



April 7, 2008

Colette Miller  
Generation Bidding Project Manager, MS-WA3/XB  
HECO  
P.O. Box 2750  
Honolulu, Hawaii 96840

Dear Ms. Miller:

UPC Hawaii Wind (UPC) respectfully submits the following comments on the draft RFP/PPA for Renewable Energy Projects on Oahu. According to the draft RFP issued by Hawaiian Electric Company (HECO), comments may be submitted to the Public Utilities Commission (Docket No. 2007-0331), HECO, and the Independent Observer by April 7, 2008. We appreciate the opportunity to share our perspective and expertise as Renewable Energy Producers.

Like other independent Producers, UPC is always interested in a productive working relationship with the Utility. Kaheawa Wind Power (KWP) is the state's largest wind power facility, and by working together, it has been a mutually beneficial project for MECO, UPC and Maui ratepayers. We look forward to constructing similarly beneficial renewable energy projects on Oahu by working with HECO in a cooperative manner, in which both sides share an appropriate level of risk and reward.

UPC looks forward to working with HECO on Oahu, and we hope that the attached comments, and those submitted by other Producers, will contribute to RFP/PPA documents that are cooperative, mutually beneficial, and encouraging of renewable energy projects.

Mahalo,

A handwritten signature in black ink, appearing to read "Wren W. Wescoatt".

Wren W. Wescoatt  
Development Specialist  
UPC Hawaii Wind

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## **Comments on HECO's Draft RFP/PPA**

UPC Hawaii Wind (UPC) respectfully submits the following comments on the draft RFP/PPA issued by Hawaiian Electric Company (HECO). For the purposes of collecting input on the RFP process, both the draft RFP and model PPA documents are inextricably linked and have substantially interrelated content. We have addressed both documents in our response, first in general comments and then in a specific discussion of more detailed issues as they occur.

### **General Comments:**

We appreciate the opportunity to comment on the draft Oahu RFP/PPA to share our expertise and perspective as renewable energy producers. Like other independent producers, UPC Hawaii Wind is always interested in a productive working relationship with the Utility. Our Kaheawa Wind Power (KWP) is the state's largest as-available power generation facility, and by working together, it has been a mutually beneficial project for MECO, UPC and Maui ratepayers. We look forward to constructing similarly beneficial projects on Oahu by working with HECO in a cooperative manner, in which both sides share an appropriate level of risk and reward.

The documents lay out the basis for negotiating an eventual agreement, but our concern is that the terms of the RFP/PPA do not strike the appropriate cooperative balance to enable both sides to benefit. Even as a starting point, the RFP/PPA terms are weighted so far in favor of the Utility as to discourage renewable energy producers from participating in the competitive bidding process. In their current draft form, the documents place what appears to be a disproportionately large administrative and financial burden on the renewable energy producers, while they bear more of the risk and have considerably less capital than the Utility.

As drafted, the RFP/PPA eliminates most of the uncertainty and risk to the Utility, without acknowledging that generating energy from as-available resources such as wind and sunlight necessarily involves a degree of uncertainty. The proposed documents shift most of the risk to the Renewable Energy Producer, in the form of extensive data requirements, unnecessary financial security and penalties, and stringent performance standards. Unfortunately for Oahu consumers, unless these requirements are modified to appear less onerous to the renewable energy producer, the likely result of these requirements will be that far fewer producers will submit bids and/or the energy costs will be extremely high. In current draft form, the RFP/PPA may discourage as-available energy projects rather than encourage them, which was an important intent of the Renewable Portfolio Standards and Competitive Bidding dockets.

Another concern is that many of the requirements in the draft RFP/PPA don't seem to be applicable to as-available energy generation. During the technical conference in March, HECO staff explained that they examined and/or borrowed from energy contracts on the mainland in developing the draft documents, and several of the provisions seem to have been borrowed from contracts for firm generation, as they seem inappropriate for as-available generation. The draft documents propose minimums, guarantees and scheduling that seem either irrelevant or

inappropriate for an as-available resource. Renewable Energy Producers already assume considerable risk, since they only receive payment when they produce power. Additional financial penalties for under-production are unnecessary, as the Producer is already losing money. The proposed penalty for *over*-production (i.e. if too much clean, renewable energy is generated) seems counterproductive. All of the security and contingent payments in the draft RFP/PPA benefit the Utility, with no analogous consideration for the Renewable Energy Producer if the Utility fails to perform. To achieve a reasonable agreement with Producers, the financial terms should respect the variability of as-available resources and should seek to balance risk and penalties/payments on both sides.

