DOCKET
11-CAI-03
DATE OCT 04 2011
RECD. OCT 04 2011

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

IN THE MATTER OF THE COMPLAINT AGAINST DYOCORE, INC. BROUGHT BY ENERGY COMMISSION STAFF	DOCKET NO.: 11-CAI-03 DATED: OCTOBER 4, 2011

ENERGY COMMISSION STAFF'S PREHEARING CONFERENCE STATEMENT

The Renewables Committee ("Committee") assigned to hear this matter issued a Notice of Prehearing Conference on September 21, 2011. In it, the Committee ordered the parties to submit a Prehearing Conference Statement by noon on October 4, 2011. Energy Commission Staff's ("Staff") responses to the questions posed by the Committee follow.

Response to Question 5(a)*: *Whether or not data submitted by DyoCore was false.

I. The Data Submitted to KEMA, Inc. by DyoCore, Inc. is False

A. The One-Year of Operational Data is False

The one-year of operational data submitted by DyoCore for the purpose of having the DyoCore SolAir wind turbine ("DyoCore turbine") listed as eligible for use in the Emerging Renewables Program ("ERP") is false for at least three reasons.

First, as explained in the complaint filed by staff against DyoCore, Inc. ("DyoCore") on July 26, 2011 ("Complaint"), and shown by the report prepared by KEMA, Inc. ("KEMA") that evaluates DyoCore's performance claims, and that is attached to the Complaint as Exhibit D ("KEMA Report"), (the Complaint is Exhibit 1 of Complainant's exhibits) the one-year of operational data that DyoCore identified as having been obtained from an installation in Hampshire, Illinois is inconsistent with the power curve data submitted by DyoCore. The one-year of operational data from the Hampshire, Illinois location shows an annual average wind speed of 15.3 miles-per-hour ("mph") and annual energy production of 2,554 kilowatt hours ("kWh"). Using the power curve data submitted and the same annual average wind speed of 15.3 mph, the KEMA Report calculated that the annual energy production would be 9,513 kWh. Thus, it is impossible to reconcile the one-year of operational data from the Hampshire, Illinois location and the power curve data submitted by DyoCore, and therefore, at least one of these data sets must be incorrect or false.

Second, and also as explained in the Complaint and the KEMA Report, the claimed annual energy production of 2,554 kWh, and the annual energy production as calculated by KEMA using the submitted power curve of 9,513 kWh, grossly exceed the performance of an optimal, state-of-the-art, utility scale turbine rotor with the same diameter as the rotor on the DyoCore turbine. As submitted by DyoCore for listing as eligible for use in the ERP, the rotor diameter of the DyoCore turbine is 1.2 meters, or approximately 47 inches. *See* April 9, 2010 email from David Raine, attached as Exhibit 24. The KEMA Report calculated that an optimal state-of-the-art, utility scale turbine rotor with the same diameter results in annual energy production of 1,643 kWh. Therefore, the KEMA Report concluded that DyoCore's claimed performance "is not possible" because the annual energy production calculated using the submitted power curve of 9,513 kWh exceeds the performance of an optimal, state-of-the-art, utility scale turbine rotor by 9.0 times.

Third, DyoCore submitted the same monthly kWh production data to KEMA, the exact same numbers, for two installed small wind systems that use the DyoCore turbine and which are located in areas with significantly varied wind resources. On February 15, 2010, DyoCore submitted one-year of operational data in tabular form for an installation in San Marcos, California ("San Marcos Table"). *See* February 15, 2011 email from Rick Berry, attached as Exhibit 8.[1] The first column of the San Marcos Table identifies kWh production from the wind turbine for 17 consecutive months, from September of 2008 through January of 2010.[2] The average wind speed identified in the San Marcos Table during the testing period was 6.6 mph.[3] However, the Emerging Renewables Program Final Guidebook ("ERP Guidebook") requires that manufacturers who elect to submit one-year of operational data for the purpose of having their small wind turbine listed as eligible for use under the ERP must provide data from a site with average annual wind speeds of at least 12 mph.[4] Thus, KEMA rejected the data from

---

[1] Email from Rick Berry, DyoCore to Pete Baumstark, PE, Energy Engineer, KEMA, February 15, 2010, 11:50 a.m.. Notably, the February 15, 2010 email from Mr. Berry does not identify the data as having been measured at the San Marcos location. However, *see* email from Rick Berry, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010 (the same data set appears and is identified as having been measured at the San Marcos location in an attached document entitled "SolAir – IEC standard 61400-12-1," March 1, 2010, Table 1, at page 4 (unnumbered), (referred to below as the "DyoCore Testing Report")). As of October 4, 2011, a modified version of the DyoCore Testing Report appeared on DyoCore's website, *available at* http://www.dyocore.com/material/IEC_Standard_61400-SolAir.pdf (although also dated March 1, 2010, the updated version of the DyoCore Testing Report on DyoCore's website is two pages longer than the version submitted to KEMA and includes two additional sections, "SolAir – Ginlong Grid Tie Electrical Diagram," and "Sound Testing") (referred to as "DyoCore Testing Report – Later Version" below).

[2] As two small solar panels are affixed to the DyoCore turbine, the one-year of operational data submitted by DyoCore also includes a column for kWh production from solar.

[3] Email from Pete Baumstark, PE, Energy Engineer, KEMA to David Raine, CTO, DyoCore, February 16, 2010, 8:46 a.m.

[4] Emerging Renewables Program Final Guidebook, Tenth Edition, California Energy Commission, April 2010, p.49, available at http://www.energy.ca.gov/2010publications/CEC-300-2010-003/CEC-300-2010-003-F.PDF (referred to below as "ERP Guidebook") ("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.").

the San Marcos, California installation on this basis.[5]

DyoCore then submitted data for an installation in Hampshire, Illinois to KEMA ("Hampshire Table"), stating "[a] little less sun but a lot more wind!" *See* February 16, 2010 from David Raine, attached as Exhibit 12.[6] The numbers provided in the Hampshire Table for kWh production attributable to solar and the identified maximum and average wind speeds are different than the numbers provided in these categories in the San Marcos Table.[7] As indicated by DyoCore, less kWh production attributable to solar is reported in the Hampshire Table and the maximum and average wind speeds are higher.[8] Similar to the format of the San Marcos Table, the first column of the Hampshire Table identifies kWh production from the wind turbine for 14 consecutive months, from January of 2009 through February of 2010.[9] However, the numbers identified in the first column of the Hampshire Table are the exact same numbers for kWh production identified in the San Marcos Table for the initial 14 months that are listed.[10] For example, the San Marcos Table identifies kWh production for January of 2009 as "94.00400394," and the Hampshire Table identifies kWh production for May of 2009 as "94.00400394."

Using a valid testing methodology, it would be impossible to measure the exact same kWh production at two different installations that are located in areas with significantly varied wind resources. The substantial variance in wind speed at the two sites would necessarily yield different kWh production. The maximum and average wind speeds indentified in the San Marcos Table for January of 2009 are 18.4 mph and 5.8 mph, respectively. By contrast, the maximum and average wind speeds identified in the Hampshire Table for May of 2009 are 56.1 mph and 16.7 mph, respectively. Thus, the San Marcos Table identifies significantly lower wind speeds for January of 2009, as compared to the wind speeds identified in the Hampshire Table for May of 2009. Accordingly, the kWh production identified in the San Marcos Table for January of 2009 should be significantly lower than the kWh production identified in the Hampshire Table for May of 2009. However, as noted, the kWh production identified in the San Marcos Table for January of 2009 is identical to the kWh production identified in the Hampshire Table for May of 2009. These measurements could not have been obtained using a valid testing methodology at two different locations with significantly varied wind speeds, and therefore, it appears, the numbers provided were simply duplicated.

Moreover, the wind speeds identified in the Hampshire Table for February, March and April of 2009 may have been falsified. The Hampshire Table, as submitted via

---

[5] Email from Pete Baumstark, PE, Energy Engineer, KEMA to David Raine, CTO, DyoCore, February 16, 2010, 8:46 a.m.
[6] Email from David Raine, CTO, DyoCore to Pete Baumstark, PE, Energy Engineer, KEMA, February 16, 2010, 3:04 p.m.
[7] *Id*.
[8] *Id*.
[9] *Id*.
[10] *See* DyoCore Testing Report, *supra* note 2, at pages 4-5 (unnumbered) (presenting the San Marcos Table and Hampshire Table and including the duplication of purported measurements for kWh production, all as identified above).

email to KEMA on February 16, 2010, neither provides maximum nor average wind speeds for these three months.[11] Instead, the Hampshire Table, as submitted on February 16, 2010, states "N" in the columns for maximum and average wind speeds for these months, presumably indicating "Not Available."[12] It appears that an anemometer had not been installed at the Hampshire location during this period.[13] Yet, on May 26, 2010 DyoCore submitted the DyoCore Testing Report to KEMA which, as noted, includes the one-year of operational data from the Hampshire installation.[14] However, the Hampshire Table that appears in the DyoCore Testing Report identifies maximum and average wind speeds for the months of February, March, and April of 2009.[15] Given that wind speed information for the Hampshire installation for these months was not available on February 16, 2010, and presumably, did not exist because it had not been measured, it appears that this information may have been falsified in the DyoCore Testing Report.

