

DOCKET NO. 03-0371

PUBLIC UTILITIES COMMISSION

**CONSUMER ADVOCATE'S RESPONSES TO
LIFE OF THE LAND'S ("LOL") INFORMATION REQUESTS ON THE
CONSUMER ADVOCATE'S PRELIMINARY STATEMENT OF POSITION**

- LOL-SOP-IR-1 a. Does the CA believe that a fair market for all DG players can exist if the utility participates directly in the DG market, without establishing any firewalls between its DG sector and other sectors of the company?

RESPONSE: The Consumer Advocate has not attempted to speculate on, or project possible market conditions. The Consumer Advocate contends that competitive bidding for generation and DG should play a role in meeting Hawaii's future energy needs. DG, like other resources used to meet Hawaii's energy demands, should be implemented through the electric utility's lowest reasonable cost IRP. The IRP implementation process should include a competitive bidding process to acquire resources including DG.

The Consumer Advocate's primary focus in the instant proceeding is on the investigation of DG as an energy resource. Thus, the Consumer Advocate believes that DG should be implemented if it is selected through the IRP and competitive bidding process.

It may be premature at this time to presume that the DG market will need market controls that may unnecessarily raise the cost of energy resources. If probative evidence can be presented to support the need for such controls, the Commission can consider

the need to implement those controls at any time, now or in the future.

- b. Does the CA believe that it is in the economic self-interest of the utility to use its resources to delay, defer and/or block independent companies from establishing markets in Hawaii?

RESPONSE

The Consumer Advocate believes that it would be in the utilities' economic self interest to develop resources consistent with a lowest reasonable cost IRP. If it does not develop resources in this manner, it may risk its ability to ensure that it will be granted retail rate levels that it desires.

The selection of an independent company to install the next generating unit through a competitive bid process on Kauai is an example of where a utility, in the interest of fulfilling its goal of meeting customers' needs at a reasonable cost, encouraged independent companies to develop supply-side resources in Hawaii.

The implementation of rules allowing the development of alternative providers and resources to meet Hawaii's energy needs is within the Commission's discretion; this discretion is evidenced by the rules and procedures developed to foster alternative providers and resources to meet Hawaii's telecommunications needs.

LOL-SOP-IR-3 Does the CA believe that the prices associated with generation, transmission & distribution, and ancillary functions should be unbundled so as to send correct price signals to the market?

RESPONSE Among other perceived benefits (e.g., migration towards cost based rates), unbundled prices would enable customers and other parties considering competitive DG resources options to evaluate the economic impact of implementing DG. If this is what is meant by “send correct price signals to the market,” then the answer to this question is yes. Further elaboration on the justification supporting the unbundling of rates is contained in the Consumer Advocate’s Statement of Position filed in Docket No. 96-0493 to which Life of the Land was a party.

LOL-SOP-IR-4 a. Does the CA believe that the current IRP Framework would allow for modeling of multiple small generators?

RESPONSE Yes.

b. If the benefits/costs of DG systems are site-specific, and IRP is a general plan that does not get down to the level of detail to include site specific data, how can DG be evaluated in the IRP process?

RESPONSE The IRP will need to consider site specific projects.

c. How does the CA believe that the role on micro- and mini-on-site generators should be handled within an IRP Framework?

RESPONSE Micro and mini-on-site generators would be treated the same as other resources in the IRP process.

d. Are construction and operation costs for DG/CHP similar for utilities and non-utilities?

RESPONSE Construction and operating costs would be provided by bidders in the competitive resource bidding process. At the time that bids are received and evaluated, utility and non-utility proposed costs can be compared.

LOL-SOP-IR-5 If the future consists of fossil fuel power plants with higher efficiencies and economies with higher load demand, the amount of foreign fossil fuel needed might increase. Does the CA believe that this would satisfy the state directive to decrease the use of fossil fuels?

RESPONSE In this hypothetical situation, actions that would increase the use of foreign fossil fuel would be contrary to the State's energy policy of reducing the State's dependence on fossil fuels, as well as possibly countering the achievement of the State's renewable portfolio standards.

LOL-SOP-IR-6

a. Does the CA support government-to-government wheeling?

RESPONSE

The Consumer Advocate assumes that the reference to “government-to-government wheeling” describes a situation where a governmental agency transports energy over a third-party resource (e.g., utility company transmission and distribution system) to another government agency. If any customer has excess power and energy from an owned resource, it could theoretically sell such output to the utility at rates comparable to the utility’s unbundled power supply rates as this would be the same costs that would be avoided by another customer that might wish to purchase from the same resource.

On the other hand, if the customer wants to deliver the “excess” energy to another customer using the utility’s lines, than the utility should be entitled to compensation for the use of their transmission and distribution facilities to “wheel” the power from one customer to another. Either course of action would first require the unbundling of rates to ensure that the government agencies wheeling power pay the appropriate access costs for the use of the transmission and distribution facilities.

