

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the)
)
PUBLIC UTILITIES COMMISSION) DOCKET NO. 03-0371
)
Instituting a Proceeding to)
Investigate Distributed Generation)
in Hawaii)
_____)

HESS MICROGEN, LLC'S

RESPONSES TO INFORMATION REQUESTS
FROM THE PUBLIC UTILITIES COMMISSION

and

CERTIFICATE OF SERVICE

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Responses to Information Requests from the Public Utilities Commission

Pursuant to the Request of the Commission, Hess Microgen, LLC hereby submits its Responses to Information Requests from the Public Utilities Commission in the above-referenced docket.

Respectfully submitted.

DATED: Honolulu, Hawaii, November 22, 2004

SANDRA-ANN Y.H. WONG

Attorney for Intervenor
Hess Microgen, LLC

Statutory Authorizations

PUC-IR-1 Do Hawaii electric utilities have authority under existing statutes and franchises to own distributed generation either directly or through an affiliate? If yes, please identify the specific statutes and franchises which authorize such activity. If no, please describe whether existing laws should be altered to permit utility ownership (either directly or through an affiliate) and if so, what changes are needed?

RESPONSE: Hess takes no position in regards to this issue, since it believes that Hawaii electric utilities and the Commission are in the best position to address this issue.

PUC-IR-2 Are there any changes required to existing statutes, rules, or regulations to facilitate non-utility ownership of distributed generation (“DG”) facilities?

RESPONSE: Please see the Direct Testimony of Hess witness Michael Gregg at p. 3. That being said, Hess does not believe that non-utility ownership of DG facilities should be delayed pending any of these proposed changes because these changes will take time.

PUC-IR-3 What is the impact of Hawaii's net energy metering law, codified at Hawaii Revised Statutes (“HRS”) § 269-101-111, (and recently amended this past legislative session to allow eligible systems of up to 50 kilowatts (“kW”) to sell excess energy to the utility) on customer decisions to invest in DG? Should the existing 50 kW size limitation be increased to facilitate DG? Should the existing net energy metering law be expanded to include technologies other than those specified in the statute? Please identify any other changes that should be made to net metering laws, and why?

RESPONSE: Since Hess CHP systems are sized to meet the thermal heat needs of the customer, they do not have excess power to provide to the grid, thus Hess takes no position on this issue.

Definition of Distributed Generation

PUC-IR-4 Should the Commission define distributed generation – and if so, how should it be defined? Should the definition be flexible or specific as to size and technology? Should the definition identify “eligible” technologies – and if so, how would such a list be derived? Or should the definition be sufficiently flexible to apply to a range of DG technologies, both those currently feasible as well as those not yet developed?

RESPONSE: The definition should be sufficiently flexible to apply to a range of DG technologies, both those currently feasible as well as those not yet developed.

PUC-IR-5 Should the definition of distributed generation include DER, “distributed energy resources” and other demand side technologies or systems?

RESPONSE: Yes.

PUC-IR-6 Should the Commission draw a distinction between “small scale” DG and other DG resources and if so, why? How should “small scale” DG be defined? What benefits can small scale DG offer (e.g., firm power, increased reliability, reduce transmission constraints) and what impacts does it have on the system?

RESPONSE: No. This should occur during the utilities interconnection process. Small scale DG should be defined as 1 MW or less. Hess can only address the benefits of small scale CHP projects and the benefits that such CHP projects have on the system. See the Direct Testimony of Hess witness Michael de’Marsi at p. 2, lines 1-21; p. 3; and p. 4, lines 1-16. See also, Hess’ Response to IR’s at HECO/Hess-DT-IR-3.

Additional Information on “Viable and Feasible DG” for Hawaii

PUC-IR-7 Please comment on HECO’s listed criteria (see e.g. Seki Testimony at 20) for determining whether a DG technology is “viable and feasible” for Hawaii. Should other factors be considered as well?

RESPONSE: Hess is fine with HECO’s listed criteria, but it really comes down to two factors: (i) Whether the project is economically viable and (ii) whether the project meets local environmental requirements. CHP meets HECO’s list of criteria because it is (i) reliable; (ii) available and can meet the needs of peak demand; (iii) easy to site because it has a small footprint; and (iv) is environmentally friendly. See the Direct Testimony of Hess witness Michael de’Marsi at p. 2, lines 24-26.

PUC-IR-8 Have the “multiple benefits” of DG cited in Life of the Land’s testimony (Wooley at 2) ever been quantified for Hawaii as they have in the other states mentioned in the testimony and if so, where can this information be found?