B. The Power Curve Data is False

Similarly, the power curve data submitted by DyoCore for the purpose of having the DyoCore turbine listed as eligible for use in the ERP is false for at least two reasons.

First, the power curve data submitted by DyoCore for the purpose of having the DyoCore turbine listed as eligible for use in the ERP is theoretically impossible. As explained in the Complaint, the KEMA Report analyzes the power curve data submitted by DyoCore on June 1, 2010 in support of a rated output of 1.6 kW at 18 mph winds[16] by applying the Betz Limit theory. The Betz Limit theory posits that a wind turbine can capture no more than 59.3 percent of the kinetic energy in wind, which is calculated in relation to the diameter of its rotor. The KEMA Report concludes that if the DyoCore turbine, which has a rotor that is 1.2 meters, or approximately 47 inches in diameter, had an actual rated output of 1.6 kW at 18 mph winds, it would represent a machine that could extract 7.5 times more energy from wind than is thought possible under the Betz Limit theory.

Further, the 1.6 kW rating at 18 mph represents an output of "more than four times the energy in the wind at the speed."[17] *See* DyoCore and Why the Rating of Small Turbines Remains a Black Art, attached as Exhibit 79. As stated by renewable energy industry analyst Paul Gipe, "[f]orget the Betz Limit, there is simply not the energy

---

[11] Email from David Raine, CTO, DyoCore to Pete Baumstark, PE, Energy Engineer, KEMA, February 16, 2010, 3:04 p.m.
[12] *Id*.
[13] Email from Pete Baumstark, PE, Energy Engineer, KEMA to Daria Mashnik, Energy Engineer, KEMA, February 17, 2010 (describing the omitted wind speed information as follows: "They've given me 12 months of output data, but only had their anemometer installed for 10 of those months.").
[14] Email from Rick Berry, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010.
[15] *Id*.
[16] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, June 1, 2010, 8:21 a.m.
[17] DyoCore and Why the Rating of Small Turbines Remains a Black Art, Paul Gipe, September 23, 2011, available at http://www.wind-works.org/SmallTurbines/DyoCoreandWhytheRatingofSmallTurbinesRemainsaBlackArt.html.

in the wind to do what DyoCore says its turbine will do."[18]

Second, and also as explained in the Complaint and the KEMA Report, the submitted power curve data exceeds the maximum power output of an optimal, state-of-the art, utility scale turbine by 9.0 times. As explained in the KEMA Report, a state-of-the-art, utility scale turbine may be able to achieve power coefficient values, or Cp values, of .49, meaning that such a turbine may be able to capture 49 percent of the kinetic energy available in wind at a certain wind speed. DyoCore's claimed output of 1.6 kW at 18 mph winds equates to a Cp value of 4.43, which is approximately 9 times greater than the .49 Cp value that may be attainable by a state-of-the-art, utility scale turbine.

C. DyoCore's Admits that the Data Submitted to KEMA was False

i. Although DyoCore Actively Sought to have the DyoCore Turbine Listed with a Rated Output of 1.6 kW at 18 mph winds, DyoCore has Subsequently Conceded that the Turbine Cannot Produce 1.6 kW at that Wind Speed

1. DyoCore Actively Sought a Rated Output of 1.6 kW at 18 mph winds

As explained in more detail below in Section II(C)(ii), between April and June of 2010 DyoCore actively sought to modify the listing for the DyoCore turbine that appears on the List of Eligible Small Wind Turbines on the ERP website by claiming in email correspondence with KEMA that the rated output for the DyoCore turbine was actually 1.6 kW at 18 mph winds, not .8 kW at 12 mph winds as the turbine had originally been listed.[19] The final email from David Raine in this chain of correspondence included DyoCore's submission of power curve data in tabular form that showed 1.589 kW output at 18 mph winds. *See* June 1, 2010 Email from David Raine, attached as Exhibit 41. The subject of the email is "RE: power curve output data for SolAir – 1.6 kW." In the body of the email, Mr. Raine describes the submitted data as follows:

> Here's is [sic] actual data tested at specific wind speeds.[20]

This is the power curve data that KEMA relied upon in accepting the claimed higher rated output of 1.6 kW at 18 mph winds for the DyoCore turbine. Significantly, DyoCore acknowledges that the ERP listing of the DyoCore turbine is entirely based upon the data it submitted.

> The listing at 1.6 kW at 18 mph came off the Power Curve

---

[18] *Id*.

[19] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, April 9, 2010 ("AT 18 mph [] our output is 1.6 kW. This should be the posted data or applied output.").

[20] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, June 1, 2010, 8:21 a.m.

> calculations that KEMA reviewed from the wind and power data that DyoCore submitted.[21]

As stated in the Complaint, KEMA accepted this power curve data and consequently aggregated the turbines to be added to the List of Eligible Small Wind Turbines on the ERP website for the month of June, including the DyoCore turbine at a rated output of 1.6 kW at 18 mph winds, and forwarded the information to Commission staff who promptly updated the list on June 2, 2010.[22]

2. DyoCore Subsequently Conceded that the DyoCore Turbine Cannot Produce 1.6 kW at 18 mph winds

Through a series of admissions, DyoCore has conceded that the DyoCore turbine cannot produce 1.6 kW at 18 mph winds, and thus, DyoCore admits that its representations to KEMA regarding the performance of the turbine, and the data submitted in support of the manufacturer's performance claims, are false.

As stated in the Complaint, on April 11, 2011, DyoCore posted a revised power curve for the DyoCore turbine on its website. *See* Revised Power Curve, attached as Exhibit E to the Complaint, which is Exhibit 1 of Complainant's exhibits. Mr. Raine posted the revised power curve on the manufacturer's blog, stating:

> This is the most accurate reference to estimated power production based on wind conditions. Though this does not account for gusts or rapid changes it can provide a basis for your production expectations at specific constant wind speeds:

Significantly, DyoCore's revised power curve reflects a rated output of less than .25 kW at 18 mph winds.

Further, in DyoCore's Response to the Complaint, dated August 8, 2011 ("DyoCore's Response"), the manufacturer expressly concedes that the claimed rated output for the DyoCore turbine of 1.6 kW at 18 mph winds is incorrect, stating:

> In real-time winds of 18 mph the production is approximately 212 watts [.212 kW] . . . .[23]

Moreover, in DyoCore's Response to the Amendment of the Complaint, dated September 13, 2011, DyoCore asserts:

---

[21] DyoCore Response to Complaint of California Energy Commission, page 2 (unnumbered) (emphasis added), August 8, 2011, *available at* http://www.energy.ca.gov/renewables/emerging_renewables/11-cai-03/documents/2011-08-09_DyoCore_Response_to_Compliant_and_Request_for-Informal_Hearing_TN-62001.pdf, (referred to below as "DyoCore Response")

[22] List of Eligible Small Wind Turbines on the ERP website, California Energy Commission, *available at* http://www.consumerenergycenter.org/cgi-bin/eligible_smallwind.cgi.

[23] DyoCore Response, *supra* note 21, at page 5.

> DyoCore's SolAir will produce 1.6 kW in real wind speeds at approximately 38 mph.[24]

The power curve data that was submitted to KEMA by Mr. Raine on June 1, 2010 was identified by him as "actual data tested at specific wind speeds" and shows 1.589 kW output at 18 mph winds. As stated by DyoCore, this data was relied upon by KEMA in accepting a higher rated output of 1.6 kW at 18 mph winds for the DyoCore turbine. Between June 1, 2010 and the filing of the Complaint on July 26, 2011, DyoCore never submitted any revised power curve data to the Energy Commission or KEMA to correct the rated output of the DyoCore turbine, as it appears on the List of Eligible Small Wind Turbines on the ERP website, *i.e.*, 1.6 kW at 18 mph winds. Thus, whether the data submitted by DyoCore on June 1, 2010 is false, and thus, invalid is the pivotal question in this complaint proceeding. By admitting that the DyoCore turbine will only produce "approximately 212 watts [.212 kW]" at 18 mph winds and that it can only generate 1.6 kW at 38 mph winds, DyoCore concedes that the claimed performance of 1.6 kW at 18 mph, and the data submitted in support of that rated output, are incorrect, or false. The DyoCore turbine should be immediately delisted from use in the ERP on this basis alone.

ii. Although DyoCore Claims it Neither Understood How to Create Nor How to Apply a Power Curve When it Submitted Data to KEMA, Statements Made by the Manufacturer Suggest Otherwise

1. DyoCore Claims it Neither Understood How to Create Nor How to Apply a Power Curve When it Submitted Data to KEMA

In DyoCore's Response, Mr. Raine, the manufacturer's Chief Technology Officer, states that when DyoCore submitted data to KEMA for the purpose of having the DyoCore turbine listed as eligible for use in the ERP, neither DyoCore nor "its representatives" understood: (1) how a power curve is used to establish the rated output of a turbine; and, (2) how to test a small wind turbine to obtain a valid power curve:

> We have a general idea of what a power curve is but are still not certain as to how it was intended to apply to the listing, something we were ignorant of when we initiated the process with the CEC and KEMA.[25]
> [At the time of submission of data to KEMA] DyoCore had never submitted its product to a power curve and had no formal knowledge base or education that would qualify

[24] DyoCore, Inc. Response to Amendment of Complaint against DyoCore, Inc., page 2 (unnumbered), September 13, 2011, *available at* http://www.energy.ca.gov/renewables/emerging_renewables/11-cai-03/documents/2011-09-13_DyoCore_Inc_Response_to_Amendment_of_Complaint_TN-62211.pdf (referred to below as "DyoCore Response to Amendment of Complaint").
[25] DyoCore Response, *supra* note 20, at page 2 (unnumbered).

