND

For filing with the Docket Unit at the Energy Commission:

__X__ by sending an original paper copy and one electronic copy, mailed with the U.S. Postal Service with first class postage thereon fully prepaid and e-mailed respectively, to the address below (preferred method); ***OR***

____ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

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docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

David Raine, Original Signed Copy On File