RESPONSE: Hess does not have information on this issue and, thus, cannot respond.

PUC-IR-9 Please identify any additional information provided in response to any party's Information Requests or filed in other dockets that provides further documentation or evidence of:

- a. whether there are transmission, distribution generation constraints which could be served by DG;
- b. the extent to which load growth is driving the need for distribution system enhancements;
- c. where DG should be located to be most effective (and documentation for this conclusion); and
- d. the availability or feasibility of alternative technologies.

To the extent that your testimony or prior responses do not already provide sufficient detail on these issues, please supplement your testimony with information on the above points.

RESPONSE: a/b. Hess cannot answer this without data from the utilities.

- c. Hess' witness Michael Gregg supplements the Direct Testimony of Michael de'Marsi by stating that DG should be located closest to the electrical and thermal loads to be most effective. By locating DG close to the electrical and thermal loads, you lower installation costs and have larger positive impacts on the utility, such as the reduction of line losses.

- d. Hess can only discuss CHP.

PUC-IR-10 Please identify with specificity the type and size of DG that can be currently deployed in Hawaii to maximize the benefits and minimize costs.

RESPONSE: On-site CHP systems providing 1 MW or less. Hess cannot comment on other DG technologies.

PUC-IR-11 Identify with specificity existing environmental requirements which would impact the installation of DG and how this would occur? Are there any other regulatory requirements – e.g., Building Codes or zoning laws that would impact installation of DG and if so, identify these with specificity.

RESPONSE: Hess can only comment on the installation of On-site CHP systems providing 1 MW or less. These systems are easy to site because they have a very small footprint and are UL listed. However, Hess units did require air quality permits from the Clean Air Branch of the Hawaii State Department of Health and County Building permits.

Impacts of Distributed Generation

Identify the impacts of DG on the distribution system with reference to the following specific questions.

PUC-IR-12 What are the beneficial impacts of DG on the transmission and distribution (“T&D”) system and more importantly, how may they be quantified and assessed for value?

RESPONSE: Hess can only comment on the beneficial impacts of CHP on the T&D system. The beneficial impacts of CHP include the delaying and/or replacing of T&D facilities needed by the utilities. Thus, reducing the capital cost of the utilities, and in turn, reducing the rates for ratepayers. Additionally, on-site package CHP systems operate when the customer requires the most electricity and thermal heat. When the customer requirements are low, the on-site package CHP system can be turned off. The practice of turning off on-site generation when both the customer and the utility are experiencing low demand serves to levelize the utilities’ systems demand and increase the overall utilization of the distribution system. Also, DG will save between 3-5% of its capacity from line losses when it is deployed at a customer’s site. Savings to the utility need to be quantified and assessed by utility because they have the necessary data. The net effect is that utilities may not have to add new facilities or upgrade its infrastructure as often. This will result in lower prices to the ratepayer. See the Direct Testimony of Hess witness Michael de’Marsi at p. 3, lines 1-15.

The easiest item to quantify is line losses. To do this, the customer would multiply the operating power output of its generator times the line loss. This would be a function of the utilities’ standard line types, distances, and transformation.

PUC-IR-13 What are the limits to the level of DG that the grid can absorb without adverse impacts? Please identify studies or other documentation in support of your response.

RESPONSE: Since Hess CHP systems are sized to meet the thermal heat needs of the customer, they do not have excess power to provide to the grid, thus Hess takes no position on this issue.

PUC-IR-14 What are the limits of bi-directional power?

RESPONSE: Since Hess CHP systems are sized to meet the thermal heat needs of the customer, they do not have excess power to provide to the grid, thus Hess takes no position on this issue.

PUC-IR-15 Should the design of new distribution feeders consider DG?

RESPONSE: Yes.

PUC-IR-16 Can the concept of micro-grids be made practical? Can they be effectively utilized in Hawaii?

RESPONSE: Yes, to both questions in regards to a single generation site and the utility. However, the generation needs to be sized significantly larger than the customer's load; i.e. large enough to handle the micro-grid + a safety margin.

PUC-IR-17 Should utilities be offered incentives to facilitate DG?

RESPONSE: HESS takes no position on this issue and leaves it to the discretion of the Commission. However, whatever the Commission decides, the Commission should insure that the utilities and private companies are competing on a level playing field. For example, the utilities should not be allowed to charge customers of the private companies standby charges or other fees and charges that it does charge its DG customers. Nor, should the utilities be allowed to provide their DG customers with special discounts to the disadvantage of private companies. See the Direct Testimony of Hess witness Michael Gregg at p. 2, lines 18-25.