> DyoCore or its representatives to formulate a power curve.[26]

Assuming that these statements are true, DyoCore has demonstrated reckless disregard for the accuracy of the performance claims it made regarding the DyoCore turbine and the data submitted to KEMA in support of the claimed rated output of 1.6 kW at 18 mph winds. If no one at DyoCore understood basic concepts regarding the creation and application of power curves for small wind turbines, the manufacturer should have retained a consultant with relevant expertise. In fact, DyoCore states in its response that the manufacturer eventually sought out such technical assistance. Unfortunately, however, for all affected parties, DyoCore apparently engaged in these consultations *after* their submission of power curve data to KEMA. Specifically, DyoCore stated:

> Over the past year DyoCore has corresponded with several professionals within the industry that have aided DyoCore in reassessing of its raw data. Consequently DyoCore has created a wind to production power curve for direct real time indicated winds. DyoCore has maintained an updated record of this power curve work on its website.[27]

Again, assuming that these statements are true, it appears that if DyoCore had worked with qualified consultants *before* it submitted power curve data to KEMA, and not made false representations regarding the rated output of the DyoCore turbine, neither the Energy Commission, DyoCore, its distributors, or its customers would be in this difficult situation.

2. Statements by DyoCore Suggest Experience With Power Curve Testing Prior to Submission of Data to KEMA

DyoCore's statements in this complaint proceeding regarding the manufacturer's purported lack of experience with power curve testing during the relevant time period, between March and June of 2010, are directly contradicted by email correspondence between the manufacturer and KEMA, and the manufacturer and its distributors. In May of 2010, a consultant from KEMA contacted DyoCore in response to the manufacturer's request to modify the ERP listing for the DyoCore turbine.[28] In the email, the KEMA consultant posits, "[a]s your product is advertised as SolAir 800 W Hybrid Wind Solar Generator on your website, your watts output of 800 Watts makes sense."[29] Mr. Raine responds as follows:

> The name [800] for our product came from an initial prototype test about 3 years ago. It had no reference to power performance, power curve or rating. *At the time we*

[26] *Id*. at page 6 (unnumbered).
[27] *Id*. at page 2 (unnumbered).
[28] Email from Daria Mashnik, Energy Engineer, KEMA to David Raine, CTO, DyoCore, May 26, 2010.
[29] *Id.*

> *[did not] even know what a power curve was unfortunately*. . . . ¶ *However, since that point we have had a lot of formal testing done* including a few years collecting operational data. Below are our *formal* power curve and annual production data:[30]

(Emphasis added). By contrast, as noted, in this complaint proceeding DyoCore has stated that at the time of submission of data to KEMA, "DyoCore had never submitted its product to a power curve."[31] Suffice it to say, both of these statements cannot be true.

Further, it appears that DyoCore was not only actively working with outside consultants to obtain a more accurate power curve for the DyoCore turbine in July of 2010, one month *after* the DyoCore turbine had been listed on the ERP website with a rated output of 1.6 kW at 18 mph winds, but that the request to modify the ERP listing may have been the result of such consultations. *See* email from David Raine to distributor list, July 10, 2010, attached as Exhibit 77 (emphasis added).

> Good news is *we are more confident now than before that our turbines produce significant power* but unfortunately through the conversion of modern inverters the efficiency in transferring that power is very low, very similar to Solar panels at the moment. . . .
>
> We have a solid lower level power curve but it's very basic and can still be improved upon. We have tested it and it works great up to about 100v from the turbine. *Anything greater is right now a guessing game.* We're getting our product to two of these companies we're working with that both indicate with confidence they have a solution and both are able to get the higher curve testing done at their facilities within the next week or so.
>
> *About our power curve work*:
>
> We identified when meeting with one of the engineering companies that we were not effectively doing our Amp/power testing. *We made some corrections and immediately doubled our previous power output results* – this still was not the best setup and left room for improvement. We will be doing some field tests this coming week that should give us some *better accuracy for actual power curve testing* and wind speed vs RPM. . . .

[30] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010.
[31] DyoCore Response, *supra* note 20, at page 2 (unnumbered).

> This has been a very dynamic learning curve for us and the engineers we've been working with. . . .

(Emphasis added). Significantly, this email states that DyoCore was working with "engineering companies" when the manufacturer recognized that "we were not effectively doing our Amp/power testing. . . . [and consequently] made some corrections and immediately doubled our previous power output results." The referenced doubling of power output appears to correlate to DyoCore's request to modify the ERP listing for the DyoCore turbine by increasing the rated output from .8 kW at 12 mph to 1.6kW at 18 mph.

DyoCore's contradictory statements suggest that although it had experience with power curve testing during the relevant time period, between March and June of 2010, it nevertheless submitted theoretically impossible data regarding the output of the DyoCore turbine to KEMA.

iii. DyoCore Admits it Made a Mistake by Submitting False Data to KEMA

In DyoCore's Response, the manufacturer assumes responsibility for submitting false data to KEMA, stating,

> DyoCore, *upon realizing it had made a mistake in the information that it presented to KEMA* attempted to remedy and mitigate any harm it caused by publishing *more accurate data* on its public web site. . . . Admittedly, in hindsight DyoCore could have done some things better, but *an attempt at correcting a mistake* is not evidence of fraud, it is evidence of good faith and transparency and should not be used to condemn DyoCore.[32]

Despite DyoCore's "attempt at correcting a mistake" by posting a revised power curve for the DyoCore turbine on the company's website on April 11, 2011, DyoCore never informed the Energy Commission at any time prior to the filing of the Complaint on July 26, 2011 that DyoCore had, in fact, submitted data to KEMA that grossly overstated the turbine's generating capacity. Consequently, between April 11, 2011 and July 26, 2011 the Energy Commission paid 15 rebates for such systems based upon the rated output as listed on the ERP website of 1.6 kW at 18 mph winds, totaling $294,045.33. Similarly, during this period distributors continued to install small wind systems that used the DyoCore turbine, which presumably entailed purchasing equipment from DyoCore.

It is important to emphasize that the difference between the claimed rated output of 1.6 kW at 18 mph winds and the power curve posted by DyoCore on April 11, 2011, that showed output of .25 kW at 18 mph winds, is not a negligible discrepancy. Under

[32] *Id*. (emphasis added).

the ERP Guidebook in effect prior to the suspension of the program, rebates for small wind turbines were based on the generating capacity of the turbine and paid at $3.00/watt for systems up to 10 kW. Thus, based upon the claimed rated output of 1.6 kW at 18 mph winds, rebate payments of $4,800 were paid for each installed DyoCore turbine. Given this rebate amount, small wind systems using the DyoCore turbine were essentially free to end-use consumers. By comparison, had the rebate amounts been calculated by reference to the output shown in DyoCore's revised power curve of .25 kW at 18 mph winds, the rebate payments would have been $750 per turbine. Inevitably such a down grading of the rated output of the DyoCore turbine, and corresponding reduction in rebate amount, would have significantly impacted the turbine's marketability.

As explained above, the evidence shows that DyoCore submitted false data to KEMA regarding the claimed output of the DyoCore turbine. DyoCore's further actions, as described in this section, show that DyoCore knew that the data submitted to KEMA was false, at least as of April 11, 2011, yet never informed the Energy Commission. If DyoCore had genuinely sought to "remedy and mitigate any harm it caused" through its submission of false data to KEMA, it would have directly informed the Energy Commission and its distributors and customers that it had made a "mistake" when it learned that the DyoCore turbine could not generate 1.6 kW at 18 mph winds. Instead, DyoCore continued to reap the benefits of the higher rebate amount based on the data it had submitted to KEMA that it knew was incorrect, or false.

Response to Question 5(b)*: *KEMA's role with respect to review of data submitted by DyoCore prior to suspension of the ERP.

II. KEMA's Review of Data Submitted by DyoCore Prior to the ERP Suspension

A. Applicable Contract and Program Requirements

i. The KEMA Contract and Work Authorization Nos. 10 and 13

Under the prime contract between the Energy Commission and KEMA, Commission Agreement No. 400-07-030 ("KEMA Contract"), KEMA is charged with providing technical assistance to the Energy Commission in support of its Renewable Energy Program ("REP") and specific responsibilities related to the California Renewables Portfolio Standard ("RPS"). Task 5 of the KEMA Contract pertains to the Energy Commission's Renewable Rebate Programs, and specifically includes the ERP. Under the KEMA Contract, KEMA is assigned to provide technical assistance for the ERP through the work authorization process.

Work Authorization No. 10, effective dates September 21, 2009 through March 31, 2010, identifies the technical assistance to be provided by KEMA for the ERP. Under Work Authorization No. 10, KEMA is responsible for providing technical assistance in the following areas: "(1) review and provide feedback on draft guidebook

language, (2) respond to requests for additions to the eligible equipment lists per certification requirements in the program guidebooks, (3) evaluating new technology requests for determining eligibility under the ERP requirements, and (4) providing updates to the eligible equipment lists to be posted on the Energy Commission's REP websites."