Based on a number of assumptions, the concept of “government-to-government wheeling” could be supported. One would, however, also need to look at the impact on the utility and its customers from the loss of load resulting from the government

entity's installation of a DG facility and wheeling of power to another governmental agency to determine whether the public benefit is advanced from the proposed arrangement.

b. if so, under what conditions?

RESPONSE

See response to subpart a. of this information request.

LOL-SOP-IR-7

Will DG affect the amount of spinning reserve required?

RESPONSE

No. The amount of spinning reserves required by the system is ultimately dependent on the total energy requirements of the system.

LOL-SOP-IR-8 Maui County proposed a Virtual Power Plant (VPP) which refers to a network of grid-connected, utility-controlled, economic-dispatchable, peak load providing generators. To what level of expertise has the CA evaluated the VPP option?

RESPONSE The Consumer Advocate did not evaluate the VPP option because the agency did not have enough information from Maui County to understand what was being proposed, however, the Consumer Advocate has requested information from Maui County to better understand the VPP concept.

LOL-SOP-IR-9 Can DG be used for customers usage except for the peak periods, when the electricity from the DG facility could be fed into the grid to alleviate peak demands?

RESPONSE If the DG facility and customer are both connected to the utility delivery system, then the utility system and the DG facility are serving the customer's usage at all times. There would be no difference in how the customer is served between on-peak and off-peak periods.

LOL-SOP-IR-10 How does the CA believe that positive externalities associated with renewable energy DG (hedging against fossil fuel price volatility; hedging against fossil fuel price spikes; reduced environmental compliance risk; security risks) should be accounted for?

RESPONSE From a theoretical perspective, externalities can be quantified in an IRP economic sensitivity analysis. Based on experience to-date, past attempts to monetize externalities have highlighted the difficulties of incorporating externalities to the satisfaction of all parties in developing the utility's IRP. Further efforts to reach consensus on how to monetize externalities will be required if externalities are to be included in the future IRPs of each utility.

 It is also possible that, if customers consider implementing DG, customers will evaluate externalities in lieu of analysis through the IRP process. That is, an end-user evaluating various supply options could hypothetically choose a renewable resource to meet energy needs based primarily on the customer's assessment of externalities.

LOL-SOP-IR-11 Can wind provide non-time-sensitive power to specific customers (for example, utility will sell electricity for water pumping when available), and thus sell time-uncertain green-electricity to customers desiring such?

RESPONSE On the Mainland, several utilities have developed “Green” rates. The electric utility purchases renewable (green) energy from a renewable resource and markets the energy to specific customers that wish to purchase “green” energy. The “green” energy rate is typically greater than the utility’s standard rate. Such a rate could be developed and offered by the Hawaii utilities to their customers.

LOL-SOP-IR-12 Should all customers pay to upgrade the T&D grid for the benefit of those customers requiring higher levels of reliability?

RESPONSE If it is determined that system improvements are required to achieve a certain level of reliability (i.e., provides a system benefit), all customers will probably be held responsible for those upgrade costs. If, however, only certain customers require higher reliability than what is considered prudent utility practice, such customers should be required to fund electric improvements that are implemented to meet such reliability requirements. Alternatively, if certain rate classes require certain levels of reliability, the cost of maintaining that reliability level should be allocated to the specific customer rate class and rates should be designed to reflect that cost of service. With respect to DG participants, the impact and cost of improvements to avoid, or eliminate any adverse safety or reliability issues of the DG facility should be borne by the DG participant and not the utility or the customers.

LOL-SOP-IR-13 a. Does the CA use any probability analysis, confidence interval estimates, correlation analysis, regression modeling or other statistical analysis?

RESPONSE The scope of this question is unclear. The Consumer Advocate uses a variety of analytical techniques to evaluate utility filings or issues related to regulated utility companies. To the extent that this question relates to the items identified in subpart b. below, see the response to subpart b.

b. Does this include analysis of the need for standby charges, spinning reserves, transmission line redundancy, distribution line redundancy, and multiple simultaneous DG equipment failures?

RESPONSE The Consumer Advocate will employ analytical techniques appropriate to the subject matter. As it relates to the need for the items identified (e.g., standby charges), the use of statistical analysis may be applicable, but the need for standby charges can also be justified by the application of cost accounting principles where the allocation of costs incurred to meet customer demands supports a charge for the service provided. That is, if no customer requires utility facilities for backup or standby services, the need to incur costs for such a service would not exist, and there would be no standby rate/charge. As appropriate or necessary, similar analysis would be applicable to the other identified items.

- c. Please explain any type of probability analysis the CA is aware of to evaluate the likelihood of multiple DG systems failing simultaneously

RESPONSE

A DG resource can be evaluated in the same manner as any other resource in probabilistic economic dispatch models used by electric utilities and others.