PUC-IR-18 How can utility distribution practices be modified to enable DG to provide distribution deferral and be compensated for it?

RESPONSE: DG should be compensated for the avoided cost of deploying line upgrades or generation plants similar to the credit received for lighting retrofits and other demand side management programs

Ownership

PUC-IR-19 If utilities are permitted to own distributed generation through affiliates, are any changes required to existing statutes, rules and regulations governing affiliates to guard against cross subsidization, to protect ratepayers and ensure competition between affiliates and non-affiliates on equal footing? Please identify potentially applicable statutes, rules and regulations and specify necessary changes.

RESPONSE: If it is decided that the utilities can own distributed generation through affiliates, then set procedures and rules need to be established to insure that the affiliates and private companies, who also own distributed generation, are playing by the same rules. See the Direct Testimony of Hess witness Michael Gregg at p. 2, lines 18-25 and p.3, lines 10-12.

Interconnection

- PUC-IR-20 What costs are associated with DG interconnection to the distribution grid?
- a. If a utility overhead line is fully depreciated and upgrades or replacements are needed for distribution interconnection, does the DG customer pay for the upgrade replacement cost?
 - b. Should a DG customer be required to pay for distribution system upgrades that would have otherwise occurred in the absence of a DG interconnection?
 - c. Should subsequent DG customers on a particular feeder line be responsible for costs applied to the first DG customer on the line? If so, what type of crediting mechanism should be put in place for the first customer?
 - d. What mechanism should be used for recovery of these costs (i.e., fixed vs. demand charges, marginal cost vs. average cost, etc...)

- RESPONSE:
- a. Hess is not an expert in utility depreciation, but it believes that any upgrade replacement cost would be applied to the entire system. However, no upgrades or replacements should be required if power is not exported to the grid. It would only be necessary if the customer's load significantly increased at the site and this load needed to be backed up by the utility.
 - b. No.
 - c. Ideally yes, however, there is no practical way of evaluating the cost unless the subsequent DG customers paid the first DG user directly. Also, the viability of a project cannot be evaluated based on the possibility that subsequent DG customers might come in and share the upgrade costs.
 - d. Traditionally, load increases that cause infrastructure capital costs are offset by revenue over 4-6 years. If the infrastructure is required because the utility would be used to back up a DG load, then it should be a fixed fee that may be payable over several years.

PUC-IR-21 Should HECO's, HELCO's and MECO's Rule 14.H on interconnection specific to distributed generation be modified to further facilitate or encourage distributed generation? If so, please identify with specificity those aspects of Rule 14.H that must be changed? Should the same interconnection rules for distributed generation apply to both the HECO companies and KIUC?

RESPONSE: Yes. See the Direct Testimony of Hess witness Michael de'Marsi at p. 5. See also, Hess' Response to IR's at CA-IR-49; CA-IR-50; HECO/Hess-DT-IR-1; HECO/Hess-DT-IR-2; HECO/Hess-DT-IR-4; and HECO/Hess-DT-SIR-3.

Yes, the same interconnection rules for distributed generation should apply to both HECO companies and KIUC.

PUC-IR-22 What has been the experience of the parties to date with interconnecting distributed generation facilities under either HECO's, HELCO's or MECO's Rule 14.H?

RESPONSE: Since the implementation of Rule 14.H, Hess' experience with interconnecting distribution generation facilities has vastly improved. Thus, Hess applauds the HECO companies for its efforts. However, there are still some areas that Rule 14.H can be improved. See the Direct Testimony of Hess witness Michael de'Marsi at p. 5.

Rate Structure and Cost Recovery

PUC-IR-23 Is the current allocation of distribution charges between customer, demand and usage charges adequate or should it be modified to accommodate DG? What is the appropriate allocation between utilities and ratepayers of revenues foregone as a result of the deployment of DG?

RESPONSE: HESS takes no position on this issue and leaves it to the discretion of the Commission.

PUC-IR-24 Should credits be offered to customers or third parties that can defer the need for localized distribution expenditures. If yes, how should these credits be awarded, calculated and administered? And how should the cost of any credits or incentives be allocated and recovered by the distribution company?

RESPONSE: Yes. The credits should be handled the same as a DSM project.