Significantly, Work Authorization No. 10 includes Task 1, titled "Equipment Certification and Power Output Ratings," that tasks KEMA with responding to requests for additions to the equipment eligibility lists of three rebate programs: the ERP, the New Solar Home Partnership ("NSHP"), and the California Solar Initiative ("CSI"). Specifically, Sub Task 1.1, titled "ERP," provides:

> [KEMA] will provide ongoing support by responding to requests for additions to the ERP's current equipment eligibility lists including: obtaining information from industry representatives; developing/updating a comprehensive list of inverters, *wind turbines*, fuel cells and meters, that meet the certification requirements of the current ERP guidebook, Appendix 3. For each inverter, the list will include efficiency rating, continuous rated AC power, and other physical and electrical parameters as determined by the standardized test protocol adopted by the Energy Commission. New information will be obtained from the manufacturers as available. [KEMA] will modify the list based on the updated information received and will submit it electronically to the Energy Commission Project Manager not less than monthly. Staff will have these updated lists posted to the state's Go Solar California website for use by manufacturers, retailers and customers.

(Emphasis added).

Work Authorization No. 10 also includes Task 2, titled "Review of New Technology Requests." By its express terms, Task 2 only applies to products "that are *not* standard non-concentrating photovoltaic modules, meters/metering providers, inverters, fuel cells or *wind turbines*." (Emphasis added). Assuming that such a product satisfies the requirements for eligibility under the applicable guidebook, and upon approval by the Energy Commission project manager, under Task 2 KEMA may be directed to "evaluate the technical merits of the proposal."

The responsibilities assigned to KEMA under Work Authorization No. 10 were subsequently assigned to KEMA under Work Authorization No. 13. Thus, Work Authorization No. 13 incorporates the scope of work from Work Authorization No. 10, including Sub Task 1.1 and Task 2. Work Authorization No. 13 was initially effective from May 17, 2010 through August 31, 2010. However, the covered period was extended to April 30, 2012 through a series of three amendments. Notably, none of

these amendments altered the scope of work.

Work Authorization No. 13 was amended yet again on May 25, 2011 to include, among other things, Sub Task 1.3, titled "Technical Evaluation of Equipment Performance," that provides:

> At the direction of the Energy Commission Project Manager, [KEMA] will conduct a technical evaluation of the data and/or information provided to KEMA and/or the Energy Commission for the purposes of adding specific equipment to the Energy Commission's list of eligible equipment under the ERP . . . . The Energy Commission Project Manager will identify specific data and/or information for [KEMA] to evaluate. The evaluations should seek to determine whether the data and/or information submitted to KEMA and/or the Energy Commission for specific equipment by equipment manufacturers and/or retailers support the claims of performance, power output, capacity, and/or operational characteristics made by the manufacturers and/or retailers for the specific equipment.

Thus, the express purpose of the May 25, 2011 amendment is to assign KEMA the responsibility to conduct technical evaluations, as directed by Energy Commission staff, of the data or information provided to KEMA or the Energy Commission for the purpose of adding specific equipment to the Energy Commission's list of eligible equipment under the ERP. The chronology in the instant case demonstrates that Energy Commission staff and KEMA viewed the May 25, 2011 amendment as necessary in order to assign KEMA the responsibility to conduct a technical evaluation of the data and information submitted by DyoCore for the DyoCore turbine to determine whether DyoCore's claimed rated output of 1.6kW at 18 mph winds is physically possible for a turbine with a rotor diameter of 1.2 meters, or approximately 47 inches, under the Betz limit theory ("Betz limit theory check"). Energy Commission staff tasked KEMA with conducting a technical evaluation of the data and information submitted by DyoCore, that included the Betz limit theory check, after the May 25, 2011 amendment. If the Energy Commission and KEMA had understood that KEMA could be directed to conduct such a technical evaluation by Energy Commission staff prior to the May 25, 2011 amendment, then there would have been no reason to execute the amendment.

Therefore, it is clear that from September 21, 2009 through May 24, 2011, KEMA was responsible for responding to requests for additions to the ERP's list of current eligible equipment under Sub Task 1.1 of Work Authorization Nos. 10 and 13. As noted, Sub Task 1.1 directs KEMA to obtain, or aggregate, product information from manufacturers for the purpose of adding specific equipment to the ERP's list of eligible equipment. Further, it is equally clear that Task 2 excludes "wind turbines" from the operable definition of new technology, and therefore, is not applicable here. Finally, Sub Task 1.3, added via amendment on May 25, 2011, assigns KEMA the responsibility

to "conduct a technical evaluation of the data and/or information provided" by manufacturers, as directed by Energy Commission staff, for the purpose of adding specific equipment to the ERP's list of eligible equipment. The addition of Sub Task 1.3 shows that KEMA was NOT tasked with conducting technical evaluations of data or information submitted for the purpose of adding equipment to the ERP's list of eligible equipment prior to the May 25, 2011 amendment, and thus, KEMA was not responsible for conducting such technical evaluations during the relevant time period in the instant case, *i.e.*, between February and June of 2010.

ii. Requirements and Process for Listing Small Wind Systems as Eligible for Use in the ERP

As stated in the Complaint, the rules adopted by the Energy Commission to govern the administration of the ERP are contained in the ERP Guidebook, and the Renewable Energy Program Overall Program Guidebook ("Overall Program Guidebook").[33] Further, additional procedures for listing specific equipment, *e.g.*, wind turbines, as eligible for use in the ERP are found on the ERP website.[34]

Pursuant to Appendix 3, Section (A)(2) of the ERP Guidebook, the Commission provides manufacturers with two options for having their small wind systems listed as eligible for use in the ERP:

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 International Electrical Code (IEC) 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.

[33] ERP Guidebook, *supra* note 4, at 1. Pursuant to Public Resources Code Section 25747, subdivision (a) the Commission is required to adopt guidelines governing the funding programs under its Renewable Energy Program, including the ERP, and such guidelines are exempt from the requirements of the Administrative Procedures Act ("APA"), as codified at Government Code Section 11340, *et seq*.
[34] Consumer Energy Center, California Energy Commission, *see* heading "Adding Equipment," *available at* http://www.consumerenergycenter.org/erprebate/equipment.html.

Specific procedural requirements for having wind turbines listed as eligible for use in the ERP are contained in a form on the ERP website titled, "Wind Turbine Eligibility Listing Procedure," attached as Exhibit A to the Complaint, which is Exhibit 1 of Complainant's exhibits. The form provides that if a manufacturer elects option two, as identified above, then it must submit the following information to KEMA:

- **A year of operational data for the turbine** (including wind speeds and power output);[35]
- **The power curve for the turbine** (indicates the turbine's generating capacity, or how much power (in watts or kilowatts) the turbine will produce at any given wind speed, referred to herein as the *rated output,* when used to describe the generating capacity of a single turbine, or the *system rated output,* when used to describe the generating capacity of multiple turbines that comprise a small wind system);
- **The power curve data**, or data upon which the power curve is based; and,
- **A short product description for the ERP website** that includes the rated output at which the manufacturer seeks to list the turbine.

B. KEMA's Review of Data Submitted Prior to the ERP Suspension

As noted, prior to the ERP suspension, KEMA was charged with responding to requests for additions to the ERP's current equipment eligibility lists under Work Authorization Nos. 10 and 13. This primarily entailed obtaining, or aggregating, product information from manufacturers and ensuring that the information submitted satisfied the ERP requirements, *e.g.*, to the extent that a manufacturer submitted one year of operational data, KEMA was tasked with confirming that 12 continuous months of data were presented and that such data had been measured at a site with average annual wind speeds of at least 12 mph. Thus, as stated in the Complaint, prior to the ERP suspension, KEMA was responsible for performing a completeness and consistency check to confirm that manufacturers had submitted the requisite information in compliance with all applicable program requirements to have equipment listed as eligible for use in the ERP. Significantly, and also as explained, KEMA was NOT tasked with conducting technical evaluations of the data or information submitted by manufacturers until after execution of the amendment to Work Authorization No. 13 on May 25, 2011.

C. KEMA's Review of DyoCore's Submitted Data

i. Rated Output of .8 kW at 12 mph winds

DyoCore originally sought to have the DyoCore turbine listed as eligible for use in the ERP with a rated output of .8 kW at 12 mph winds. *See* February 16, 2010, 3:27

[35] Pursuant to option two referenced above, the Energy Commission requires manufacturers to provide one-year of operational data in order to demonstrate the reliable and safe performance of their turbine.

p.m. email from David Raine, attached as Exhibit 13. Pursuant to Appendix 3, Section (A)(2) of the ERP Guidebook, DyoCore elected to submit one year of operational data and power curve data in order to have the DyoCore turbine listed as eligible for use in the ERP. DyoCore first submitted energy production data from its installation located in San Marcos, California. *See* February 15, 2010 email from Rick Berry, attached as Exhibit 8.[36] However, as the average wind speed reported on the submitted table is lower than 6.6 mph, and thus, below the required minimum of 12 mph, the KEMA consultant rejected the data from the San Marcos location. *See* February 16, 2010 email from Pete Baumstark, attached as Exhibit 11.