Another concern is that the draft RFP/PPA requires an inordinate amount of detailed information from Renewable Energy Producers, too early in the process. Initial estimates and summary information will certainly be provided in proposals, and much more detailed submissions will follow if a bid is accepted and moves further in the process. However, the draft RFP/PPA seem to be requiring detailed engineering and equipment data that cannot be determined by the proposal deadline, before the IRS has been completed, the contractor selected, or the vendors and equipment lists finalized. Providing this level of early data would be an additional investment of time and resources by Producers to generate speculative projections that are not yet consequential and ultimately may not be accurate.

Additionally, the proposed draft RFP/PPA requires information that is confidential to the Renewable Energy Producer, such as internal financial modeling and detailed wind data collected at the providers' risk and expense. This is not data that would normally be shared between any vendor and customer, particularly in advance of negotiations. While the Producer can share summary information, it does not seem appropriate for the RFP/PPA to request this confidential data.

From the technical perspective, the performance standards proposed in the draft RFP/PPA seem unnecessarily burdensome and costly, given the integration of relatively small as-available energy projects onto the relatively large island-wide HECO grid. Oahu's 1200 MW system and its required 180 MW of spinning reserve, should be able to accommodate the variability in generation from as-available energy plants of less than 100 MW.

Our concern is that draft performance standards will to compel each Renewable Energy Producer to purchase some kind of storage or firming capacity, such as a massive battery. This could add 20-30% or more to the cost each project. If the performance standards require that every Renewable Energy Producer purchase and maintain a storage system, which sits idle until that particular resource stops producing, this would seem inefficient and presumably drive up the cost of power to the Utility and consumers. It might prove more technically efficient and cost-effective for the Utility to purchase a single storage system to support all the as-available projects.

In summary, UPC wants to work cooperatively with HECO to bring as-available energy to Oahu ratepayers. However the draft RFP/PPA will make this difficult for any Producer. With HECO's technical expertise, deep generation assets on Oahu, and support from the PUC, the Utility is well-positioned to manage the risks involved in integrating several small or moderate-sized

renewable energy projects. But by increasing the financial, administrative and technical burden on Producers on one side, and increasing the perceived financial benefit to the Utility on the other, the draft RFP/PPA shifts almost all the risk to the Producer. Unless these documents are modified, they will likely discourage as-available projects and increase the cost of renewable energy to consumers.

### **Specific Comments: Draft RFP**

1. Several of the Draft RFP's financial requirements seem excessive. Development Security at \$30/kW and Operational Security at \$40/kW, going to \$50/kW in last 5 years of a 20 year PPA, appears unreasonable given the nature of the resource. The concept of as-available energy is payment for performance; and it seems unnecessary that a Renewable Energy Producer must post security as an additional penalty for non-performance. (The documents contain some conflicting statements as to the last 5 or 10 years of the PPA as to the \$50/kW level.)
2. In our general comments above, we addressed the perception that the RFP/PPA seem to favor the Utility in all financial provisions. As one means of balancing considerations between both parties, the Utility could post analogous credit security for performance on its obligations to pay the Renewable Energy Producer. It seems reasonable that if such a performance guarantee is required, in addition to the existing financial incentives, that both sides post security.
3. Draft RFP desires as-available energy as a fixed \$/MWh price or escalated price, but PPA refers to time-of-use metering and time-differentiated pricing. Not sure if this was intended or an oversight.
4. Draft RFP offers no rationale for delay damages nor indication of any cap on penalties. The draft RFP also proposes a guaranteed COD based on milestones and imposes an additional penalty if milestones are not met. In both cases, this seems unnecessary, as the Producer is losing considerable income for every day, week or month of delayed operation. This concept may have been borrowed from a firm-energy contract.
5. Operational penalties require that a Renewable Energy Producer meet 60% of guaranteed output, which also seems unnecessarily restrictive for an as-available energy contract. For example, if a photovoltaic farm underperforms by 40%, even if due to variability of the resource, that Producer is selling 40% less power and is significantly penalized financially. Since the Utility is only paying for output, and suffers no penalty if the Renewable Energy Provider fails to perform (according to RPS Framework), this operational penalty seems unnecessarily punitive. This concept is also more appropriate to a firm-power contract.
6. The draft RFP seeks to make a future change in performance standards a necessary part of the contract. Requiring that performance standards could be changed in the future places additional risk on the Renewable Energy Producer, who will design and price the

project to meet current standards. Once a project is built, if there needs to be some renegotiation in the future, we would suggest forming an independent advisory committee to study integration issues from both a supplier and system operation perspective, which would help ensure fair renegotiation of performance standards.