PUC-IR-25 How can services be identified for unbundling and how should rates be calculated? Please comment on the viability of the Consumer Advocate's proposal for unbundling (Consumer Advocate Testimony, Witness Herz at 60-63). Will unbundling rates ensure that the utility recovers its cost of service from the customer benefiting from DG and does not shift costs to other ratepayers? (See, e.g., Witness Herz, testimony at 23, 60)

RESPONSE: HESS takes no position on this issue and leaves it to the discretion of the Commission.

PUC-IR-26 Should the commission consider decoupling revenues from sales so that the utility is indifferent to installation of DG that has the effect of reducing sales?

RESPONSE: HESS takes no position on this issue and leaves it to the discretion of the Commission.

PUC-IR-27 Should the electric utilities institute termination charges (exit fees) for customers who install distributed generation and if so how should they be designed?

RESPONSE: No.

PUC-IR-28 Should standby rates similar to those implemented by HELCO (see Decision and Order No. 18575, filed on June 1, 2001, in Docket 99-0207) be adopted by HECO or MECO? Is the flat fee standby charge used by KIUC an appropriate approach for other utilities? Or should the Commission repeal and prohibit standby charges?

RESPONSE: No to all of the above. Some forms of standby charges may be appropriate to cover legitimate installation (capacity) and maintenance charges by the utility. However, to be appropriate a detailed explanation of how the standby charge is determined must be provided; i.e. the specific charge for capacity and maintenance, and how that those charges were calculated for that specific customer. Also, the utilities instituting such a standby charge must be willing to apply such standby charges to its DG installations, if any.

PUC-IR-29 Please provide comments on the issues below related to standby service proposals.

- a. To the extent that standby rates are implemented (for those utilities that do not have them) or modified, should demand subscription or non-firm standby rates be included? Please comment on the viability and desirability of a non-firm or “best efforts” standby service (see e.g. County of Maui testimony, Witness Lazar at 78)
- b. Should regulated utilities be required to charge themselves or their affiliates the same standby charges with respect to the regulated utility or affiliate owned, operated and maintained distributed generation facilities?
- c. Should standby rates be the same for all Hawaii electric utilities including KIUC?
- d. Should supplemental service be distinguished from stand-by service and if so, should supplemental service continue to be charged at the otherwise applicable tariff?

RESPONSE:

- a. Non-firm or “best efforts” standby service would not be practical for small DG units.
- b. Yes.
- c. Yes.
- d. Yes.

PUC-IR-30 Please describe the electric utilities’ current policies regarding “hook up fees” or impact fees. Should existing policies regarding hook up fees be revised so as to remove barriers to development of distributed generation? Please comment on the County of Maui’s proposal regarding impact fees. (see discussion County of Maui Testimony; e.g., Kobayashi at 12; Lazar at 18-19, 33)

RESPONSE: Hess is not an expert in the electric utilities’ current policies regarding “hook up fees” because they do not apply to the sites in which Hess places its units.
In regards to the County of Maui’s proposed impact fee, Hess needs further information on how they propose calculating the customer’s anticipated load and the utilities cost to meet that load.

PUC-IR-31 Should a systems benefit charge be adopted to recover costs of distributed generation? If yes, how should such a charge be established?

RESPONSE: No.

PUC-IR-32 Will an inverted block rate design (see e.g. County of Maui, Witness Kobayashi at 12, Lazar at 86) result in better allocation of costs of new DG facilities? What are other benefits of inverted block rate design (if any) with respect to promoting DG?

RESPONSE: Yes. On-peak rate with an inverted block design is more characteristic of the generating environment and also helpful to DG sites as the economics for avoiding high kWh usage is positive.

PUC-IR-33 How should costs associated with distributed generation be recovered?

- a. How should the costs of fuel purchased for utility owned, customer site DG facilities be handled? Should it be included in the energy rate adjustment clause applicable to all customers or recovered in some other manner?
- b. Should regulated utilities be permitted to include in their regulated rates the cost of distributed generation equipment and its maintenance?

RESPONSE: Hess will leave this to the discretion of the Commission. This is a commercial relationship between a utility and its specific DG customer.

Integrated Resource Plan Process

PUC-IR-34 How should the existing IRP process and the deployment of DG be synchronized to maximize the benefits of DG?

RESPONSE: DG should be included in each utility's IRP cycle and implementation plan. However, the deployment of DG should not be delayed due to the IRP process.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served copies of Hess Microgen, LLC Responses to Information Requests from the Public Utilities Commission on the following parties, by causing copies hereof to be mailed, postage prepaid, and properly addressed to each such party as follows:

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