DyoCore subsequently submitted data from its installation in Hampshire, Illinois. *See* February 16, 2010, 3:04 p.m. email from David Raine, attached as Exhibit 12. DyoCore also submitted a power curve in tabular form and a short description for the ERP website that stated the DyoCore turbine produces 800 watts at 12 mph winds. *See* February 16, 2010, 3:27 p.m. email from David Raine, attached as Exhibit 13. The submitted power curve data shows that at 12 mph winds the turbine will produce 811.25 watts.[37] As the KEMA consultant had received all the required information, on the following day he sent an internal email stating that the DyoCore turbine could be added to the list of eligible equipment for use in the ERP. *See* February 17, 2011 email from Pete Baumstark, attached as Exhibit 17.[38] The DyoCore turbine was subsequently added to the list in March of 2010.

Thus, the KEMA consultant followed the required protocol, as specified in Work Authorization No. 13 and in adherence to the program requirements set forth in the ERP Guidebook and on the ERP website. The KEMA consultant rejected the one-year of operational data for the San Marcos installation after determining that the average wind speed stated on the San Marcos Table was 6.6 mph, and thus, below the minimum 12 mph required by Appendix 3, Section (A)(2) of the ERP Guidebook. Ultimately, the KEMA consultant accepted the one-year of operational data for the Hampshire installation and the submitted power curve data that showed a rated output of 811.25 watts at 12 mph winds.

Although the KEMA consultant did not detect the duplication of energy production measurements in the San Marcos Table and Hampshire Table, he had no reason to suspect that DyoCore would be responsible for such an egregious falsification.

---

[36] As noted, the February 15, 2010 email from Mr. Berry does not identify the data as having been measured at the San Marcos location. However, *see* email from Rick Berry, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010 (attaching DyoCore Testing Report) (the same data set appears and is identified as having been measured at the San Marcos location in the DyoCore Testing Report, *supra* note 2, at page 4 (unnumbered)).

[37] *Id*.

[38] Email from Pete Baumstark, PE, Energy Engineer, KEMA to Daria Mashnik, Energy Engineer, KEMA, February 17, 2011 ("We can add this product to the wind turbine listing. They've given me 12 months of output data, but only had their anemometer installed for 10 of those months. But in looking at the power output for the two months missing the wind speed data, it looks like the wind speed was good enough to not significantly reduce the average wind speed for the year.").

Accordingly, the KEMA consultant had no reason to do a side-by-side comparison of the two submitted tables.

ii. Rated Output of 1.6 kW at 18 mph winds

1. DyoCore Seeks the Higher Rated Output

As noted, between April 9, 2010 and June 1, 2010, DyoCore actively sought to modify the listing for the DyoCore turbine that appears on the List of Eligible Small Wind Turbines on the ERP website by claiming in email correspondence with KEMA that the rated output for the DyoCore turbine was actually 1.6 kW at 18 mph winds, not .8 kW at 12 mph winds as the turbine had originally been listed. On April 9, 2010, in an email to the KEMA consultant, Mr. Raine requested that the DyoCore turbine be listed with the higher output, asserting,

> AT 18 mph [] our output is 1.6 kW. This should be the posted data or applied output.[39]

Significantly, Rick Berry from DyoCore explained to the KEMA consultant that it was his fault that the DyoCore turbine had been listed as eligible for use in the ERP with a rated output of .8 kW at 12 mph winds.

> Hello Daria, our CEO David Raine sent you the info to upgrade our state listing . . . *from 800 watts which was my mistake to the actual watts per the curve of 1600 watts*. This is causing some problems with people purchasing the units.[40]

David Raine also acknowledged that the initial listing at 800 watt at 12 mph winds was the result of Rick Berry's mistake.

> I apologize *when we originally submitted our data to you Rick did not understand the listing terms*. Thank you for your consideration in correcting our listing.[41]

2. DyoCore Sends KEMA a Barrage of Confusing Emails and Attachments in Support of the Higher Rated Output

The KEMA consultant was unable to respond to requests to add equipment to the List of Eligible Small Wind Turbines under the ERP between April 1, 2010 and May 16, 2010 because Work Authorization No. 10 expired on March 31, 2010 and Work

[39] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, April 9, 2010.
[40] Email from Rick Berry, DyoCore to Daria Mashnik, Energy Engineer, KEMA, April 22, 2010.
[41] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010.

Authorization No. 13 was not executed and effective until May 17, 2010.[42] After Work Authorization No. 13 was executed on May 17, 2010, the KEMA consultant requested that DyoCore submit proof of certification to the IEC 61400 standard or one-year of operational data and a power curve. Email from Daria Mashnik, May 26, 2010, 5:12 a.m., attached as Exhibit 30. Mr. Berry responded by emailing the KEMA consultant four documents, two tables, a logo, and the DyoCore Testing Report. Email from Rick Berry, May 26, 7:18 a.m., attached as Exhibit 31. Notably, and as explained in more detail below, the DyoCore Testing Report is entitled "SolAir – IEC Standard 61400-12-1" and appears to represent testing results that comply with that standard. DyoCore Testing Report, attached as Exhibit 89.

Five minutes later, Mr. Raine emailed the KEMA consultant, having embedded two tables and a graph in his email. Email from David Raine, May 26, 2010, 7:23 a.m., attached as Exhibit 32. One of the embedded tables, entitled "Sea-Level Air Density Normalized Power Curve SolAir San Marcos CA," contains power curve data, and significantly, shows a rated output of 1.6 kW at 18.4 mph winds. The other embedded table purports to show energy production. The graph appears to correspond to the energy production table, but the y-axis is mislabeled kilowatts instead of kilowatt hours. Notably, power curve data is represented as kilowatt generation in relation to wind speed, as reflected on the graph.

The KEMA consultant responded two hours later. Email from Daria Mashnik, May 26, 2010, 9:25 a.m., attached as Exhibit 33. As required under the ERP, the KEMA consultant requested to see a certificate to confirm that an authorized certifying body had tested the DyoCore turbine to IEC Standard 61400-12-1. Alternatively, she requested that DyoCore provide one-year of operational data. The KEMA consultant also questioned DyoCore's claimed rated output of 1.6 kW at 18 mph winds, given that the mislabeled graph provided by Mr. Raine identifies 1.6 kW at about 4 meters per second (m/s), or approximately 9 mph.

Instead of simply clearing up the confusion by identifying the mislabeled graph and directing the KEMA consultant to the power curve data, between 10:08 a.m. and 5:01 p.m. on that same day, Mr. Raine and Mr. Berry emailed the KEMA consultant 4 more times, attaching 14 data files for her review.[43]

The KEMA consultant replied two days later, stating,

---

[42] See email from Daria Mashnik, Energy Engineer, KEMA to David Raine, CTO, DyoCore, April 22, 2010 ("We are currently experiencing delays in processing applications because our work contract with California Energy Commission has been expired and is currently being renewed.").

[43] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010, 10:08 a.m. ("Our qualifying data was from our Hampshire IL testing facility. . . . I've attached the data."); email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010, 10:19 a.m. ("The attached is the actual 1 hour production data from the GinLong inverter as attached to the system in Hampshire IL. The previous email was the BIN data. I think the Raw data is what you are looking for."); email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010, 11:19 a.m. ("Extrapolated from the raw data – Actual Ginlong kWh production numbers."); email from Rick Berry, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010, 5:01 p.m. (attaching 6 more files) ("Daria, I just wanted to reach out and make sure you got all the info you needed today.").

> I graphed the data that you sent me below to get the following Performance Curve for your product (same as the one you sent me below). You would like your product to be rated at 1,600 Watts, however based on the curve the output only goes up to 700 Watts which happens at [] 26 mph.

See email from Daria Mashnik, Energy Engineer, KEMA to David Raine, CTO, DyoCore, May 28, 2010, 11:59 a.m., attached as Exhibit 39. Notably, the KEMA consultant states that she "graphed the data" provided by DyoCore. The KEMA consultant graphed the data in order to determine whether it was consistent with the increased rated output requested by DyoCore. Simply put, pressing a button in Excel to change the way that data is presented, *i.e.*, to convert the data from tabular form into a graph, does not represent technical evaluation or substantive analysis.

A few days afterwards, as referenced above, Mr. Raine sent an email with yet another embedded table. *See* June 1, 2010 Email from David Raine, attached as Exhibit 41. Mr. Raine described the table as "actual data tested at specific wind speeds." The table shows power generation in watts in relation to wind speed, and thus, is accepted by the KEMA consultant as DyoCore's power curve data. Significantly, the table states an output of 1,589 watts (1.589 kW) at 18 mph winds.

After receiving the power curve data, the KEMA consultant sends one last email to Mr. Raine. June 1, 2010 Email from Daria Mashnik, attached as Exhibit 42. In this final email communication, the KEMA consultant asks Mr. Raine to give her a call at the office. This is where the email correspondence ends. Thus, the KEMA consultant accepts the power curve data submitted on June 1, 2010. The next day, on June 2, 2010, the listing for the DyoCore turbine on the ERP website is updated by Energy Commission staff to reflect the higher rated output of 1.6 kW at 18 mph winds.