7. Draft RFP data submittal requirements seem excessive for projects that have not yet been fully engineered or designed. Initial information and estimates can be provided, but a detailed one-line diagram, equipment sheets, relays, etc. are unknowable and seem unnecessary at such an early stage of the project. Creating such detailed projections would require considerable time, expense and guesswork and be of limited value until the interconnection study is complete. After the IRS, many details can be finalized and provided.
8. The proposed breaker-and-one-half interconnection scheme is onerous technically unnecessary. In most cases, a line tap or at most, a three element ring bus would be sufficient. At the bidders conference, in response to a question about this issue, HECO staff seemed to suggest that it was just an example and would not be considered a requirement. It seems technically unnecessary and difficult to justify financially.
9. Draft RFP calls for providing *pro forma* financials for the project to the Utility, which is information that should be confidential to the Renewable Energy Producer. It is unlikely to imagine any vendor would be expected to provide this to a customer, particularly in advance of negotiations on price.
10. Draft RFP requires detailed design drawings, which seems excessive so early in the process. Regarding standards, HECO has Good Industry & Operating Practice standards to fall back on, and Renewable Energy Producers should be held to standards and good practices for their particular industry, as they apply to a wind generating facility or a solar plant, rather than a conventional power plant. We suggest that the RFP clarify that each project meet industry standards relative to its industry.
11. Providing a year's worth of detailed wind data is also not appropriate. Wind data information is confidential and procured at the expense of the Renewable Energy Producer. The Producer can certainly provide a general summary or matrix, rather than a complete confidential data set.
12. Financial data requirements seem excessive. Again, much of that information would be confidential and inappropriate to share with the Utility, and much of the detail cannot be known before many of the project specifics and financing have been determined.
13. Engineering and design detail required at this stage also seem excessive, since contractor may not have been selected, and equipment has not been competitively bid.
14. It also seems that the project management requirements are considerably detailed for describing past projects, when a simple list could establish experience as developer.

15. Draft RFP does not explain the rationale for posting additional security. Suggesting that posting additional voluntary security could make a project look more favorable, gives the impression that a bidder could post more security to “pay off” the Utility to gain an advantage for their project. Similarly, providing a subordinated interest in the project assets also might be seen as appearance of buying favor for one bid over another. Instead, the bid process would be more transparent if any security requirements were kept constant, and differences among proposals were addressed through pricing.
16. Interconnection data requirements also seem excessive, considering no design work will have started by the time proposals are due. Summary data can be provided, and details can follow the IRS work.
17. The draft RFP suggests that additional spinning reserve may be required to support an as-available energy project, and that this may affect the net cost to the Utility. As we understand current operating procedure, HECO maintains 180 MW of spinning reserve to accommodate the loss of the system’s largest generator. No additional spinning reserve should be required for adding a smaller renewable energy generator, just as there would be no impact if HECO purchased and added a smaller fuel-fired generator.

**Specific Comments: Draft PPA**

18. Annual Adjusted Energy should also take into account any outages on the HECO transmission system and scheduled maintenance on as-available energy systems (e.g. wind turbine generators). This time should not count against the minimum 60% requirement.
19. Commercial Operation Date is set when 80% of the WTG are released. This time at 80% also should not count against a Renewable Energy Producer in computing the Adjusted Energy minimum 60% requirement.
20. Company Dispatch does not seem to be relevant for as-available resources. This seems to suggest that Producers for this RFP can increase load on demand, which might be more appropriate in a firm-power contract.
21. Definition of In Service date is such that it can be later than COD. Not sure if this is an oversight.
22. One of the proposed Milestones is the “permit application filing date.” First, it is not clear which of the many required permits this refers to. Second, milestones might not be necessary in the PPA, since there doesn’t seem to be a mechanism to enforce them. It may be less cumbersome to ask for periodic progress reports from the Producer.
23. Draft PPA proposes that Excess Energy & Test Energy be sold to the Utility at a discount: 75% of the Contract Price. This seems antithetical to the concept of an as-available energy supply contract. The HECO system receives the full benefit of every kW-hour purchased, so the Renewable Energy Producer should be paid the full contract

price. Similarly, in its current form, the draft PPA asks that a Producer of as-available energy who under-produces is subject to de-rating, and that one who “over-produces” (i.e. generates more renewable as-available energy than planned) cannot sell that power for the full price. These underproduction and overproduction limits are relevant to firm-power contracts, but as-available resources involve greater variability, and supply contracts need to allow for a wider range of output.

