

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the)
)
PUBLIC UTILITIES COMMISSION)
)
Instituting a Proceeding to)
Investigate Distributed Generation)
in Hawaii)
_____)

DOCKET NO. 03-0371

PUBLIC UTILITIES
COMMISSION

AUG 18 3 35 PM '04

FILED

HESS MICROGEN, LLC'S

RESPONSES TO INFORMATION REQUESTS TO ITS DIRECT TESTIMONIES
FROM THE DIVISION OF CONSUMER ADVOCACY;
HAWAII ELECTRIC COMPANY, INC., HAWAII ELECTRIC LIGHT COMPANY,
INC., AND MAUI ELECTRIC COMPANY;
KAUAI ISLAND UTILITY COOPERATIVE; AND
HAWAII RENEWABLE ENERGY ALLIANCE

and

CERTIFICATE OF SERVICE

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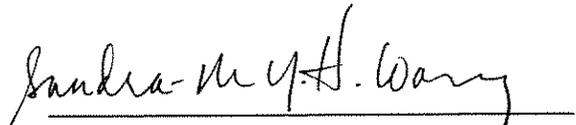
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HESS MICROGEN, LLC'S
Responses to Information Requests to its Direct Testimonies

Pursuant to the agreed upon schedule of proceedings set forth in Prehearing Order No. 20922, Hess Microgen, LLC hereby submits its Responses to Information Requests to Its Direct Testimonies in the above-referenced docket.

Respectfully submitted.

DATED: Honolulu, Hawaii, August 18, 2004



SANDRA-ANN Y.H. WONG

Attorney for Intervenor
Hess Microgen, LLC

**Hess Microgen (“Hess”) Responses to Information Request from
the Division of Consumer Advocacy (“CA”) based on
Hess’ Written Direct Testimonies**

CA-IR-49

Ref: HESS-M. de’Marsi, Page 5, Lines 3 through 11.

- a. Has the witness prepared a markup of the standards found in HECO’s Appendix I of Rule 14.H?
 1. If so, please provide a copy of such markups.
 2. If not, specifically what suggested changes to Appendix I are proposed by the witness and explain why these changes are necessary and reasonable?
- b. What time and cost limitations for the additional technical study does the witness suggest should be incorporated in Appendix III of Rule 14.H?
- c. Has the witness prepared specific comments or proposed changes to Appendix III?
 1. If so, please provide a copy of such comments or changes.
 2. If not, please identify such changes and explain why the changes are necessary and deemed reasonable.

Response:

a. No.

1. N/A

2. Appendix 1 3C –Isolation Device: This requirement puts cost and location hardship on

facilities greater than 200 kW (@208V) and 400 kW (@480V) as the disconnects are large and can be difficult to site with proper clearances. This difficulty often leads to placement issues that are counter intuitive thereby leading to confusion, suggesting a lack of safety.

The construction of distributed generation sites is governed by the NEC and NFPA. These codes have proven safe and are in fact the US standard of safety and correctness. Neither document requires a visible break nor stipulates that such a break implies any safer operation than that of a circuit breaker with a locking means.

It is Hess' opinion that this requirement should allow for lockable breaker systems to be equivalent to the visible disconnect.

Hess has been able to demonstrate this concept and has been allowed to interconnect under Rule 21 in SCE and PG&E territories on a case by case basis in the past with lockable breakers.

Appendix 1 6a Protection requirements: This section is misleading in that it calls out the general relay protections over/under voltage, over/under frequency, and reverse power. These are required by IEEE 1547 and other interconnect standards and allows for up to 10MW generation. 6a goes on to state that other relays may be required and that the typical relays are shown for large Synchronous, Induction, and Inverter based systems. These drawings (Exhibit A) show many more relays and seem to suggest that this will be required on "large" systems. Does this mean the additional relays will always be required? This is what is implied as the only generation size called out in the document is 10 kW, 30 kW, and >30 kW.