Notably, the final data set submitted by Mr. Raine on June 1, 2010 appears to be an extension of the data set he submitted to KEMA on February 16, 2010 to qualify the DyoCore turbine for the initial listing of .8 kW at 12 mph winds.[44] For example, the power curve data submitted on February 16, 2010 shows a generating capacity of 811.25 watts (.81125 kW) at 12 mph winds as the last data point on the curve. Similarly, the data set submitted on June 1, 2010 also shows a generating capacity of 811.25 watts (.81125 kW) at 12 mph winds. However, the date set submitted on June 1, 2010 extends beyond 12 mph winds to 36 mph winds. Nevertheless, all of the entries for generating capacity for wind speeds at or below 12 mph are the same in both the data set submitted on February 16, 2010 and the data set submitted on June 1, 2010.

Accordingly, the KEMA consultant followed the required protocol, as specified in Work Authorization No. 13 and in adherence to the program requirements set forth in the ERP Guidebook and on the ERP website. Upon submission of the DyoCore Testing

[44] Compare email from David Raine, CTO, DyoCore to Pete Baumstark, PE, Energy Engineer, KEMA, February 16, 2010, 3:27 p.m., attached as Exhibit 13 to email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, June 1, 2010.

Report, the KEMA consultant sought to confirm whether an authorized certifying body had certified the DyoCore turbine as having satisfied IEC Standard 61400-12-1. As no certification was proffered, in accordance with Appendix 3, Section (A)(2) of the ERP Guidebook, the KEMA consultant accepted the one-year of operational data for the Hampshire, Illinois installation. Further, when the KEMA consultant reviewed power curve data, or, in the case of the mislabeled graph embedded in Mr. Raine's email,[45] data that appeared to be power curve data, which was inconsistent with the claimed higher rated output of the DyoCore turbine she questioned it. In the end, the KEMA consultant accepted the power curve data submitted on June 1, 2010, which stated an output of 1.6 kW at 18 mph winds and was consistent, on its face, with the data set submitted by Mr. Raine on February 16, 2010 in support of the initial listing of .8 kW at 12 mph winds.

D. DyoCore has Misrepresented the KEMA emails

DyoCore has repeatedly misrepresented its communications with KEMA regarding the listing of the DyoCore turbine on the Energy Commission's "List of Eligible Small Wind Turbines" in the complaint proceeding. Here is a sampling.

DyoCore stated:

> KEMA provided DyoCore a power curve represented on a table and a chart. KEMA also recommended a power curve listing to DyoCore.[46]

As shown above, KEMA never recommended that the DyoCore turbine should be listed at a particular rated output, but instead, simply responded to DyoCore's request to list the turbine at 1.6 kW at 18 mph winds.

DyoCore stated:

> When the listing rating was given to DyoCore KEMA contacted us and asked if we wanted to modify our rating from 12 mph to a higher rated amount because we had the lowest rating wind speed on the approved list.[47]

As shown by the email correspondence from Mr. Raine and Mr. Berry to the KEMA consultant, DyoCore actively sought to modify the listing for the DyoCore turbine that appears on the List of Eligible Small Wind Turbines on the ERP website by claiming that the rated output for the DyoCore turbine was actually 1.6 kW at 18 mph winds, not .8 kW at 12 mph winds as the turbine had originally been listed.

---

[45] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010, 7:23 a.m.
[46] DyoCore's Response, *supra* note at 21, at page 2 (unnumbered).
[47] *Id*. at 6 (unnumbered).

DyoCore stated:

> KEMA at the time of evaluating SolAir was under considerable pressure from workflow . . . which might have contributed to an error in the evaluation of DyoCore's submitted application.[48]

As shown above, KEMA correctly evaluated DyoCore's submitted application in accordance with the required protocol, as specified in Work Authorization No. 13 and in adherence to the program requirements set forth in the ERP Guidebook and on the ERP website. DyoCore asserted that the DyoCore turbine should be listed at a higher rated output of 1.6 kW at 18 mph winds and provided corresponding power curve data. DyoCore, by its own admission, has acknowledged that it "made a mistake in the information it presented to KEMA."[49]

DyoCore stated:

> When the listing was granted DyoCore understood that the rating was based on Annual Average Wind and not based on a *specific wind speed*.[50]

This statement contradicts Mr. Raine's description of the power curve data that he submitted on June 1, 2010, and which was relied upon by KEMA to modify the listing on the ERP site to reflect the higher rated output of 1.6 kW at 18 mph winds. Mr. Raine described the power curve data relied upon as follows: "Here's is actual data tested at *specific* wind speeds." *See* June 1, 2010 email from David Raine, attached as Exhibit 41. (Emphasis added).

DyoCore stated:

> During DyoCore's application for CEC ERP inclusion when presented with a power curve by KEMA DyoCore representatives requested that KEMA evaluate if it would be more appropriate for SolAir to be listed at higher wind speed since all other turbines on the CEC site were listed at substantially higher wind speeds. KEMA agreed and reposted the listing from 12 mph to 18 mph.[51]

As shown by the emails referenced above, DyoCore explained to KEMA that the lower listing of 800 watts (.8 kW) at 12 mph winds was the result of a "mistake" by Rick Berry given that he "did not understand the listing terms" at the time of submission of the

---

[48] *Id*. (unnumbered).
[49] *Id*. at 3 (unnumbered).
[50] *Id*. at 5 (unnumbered).
[51] *Id*. at 7 (unnumbered).

original data.[52] Further, DyoCore represented that "AT 18 mph [] our output is 1.6 kW. This should be the posted data or applied output."[53] Thus, presumably DyoCore had taken measurements and had obtained valid data that supported their request. Notably, the email correspondence between DyoCore and KEMA does not contain any mention of the rationale for modification of the listing that is proffered by DyoCore in its response, *i.e.*, that other wind turbines on the ERP List of Eligible Small Wind Turbines are listed at higher wind speeds.

DyoCore stated:

> In real-time winds of 18 mph the production is approximately 212 watts [.212 kW], this is about 66% of he BETZ maximum 59%. This information was provided and available to KEMA upon application.[54]

There were two sets of power curve data submitted to KEMA by DyoCore, one is entitled "Sea-Level Air Density Normalized Power Curve SolAir San Marcos CA," and provides a rated output of 1.6 kW at 18.4 mph winds, and the other was embedded in Mr. Raine's email of June 1, 2010, and provides a rated output of 1589 watts (1.589 kW) at 18 mph winds. DyoCore did not submit any power curve data to KEMA that showed a rated output of 212 watts (.212 kW) at 18 mph winds.

DyoCore stated:

> DyoCore submitted data that was taken into consideration by KEMA who then mistakenly published annual performance data opposed to *actual wind data*. . . . Since all other qualifications, other than a mistake made by KEMA, meet the ERP guidelines there is no cause for removal.[55]

As explained above, the final email from Mr. Raine to the KEMA consultant on June 1, 2010 included DyoCore's submission of power curve data in tabular form that showed 1.589 kW output at 18 mph winds. In the body of the email Mr. Raine describes the data as "*actual data* tested at specific wind speeds." (Emphasis added).

Notably, DyoCore also misrepresented its communications with KEMA regarding the listing of the DyoCore turbine on the Energy Commission's "List of Eligible Small Wind Turbines" to its distributors and customers.

DyoCore stated:

> There have been significant issues raised by the California

[52] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, May 26, 2010.
[53] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, April 9, 2010.
[54] DyoCore's Response, *supra* note at 21, at page 5 (unnumbered).
[55] DyoCore Response to Amendment of Complaint, *supra* note 24, at page 1 (unnumbered) (emphasis added).

> Energy Commission through the Emerging Renewables Program which impact your deposit, rebate status, and installations.
>
> The primary issue is a complaint filed by the CEC against DyoCore Inc. alleging fraud in the company's representation of its power curve at the time of Turbine Certification for listing on the state's list of eligible equipment. ¶ DyoCore has denied these claims based upon the program qualification procedure calling for DyoCore *to submit data to a third party certifier (KEMA Labs) who thereafter configure the data into a usable power curve and then assign a rating. In this case DyoCore was assigned 1.6 k[W] at 18 mph. KEMA arrived at these figures in April of 2009*. In June of 2011 the state of California requested that KEMA review the previously submitted data and either confirm *their original configuration* being correct or wrong. KEMA responded to the state saying the listing was wrong based upon the data submitted. In essence, the data confirmed as right in 2009 according to KEMA is now in error. . . .
>
> DyoCore Inc's financial status has been severely hampered due to these accusations causing inability to complete installations, devote effort to company growth, and added expense of legal defense of the firm. Therein, the company will be unable to refund deposits, refunds, nor complete any installations until such time as these allegations have been resolved.

Letter from David Raine, identified as CEO of DyoCore, Inc. to "DyoCore Clients, Distributors, affected persons and entities," August 8, 2011, attached as Exhibit 78. As noted, on April 9, 2010 Mr. Raine asserted in an email to the KEMA consultant that "AT 18 mph [] our output is 1.6 kW. This should be the posted data or applied output."[56] The KEMA consultant did not "arrive[] at these figures." As shown, following Mr. Raine's April 9th email, DyoCore repeatedly sought the higher rated output of 1.6 kW at 18 mph winds and provided data in support of its performance claims. Thus, DyoCore clearly misrepresents the facts of this case by stating that the claimed output of 1.6 kW at 18 mph winds was the result of KEMA's "original configuration."