24. To be fair and reasonable to both parties, if Excess Energy must be purchased at a discount, it should also apply to any power that is produced but refused or “curtailed” by the Utility. The PPA should be amended to require that any curtailed power also be purchased at 75% of the contract price. With this amendment, the Producer is not as financially penalized for periods when productivity is higher than expected, and the Utility is incited to accept as much as-available power as possible.
25. The draft PPA proposes reporting all generating outages, but it is not practical to report reductions in every wind turbine, every time wind decreases. Instead, the PPA could require Producer to report outages that represent 10% or more of capacity.
26. Sec 13(f) Draw indicated at \$167/MW/day for each day of delay in COD. There seem to be conflicting references as to whether this is based on 180 days or 90 days.
27. Financial damages are generally not appropriate for an as-available PPA. However, if damages remain in the contract, they should be clarified and capped. The intent seems to be to impose an additional financial penalty on the Producer, to ensure the that Utility meets its RPS targets. However, according to the RPS framework, HECO is not penalized if an as-available producer fails to deliver its projected output.
28. In Sec. 21 of the PPA, Force Majeure should include excessively high winds and design flaws in major system components. In the case of a wind facility, this would include gear boxes, generators, hubs, blades, etc.
29. It seems inappropriate for the PPA to require a renegotiation of performance criteria. If renegotiation is mandated, the PPA should clarify a minimal time period for which current standards would apply, and establish an independent third-party to examine the production and supply issues relevant to performance standards, provide information to both sides, and make recommendations. Relevant changes to the Producer’s and the Utility’s operations should be considered and recommended.
30. Appendix B – Providing a year’s worth of detailed wind data seems inappropriate for the reasons mentioned previously. This information is confidential and procured at the expense of the Renewable Energy Producer. Producers can provide a general summary or matrix to adequately characterize the resource.

### **Specific Comments: PPA Performance Standards**

The draft PPA calls for a down-ramp limitation on all proposed projects. We are concerned that this approach would require extensive additional engineering and expense on the part of all Renewable Energy Producers, while not serving the needs of Producers, the Utility or consumers as well as a more system-wide down-ramp solution. The next several comments address this issue.

31. First, while HECO has provided good general data to describe Oahu grid assets and generation management, no specific data has been provided to demonstrate that the grid cannot accommodate any other down-ramp behavior other than the 2 MW/min. It appears that the present ability of the connected Oahu energy resources to provide ancillary services has not been calculated or optimized. Also, there is no recognition of the additional capability that can be obtained from new resources, both HECO-owned generation or purchased power. The existing and planned resources that are dispatchable capacity resources are inherently better suited for providing ancillary services than an “as-available” resource. Thus, the timing (year needed, or at some measure of wind’s share of system generation) and the amount of a down-ramp limit are important to establish.
32. Requiring an “as-available” resource (such as wind) to perform to a specific down-ramp limit creates a requirement for additional capital equipment such as storage or spinning reserve, for each Producer.
33. A battery or other improvement for ancillary services has benefits for the rest of the Oahu power system, if available for use by HECO for purposes other than the “as-available” generator’s compliance with performance standards. These additional system-wide services should be recognized and the Producer compensated through pricing.
34. Battery storage in particular offers the HECO system and Oahu consumers unique advantages to increase reliability and improve transmission and distribution around the island, if the location and ownership of battery systems is more carefully planned and not simply made an outcome of the PPA. For example, if battery storage were placed on the east side of Oahu, or other areas where load grows but supply is not added, the battery can reinforce the transmission system. This will postpone the need for new transmission to serve loads, and increase reliability. The PPA approach will not guide the battery placement in this way, and an opportunity for benefits may be lost. Those benefits will have to be obtained by HECO eventually to meet consumer needs, possibly at a greater cost with a redundant investment at a later date.
35. A more favorable solution for consumers, HECO and Renewable Energy Producers, and a more cost-effective means for HECO to obtain the ancillary services that the draft PPA is requiring, is for HECO to identify the ancillary capabilities it needs, and use the most cost-effective means to obtain them. The draft PPA could require \$25-50 million in additional capital that would be able to serve additional system-wide purposes if HECO

procured the equipment. If the equipment were a battery energy storage system, which HECO has been considering, it could be located so as to improve the transmission system, and future transmission reinforcement could be avoided. Otherwise, in the context of acquiring renewable, “as-available” resources, the capital expenditure by each Renewable Energy Producer to meet their respective potential worst-case performance scenarios will lead to redundant capabilities that are unavailable to HECO or other system users.

36. Finally, if a Renewable Energy Producer provides ancillary services to the HECO grid, over and above established performance standards, such as voltage and frequency control, spinning reserve, etc., the Producer should be compensated for those services in addition to the contract payments for as-available power alone. We suggest adding a mechanism in the PPA to identify and pay for those additional benefits to the system.

In closing, UPC appreciates the intent of the draft RFP/PPA, but from the perspective of the Renewable Energy Producer, the documents are extremely problematic. We feel they will discourage as-available bidders and increase costs to consumers, and this is clearly not the Utility’s intent. Financial penalties and security should be revised to recognize the nature of as-available energy resources, and to give some impression of being balanced and just for both parties. Data requirements should be reduced to a level appropriate to this early stage of the bid process and to avoid requesting information that is too speculative or confidential. Fortunately, HECO has the expertise and grid resources to efficiently manage many of the risks involved in integrating several as-available energy projects on Oahu. UPC looks forward to working with HECO, and we hope that these comments and those submitted by other Producers will help produce RFP/PPA documents that are cooperative, mutually beneficial, and encouraging of renewable energy projects.