Hess believes that the standard relays called out above should be the extent of the protection unless the utility has specific site requirements where additional relays are required. These

requirements and reasons should be documented by the utility for the DG applicant.

b. Hess is not wedded to a specific time and cost limitation for the additional technical study, but would definitely suggest that time and cost limitation be set for Appendix III of Rule 14.H. Currently, there are no time and cost limitations for Appendix III of Rule 14.H. So arguably the additional technical study could go on indefinitely and the cost could be anything. Hess is comfortable and would recommend Southern California Edison's Rule 21 as a model. Southern California Edison's Rule 21's Supplemental Review Fee is \$600. (The initial Review Fee is \$800.00). Additionally, Rule 21 states that, "The Supplemental Review shall be completed, absent any extraordinary circumstances, within 20 business days of receipt of a completed application."

c. No.

1. N/A

2. Under Step 1, Sheet No. 34D-2, ". . . normally will be transmitted to the Customer within 5 business days of receiving a Customer request." should be changed to, ". . . will be transmitted to the Customer within 5 business days of receiving a Customer request." A footnote may be added to state, "The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification. This change is necessary to insure that the process will be done in a timely manner.

Under Technical Review Process, Sheet 34D-5, a specific charge should be stated for the initial technical screening of the impact of the distributed generating facility on the Company's system. This change is necessary to inform the Customer of the cost of the process so that it can budget accordingly and decide if it wants to proceed.

3. Under The Need for Additional Technical Study, Sheets 34D-5 and 6. A cap should be stated for cost and time of

any additional technical study. A footnote may be added to state, "The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification. This change is necessary to insure that the process will be done in a timely manner. The change is also necessary to inform the Customer of the cost of the process so that it can budget accordingly and decide if it wants to proceed.

Under Resolution of Disputes, Sheets 34D-7 to 9. A time cap should be set for the Company's dispute resolution procedures. A footnote may be added to state, "The parties, for good cause, may modify the time limit. This is necessary, because it prevents prolong dispute resolution, also it lets the Customer make a informed decision as to whether it wants to participate in the Company's dispute resolution procedures or just go directly to an informal/formal complaint to the Commission.

CA-IR-50

Ref: HESS-M. de'Marsi, Page 5, Lines 22 through 28.

- a. Please identify the specific sections of Southern California Edison's Rule 21 that the witness suggests be utilized as the criteria to inform the customer when additional technical study is needed.
- b. What portion or portions of that language are suggested to be included in HECO's Rule 14.H and explain why these portions are necessary and deemed reasonable.
- c. Where would such a provision be included in HECO's Rule 14.H?

Response:

- a. Cal.PUC Sheet No. 31599-E to 31605E.
- b. Hess is not wedded to the specific language of Southern California Edison's Rule 21, but would recommend it as a model because it has set time and cost limitations. Also, it has specific criteria to inform the customer when additional technical study is needed. By setting out specific criteria, the customer is informed as to what criteria it has to meet from the beginning versus dealing with a "moving target".
- c. The provision could be included in Appendix III, Interconnection Process Overview under the Technical Review Process.

**Hess Microgen (“Hess”) Responses to Information Request from
Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc. and
Maui Electric Company, Limited (“HECO”) based on
Hess’ Written Direct Testimonies**

HECO/Hess-DT-IR-1 **Ref: Hess-T-2, Page 5, Lines 3-11**

- a. Is Hess aware that Sheet No. 34D-4 of Rule 14.H includes a flowchart, which provides criteria for additional technical study and Sheet No. 34D-5 contains the time frame for the initial review process?
- b. Is Hess aware that sheet 4 of SCE’s Rule 21 contain provisions, which require an interconnection requirements study (with time frames and costs determined by the utility in the Supplemental Review Process) similar to HECO’s process outlined in Appendix III of Rule 14.H?

Response:

- a. Yes.
- b. Yes, but SCE’s Rule 21 contains specific time and cost limitations for any Supplemental Review Process, while HECO’s Appendix III, Rule 14.H do not.