[56] Email from David Raine, CTO, DyoCore to Daria Mashnik, Energy Engineer, KEMA, April 9, 2010.

Response to Question 5(c)*: *How a power curve is generated.

III. Generation of a Power Curve and Estimated Annual Energy Production as Specified by IEC 61400-12-1

The IEC 61400-12-1 standard sets forth a testing methodology for obtaining power performance measurements of electricity producing wind turbines. The IEC 61400-12-1 standard provides,

> [T]he wind turbine power performance characteristics are determined 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 that is long enough to establish a statistically significant database over a range of wind speeds and under varying wind and atmospheric conditions. The AEP is calculated by applying the measured power curve to reference wind speed frequency distributions, assuming 100% availability.[57]

Staff will present expert witness testimony on the subject of power performance testing for small wind turbines during the evidentiary hearing in this proceeding, and, in particular, will show that there is a valid method for obtaining these measurements that is accepted within the small wind industry.

Response to Question 5(d)*: *How the correct point on a power curve is selected for purposes of determining rated output.

IV. Even if DyoCore had Sought a Rated Output at a Wind Speed Higher than 18 mph Winds, *e.g*. 36 or 38 mph, the Result Would Have been the Same Because All of the Power Curve Data Submitted by DyoCore is Theoretically Impossible

It is true that DyoCore could have chosen a rated output for the DyoCore turbine that correlated to a wind speed higher than 18 mph, *e.g.*, 36 or 38 mph, for the purpose of listing the DyoCore turbine on the ERP website, provided the manufacturer's data supported such performance claims. However, as noted, DyoCore actively sought to have the DyoCore turbine rated at 1.6 kW at 18 mph winds on the ERP website, and significantly, did not seek to have the DyoCore turbine listed at a rated output that corresponded to a higher wind speed, *e.g*., 36 or 38 mph. More importantly, the power curve data submitted by DyoCore neither supports a rated output of 1.6 kW at 18 mph winds nor any other rated output at any other identified wind speed. DyoCore submitted

[57] International Standard IEC 61400-12-1, First edition 2005-12: Wind turbines – Part 12-1: Power performance measurements of electricity producing wind turbines, at 8.

two sets of power curve data to KEMA: one is entitled "Sea-Level Air Density Normalized Power Curve SolAir San Marcos CA;" the other is embedded in Mr. Raine's email of June 1, 2010. As shown by the Declaration of Rich Pollich, Senior Program Manager, KEMA, Exhibit 90, the energy output measurements contained in these data sets that supposedly correlate to each identified wind speed are all theoretically impossible for a wind turbine with a rotor diameter of 1.2 meters, or approximately 47 inches.

Staff recognizes that the ERP Guidebook should have identified a standard wind speed for the purpose of determining the rated output of small wind turbines. Accordingly, Staff is proposing changes in the upcoming Eleventh edition of the ERP Guidebook that will address this issue by requiring third-party certification to available performance, safety, and reliability standards. More specifically, the Eleventh Edition of the ERP Guidebook will require that the certified rated output of a small wind system be measured at a wind speed of 11 meters per second, or 24.6 mph, the wind speed used in applicable performance standards for small wind turbines.

Question 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 that Staff contends is accurate.

V. The Accurate Rated Output of the DyoCore Turbine Has Not been Established

The complaint filed by staff does not posit an appropriate or accurate power curve or rated output for the DyoCore turbine. Rather, the analysis in the KEMA Report simply identifies the maximum, theoretical generating capacity of the DyoCore turbine in light of the Betz limit theory. In order to determine an accurate rated output for the DyoCore turbine it would be necessary to submit the equipment for valid power performance testing. Neither staff nor KEMA are able to perform such testing.

That said, had the rebate amounts been calculated by reference to output of 212 watts (.212 kW) at 18 mph winds, as stated in DyoCore's response,[58] and assuming the system was sized under 9.6 kW to qualify for the higher $3.00/watt rebate amount, the rebate would be $636 per turbine. Similarly, if the rebate amounts had been calculated by reference to the output of approximately 250 watts (.25 kW) at 18 mph winds, as shown in DyoCore's April 11, 2011 revised power curve, the rebate would be $750 per turbine. By comparison rebates calculated by reference to the claimed rated output of 1.6 kW at 18 mph winds would be $4,800 per turbine.

[58] DyoCore's Response, *supra* note at 21, at page 5 (unnumbered).

Question 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.

VI. Although the Tenth Edition of the ERP Guidebook Did Not Prohibit100 Percent Rebates, the ERP is not Intended to Cover the Total Purchase and Installation Costs of Small Wind Systems of Fuel Cells for End-Use Consumers

DyoCore and its retailers submitted rebate applications under the Tenth Edition of the *ERP Guidebook* which did not expressly limit the rebate amount except that the rebate was not to exceed the total cost of the system. Although it was permissible to obtain a rebate that covered the entire cost of the system, this scenario had never occurred in the context of the ERP prior to the DyoCore turbine. Historically, rebates paid for small wind systems (using turbines other than the DyoCore turbine) under the ERP have averaged approximately 45% of the system's installed cost. In any event, as stated in the complaint, as a policy matter, the ERP is not intended to cover the total purchase and installation costs of small wind systems or fuel cells for end-use consumers, as such a complete subsidy is unsustainable and sends improper signals to the market by motivating increased sales of these renewable energy systems without concern for cost-effective siting and/or operation. This issue will be addressed in the revised version of the ERP Guidebook.

Question 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.

VII. While Staff Does Not Have Information that is Directly Responsive to this Question, We Are Aware of Factors that Suggest Inadequate Siting and Sizing of Small Wind Systems Using the DyoCore Turbine

Staff does not have direct information about the pricing methodology used by DyoCore and its retailers. However, a significant portion of the applications that were received present an identical system configuration – six DyoCore turbines with two inverters. This configuration results in a system with a capacity of 9.6 kW. The ERP Guidebook requires that systems funded through the ERP be sized to offset the on-site electricity load of the location where the system is being installed. However, applications for this configuration were submitted to the Energy Commission by various retailers throughout the state, regardless of the end-use customers' electrical consumption or wind resource availability.

It is expected that different households will have different energy consumption patterns, and that varied locations will have different wind resource availability. Given this variation, it is expected that different households would require varying amounts of generating capacity to offset their on-site load. However, for a large number of applications received by the Energy Commission, retailers submitted cookie-cutter

system specifications for a wide variety of customers in different locations.

Question 5(h)*: *The results of any tests that have been conducted to determine the output of the DyoCore turbine.

VIII. Staff has not contracted with any parties to conduct testing to determine the output of the DyoCore turbine.

Staff has no responsive information on this point.

Question 5(i)*: *Whether or not any such testing is currently underway or contemplated, the expected date of completion, and the cost for such testing.

IX. DyoCore is Currently Listed as "Under contract" with the SWCC.

DyoCore is currently listed as "under contract" on the Small Wind Certification Council's website, as of September 12, 2011.[59] The Small Wind Certification Council completes testing to the AWEA 9.1-2009 standard for small wind turbines. Staff does not have information related to the expected date of completion or the cost of the testing.

Question 5(k)*: *The identities of any qualified testing entities.

X. SWCC.

DyoCore is seeking certification to the AWEA 9.1-2009 standard through the Small Wind Certification Council (SWCC). The contact information for the SWCC is as follows:

Small Wind Certification Council
56 Clifton Country Road
Suite 202
Clifton Park, NY 12065
info@smallwindcertification.org
Telephone: (518) 213-9440
Fax: (518) 899-1092

[59] The SWCC provides a list of applicant turbine statuses on its website: http://www.smallwindcertification.org/applicant-turbines/

Question 5(j)*: *Proposals for handling of the applications for rebates that have not yet been paid.

XI. Energy Commission Staff Proposal for Resolution of Outstanding Applications and Payment Requests that Identify Small Wind Systems which Use the DyoCore Turbine

A. R1 Forms

i. All Incomplete Applications should be Rejected

As stated in the Complaint, applicants seeking rebates for small wind systems under the ERP must submit a completed Reservation Request Form, CEC-1038 R1 ("R1 Form") and supporting documentation to reserve a fixed amount of program funds.[60] The ERP Guidebook provides that "[f]unding reservations are made only for complete applications on a first-come, first-served basis. Applications that are missing application forms or have omissions or discrepancies will not be approved or processed."[61] Further, the notice suspending the ERP that was issued on March 4, 2011, states, "Complete applications for rebate reservations . . . will be processed." Thus, staff recommends that incomplete applications, or R1 Forms, for small wind systems that use DyoCore turbines and which lack information necessary for processing, or reviewing, should be rejected.