- d. Contingency planning calls for the utility to be able to have one generator down for service while a second one fails. Contingency planning calls for the utility to be able to have one transmission line to be down when another one fails. Should the utility have a higher standard for distributed generation, that is, the utility must plan for all generators to fail simultaneously?

RESPONSE

No. Rather than set a higher standard for DG, the utility should assign an equivalent availability factor that reflects the operational availability of the specific DG which can be included in the utility's dispatch analyses and in the utility's transmission and distribution power flow contingency planning analyses. However, it should be noted that contingency planning may vary by company and that customer demands, to some large degree, will affect the necessary parameters.

- e. Should utility upgrades occur where (1) the load is higher; (2) where there is a history of failures; or (3) where there is a higher probability of future failure.

RESPONSE

On a hypothetical basis, (2) and (3) would probably receive a higher priority when assessing whether utility upgrades are

required. Improvements to the utility's facilities should be based on the capacity of facilities compared to the load that needs to be served by the facility, as well as the condition of the existing facilities. However, areas where the facilities are known to be unreliable or can be reasonably predicted to be unreliable should also be considered. Before actually making a final decision to provide with utility projects, however, it would be useful to consider other factors that might be relevant to the decision making process.

It should be noted that this response generally presumes that actions can be taken by the utility to address the observed failures on its system. To explain, there may be instances where observed failures may not be caused by factors within the utility's control. Upgrades in utility facilities in those instances would not be reasonable.

LOL-SOP-IR-14

- a. Should comparisons of alternative technologies include the multiplier effect, job creation, economic growth, fuel volatility and security?

RESPONSE

To the extent that such factors can be quantified and determined to be different for different resources and significant enough to consider, such comparisons would be helpful. In any such analysis, however, thorough and complete consideration of all factors should be employed. For example, where job creation and investment may be created by renewable DG technologies, the potential job losses in Hawaii's petroleum industry should also be considered if the use of the renewable technology displaced a significant portion of the need for the fossil fuel produced by the petroleum industry. In such an analysis, the impact of the Public Utility Regulatory Policies Act on establishing pricing policies based on fuel-indices might be useful. The additional costs passed on to Hawaii to dispose of the "heavy" fossil fuels (by-products of the process necessary to produce "lighter" petroleum products, such as gasoline and jet fuel) used by the energy utility companies might also be considered. Evaluation of the energy quality and reliability required by end users could be conducted and the costs to ensure those levels of quality and reliability on Hawaii and its economy could also be analyzed.

A thorough and comprehensive analysis would help the decision-makers evaluate the options and make informed choices.

Expanding the analysis in the instant docket to include such a broad range of factors might, however, severely expand the analyses required and might impede the ability to facilitate the quicker and broader introduction of DG resources to the market.

- b. For each of the following, please explain how the CA analyses, incorporates and/or utilizes it in evaluating alternative energy plans and/or DG analysis: (1) job creation; (2) economic growth; (3) the economic multiplier effect; (4) balance of trade issues; (5) export expansion; (6) import substitution; (7) foreign investment; (8)leakage?

RESPONSE

At this time, the Consumer Advocate has not analyzed or studied such factors or the incorporation of such factors when evaluating demand and supply side resources in the IRP process.

As discussed in the response above, to the extent that such factors will be considered, a thorough and comprehensive analysis should be conducted to measure both positive and negative impacts of each alternative.

- c. Does the CA believe that the following analysis (cited in the CA's SOP) paints a realistic picture?: The "Renewable Energy Resource Assessment and Development Program" (1995) assumed that (1) DG is utility-scaled; (2) financing (and hence construction) is more expensive for non-utilities; and (3) economic metrics (discount rates, economic multiplier, balance of trade) are neutral; and are thus irrelevant to the discussion.
(www.hawaii.gov/dbedt/ert/hes3/plan.html)

RESPONSE

The Consumer Advocate reviewed this report as a resource which identified DG that might be viable and feasible in Hawaii. The

entire report was not reviewed in detail. It is assumed that the cited analysis represented a supported conclusion based on the facts and circumstances at that time. It is also assumed that as technology continues to develop and market conditions change, other conclusions will be reached in the present and in the future.

- d. Does “public interest” refer to “ratepayer interest” and/or “stockholder interest” or to some broader interest which is also concerned with jobs, economic prosperity and quality of life issues.

RESPONSE

Since the term “public interest” is a broad, qualitative term, unless purposefully restricted to a specific definition for use in certain applications, the meaning of “public interest” may vary by user and application. In general, when the Consumer Advocate is required to consider the public interest, the analysis will consider the regulated utility stakeholders (e.g., ratepayers and shareholders) and the possible impacts on those stakeholders.

Since energy affects most aspects of modern commerce and living, an efficient and cost-effective process to match energy resources to meet energy demands would seem to be in the public interest. If deemed appropriate by participants, this process might consider such issues as economic prosperity and quality of life issues, among others.