There are currently 1,086 pending applications for small wind systems that use DyoCore turbines. Staff has determined that 631 of these applications are incomplete, meaning that it would be necessary for staff to obtain additional information from applicants in order to complete the review of their applications. The other 455 applications have been deemed complete. Staff recommends that the 631 incomplete applications should be rejected.

ii. All Complete Applications That Identify Small Wind Systems with DyoCore Turbines Should be Rejected But Retain Their Current Place In the Queue For Consideration Under the Eleventh Edition of the ERP Guidebook

As explained in the Complaint, applicants must identify the "System Rated Output" on the R1 Form.[62] The system rated output, as provided by the applicant, is an essential part of the request for a reservation given that rebates offered through the ERP "are based on the generating capacity of the system."[63]

Pursuant to Section 2, subdivision (K) of the ERP Guidebook, titled "Audits and

---

[60] ERP Guidebook, *supra* note 2, at 2
[61] *Id*. at 13.
[62] *Id*. at 33.
[63] *Id*. at 11; see *id* at iv ("Incentives for small wind turbines . . . are calculated by multiplying the rated output by the incentive level [currently $3.00/watt for the first 10 kW]").

Inspections," the Commission "will conduct audits of the applications it receives to verify that the information provided in the applications is true and correct." Subdivision (K) states that if information contained in an application or payment request "appears to be false or misrepresented" then the Commission will take one or more of eight identified measures, *e.g.*, rejection of the application.

Accordingly, given that every application submitted prior to the suspension of the ERP for a small wind system using DyoCore turbines was premised on a rated output of 1.6 kW at 18 mph winds and contained statements to that effect, staff recommend that all of these applications should be rejected on this basis alone.

However, staff recommends that the 455 applications determined to be complete which identify small wind systems that use DyoCore turbines should be given preferential treatment when the ERP restarts under the Eleventh Edition of the ERP Guidebook insofar as these applicants should retain their current place in the queue. Thus, staff recommends that the 455 applications be allowed to switch to another turbine, provided that they comply with the requirements of the Eleventh Edition of the ERP Guidebook.

B. R2 Forms

i. Purpose and Application in the Instant Case

Once the R1 Form is reviewed and approved, the Commission sends the applicant a Payment Claim Form, CEC-1038 R2 ("R2 Form") that identifies the amount of funds reserved and the date upon which the reservation expires.[64] The system rated output is also included on the R2 Form.[65] Once an R2 Form is issued by the Energy Commission, applicants typically move forward and complete their installations. The Energy Commission issued approximately 249 R2 Forms for small wind systems that use the DyoCore turbine.

The ERP was established to help develop self-sustaining markets for renewable energy systems by providing rebates and production incentives to end-use consumers who purchase and install such systems for on-site generation in California. Payments under the ERP are currently intended to stimulate increased sales of small wind systems that have a generating capacity of up to 50 kilowatts ("kW") and fuel cells that have a generating capacity of up to 30 kW, and thereby, encourage manufacturers, sellers, and installers to expand their operations, improve distribution, and reduce system costs associated with these renewable technologies.[66]

From the outset of the DyoCore Complaint Proceeding, staff has worked to develop a fair, equitable and expedient resolution of this matter for distributors/retailers of DyoCore turbines who have incurred equipment, installation, labor, and other costs

[64] *Id*. at 2.
[65] *Id*. at 39.
[66] *Id*. at iii, 1.

as a direct result of their involvement in the ERP. Thus, staff recommends the following proposal to resolve outstanding claims associated with R2 Forms issued for small wind systems that use DyoCore turbines.

ii. Proposal for Resolution of Pending R2 Forms that Identify Small Wind Systems that use the DyoCore turbine and Important Process Considerations

I. Proposal for Resolution of Pending R2 Forms

In recognition of the express purpose of the ERP – to encourage the continued development of private sector infrastructure associated with specific renewable technologies, *i.e*. small wind and fuel cells, such as the expansion of manufacturing operations – and in the interest of fairness given the magnitude of the problems that have arisen as a result of DyoCore's submission of false data to KEMA, staff recommends that the Energy Commission adopt the following formula, which will provide reimbursement for costs incurred as a result of issued R2 Forms.

Thus, staff recommends a formula for resolution of pending R2 Forms whereby the following categories of actual and provable costs would be reimbursed by the ERP:

1. Equipment/turbine component costs

2. Installation and other related costs, *e.g*., engineering, permitting financing, electrical component assembly, general administrative costs, sales tax and shipping.

3. Staff compensation, *e.g*., management sales staff, legal, accounting, and administrative personnel.
    a. Management costs and salaries capped at 50% of all other costs.

4. 15 % overhead based on the expected rebate level of the R2s Forms (as if rebates for R2 Forms were paid in full).

5. 5 % profit based on the expected rebate level of the R2s Forms.

6. With a cap on the total payment so that it cannot exceed what the Energy Commission would have paid at expected rebate level of 1.6 kW at 18 mph winds.

As an example of how this approach would work, assume the rebate payment for existing R2 Forms for a particular distributor/retailer is $100,000 if all are installed and the actual expenses to date are $40,000. The applicant would receive $48,000 [calculated by $40,000 + $6,000 ($40,000 x .15 for overhead) + $2,000 ($40,000 x .05 for profit)].

2. Payment Subject to Approval by State Controller

The Energy Commission does not issue its own checks under the ERP or its other programs. Instead, after the Energy Commission approves payments, it submits a request to the State Controller's Office ("SCO"). If SCO approves the payment, it then issues the check. Because of this arrangement, payments under the proposal would be subject to approval by SCO.

3. Urgency in Establishing Payment Arrangement Regarding R2 Forms

Many of the applicants to the ERP are small businesses that do not have the financial ability to cover the expenses they have incurred for a long period of time. Further delay of payments could do irreparable damage. In addition, some expenses continue to increase even if applicants have stopped work on the installations (*e.g.*, interest payments on loans or other financial charges). It is in the best interest of these companies, the Energy Commission, and this proceeding to reach conclusion on the payment arrangement and make the payments as soon as possible.

4. Suggested Requirements for Applicants before Receiving Payment for R2 Forms

Staff recommends that the Energy Commission require that applicants satisfy the following conditions before receiving payments under the proposed formula:

- Applicants must execute a release agreement that releases all claims against the Energy Commission and KEMA arising from the applicant's involvement in the ERP.

- A declaration in which the applicant attests under penalty of perjury that includes information the Energy Commission deems necessary to ensure that DyoCore, its employees, managers, owners, and investors do not directly benefit from the Energy Commission's efforts to pay for applicants' costs directly attributable to its approved applications, or R2 Forms.

- Backup documentation for all claimed expenses associate with the applicant's R2 Forms:

    - For materials and equipment, receipts or other proof of purchase.

    - For staff and consultants, copies of time sheets showing hours associated with the R2s or sales contracts showing the amount of the commission.

    - For management compensation, flexibility in the types of documents allowed compared to staff and consultants.

- Other documentation as appropriate.

- Proof that applicants have not or cannot receive additional payments from other sources that would result in double recovery (*e.g.*, an insurance claim that would pay for what the Energy Commission has paid for through this process). This requirement would not preclude applicants from recovering additionally from DyoCore for amounts not covered by the payment that results from application of the proposed formula.

5. Agreement Reached with Solar Point Resources Regarding this Formula

Solar Point Resources has the largest number of approved applications, or R2 Forms, of any applicant (Solar Point Resources has 110 R2 Forms out of a total universe of approximately 249 R2 Forms). Solar Point Resources also has submitted approximately 215 rebate reservation applications or R1 Forms. Energy Commission staff have discussed this formula for resolution all pending applications and payment requests with Solar Point Resources and they agree that it is a fair and equitable proposal.

XII. Scheduling

Staff believes this matter should be heard as expeditiously as possible because there are potential economic consequences to many individuals if resolution is delayed. Therefore, Staff urges the Committee to schedule a hearing soon.

Having said that, Staff has an important witness that is not available on the following dates: November 1-4, November 14-18, and November 22.

Staff believes that Staff's case in chief and cross examination will take two hours, if all of the testimony is pre-filed in writing, as set forth below. Staff anticipates that DyoCore's case in chief and cross examination might also take two hours. With respect to the discussion about appropriate resolution of the applications for rebates, Staff believes that discussion will take approximately two hours as well. Therefore, Staff believes this matter can be concluded in one full day.

In order to make sure the hearing time is used efficiently, Staff proposes that all parties pre-file written testimony one week in advance of the hearing. In that way, direct testimony may be limited to merely foundational questions and a short summary of the testimony, followed by cross examination, if any.

XIII. Use of Informal Procedures

Staff agrees to the use of informal hearing procedures with one stipulation. Staff would to like to present its case in chief uninterrupted by questions from other parties (we understand the Committee may ask questions during the presentation) because Staff has several detailed points it must make in order to complete a prima facie case.

Staff believes it would be more efficient if all parties were allowed to present their cases uninterrupted, and then use the informal procedures to respond to questions or elicit more information from the parties.

XIV. Service of Staff Prehearing Conference Statement and Exhibits

Staff's filing consists of approximately 300 double-sided pages. Because of the volume, Staff has asked the parties on the Proof of Service list whether they want a CD or hard copy. Based on those responses, Staff is serving our document appropriately to each person.

With respect to the 1400 affected parties, Staff is sending each person a letter directing them to the Energy Commission website to locate Staff's documents. We are also informing them that if they would like a hard copy or a CD, they may contact the Office of Chief Counsel to request a copy. A copy of the letter is attached hereto.

Respecfully submitted,

/s/ Jonathan Knapp
Jonathan Knapp
Staff Counsel