HECO/Hess-DT-IR-2 **Ref: Hess-T-1, Page 3, Lines 5-6**

- a. Is Hess aware that there is an interconnection agreement process in Rule 14.H, Appendix III which includes a flowchart of the major steps in finalizing an interconnection agreement and timeframes for utility responses?
- b. Does Hess believe that the timeframes for utility responses included in Appendix III are reasonable? If not, please explain why.

Response:

- a. Yes.

b. No, because many of the timeframes are opened ended and, thus, could go on indefinitely.

HECO/Hess-DT-IR-3 **Ref: Hess-T-2, Page 4, Lines 8-11**

Can Hess provide documentation regarding the improved power quality that on-site CHP package systems provide?

Response:

Hess is aware of a study performed under the Rule 21 Commission in California, *DG Monitoring Program Results*. Hess does have results of the Study on a PPT file which it can provide to the parties.

Also, it is Hess' understanding that HECO did its own study before filing its *Application for Approval of a CHP Program, Schedule CHP-Customer-Sited Utility Owned Cogeneration Service, Inclusion of Related Fuel Costs in the Energy Cost Adjustment Clause, and a Modification to the Energy Cost Adjustment Clause and Schedule Q* in Docket 03-0366.

HECO/Hess-DT-IR-4 **Ref: Hess-T-2, Page 5, Lines 22-28**

Hess states "As a starting point, I would suggest the criteria established by Rule 21 for Southern California Edison. Under Rule 21, no supplemental technical review is required if a customer meets the following requirements: provides a complete application for interconnection; the proposed interconnection equipment is certified for the proposed application; the aggregate generating facility capacity on the line section is less than 15% of the circuit load; the starting voltage drop screen is met; the gross generating facility capacity is 10 MW or less; the short circuit current contribution screen is met; and the line configuration screen is met."

- a. Please provide a copy of “a complete application for interconnection”. The form does not have to have customer information included.
- b. Please explain in detail what the following statement means: “the proposed interconnection equipment is certified for the proposed application”, including in the explanation, what certification is being referenced, what is the basis for the certification, who makes the certification, and where such certification is referenced in Southern California Edison’s (“SCE”) Rule 21.
- c. Please explain in detail what the following statement means: “the starting voltage drop screen is met”, including in the explanation, what is “the starting voltage drop screen”, and a reference to where such starting voltage drop screen is referenced in SCE’s Rule 21.
- d. What is the size (in MWs) of SCE’s electrical system? A gross generating facility of 10 MW makes up what percent of SCE’s electrical system?
- e. Please explain in detail what the following statement means: “the short circuit current contribution screen is met”, including in the explanation, what is “the short circuit current contribution screen”, and a reference to where such short circuit current contribution screen is referenced in SCE’s Rule 21.
- f. Please explain in detail what the following statement means: “the line configuration screen is met”, including in the explanation, what is “the line configuration screen”, and a reference to where such line configuration screen is referenced in SCE’s Rule 21.

Response:

- a. Please clarify what you are asking for in this question. If HECO wants to see samples of completed applications that have been accepted pursuant to Rule 21, Hess would assume that they would be available from the California PUC.
- b. Please see Rule 21, Section J, Cal PUC Sheet No. 31606-E to 31620E. To paraphrase, certification means that the device is performing the duty as intended and within the specifications noted in rule 21 section J (i.e. IEEE 1547 and UL 1741). This is verified by a NRTL (Nationally Recognized Testing Laboratory) such as UL or ETI (These companies have credentials tracable to federal guidelines indicating their NRTL status). Since rotating equipment does not have a appropriate standard like UL 1741 or IEEE 929 (both for inverting technologies), Section J creates a standard for testing and allows the utility that has connected a particular model of generation device the ability to expedite future installations of the same model.
- c. Please see Rule 21, Section I.3.e., Cal PUC Sheet 31604E. The statement/section applies to generators that require grid power to operate. There are two methods for determining a pass. The first is that the customer's switchgear can handle the current draw. The second is a method for determining the voltage drop on the bus. In either case, passing this requirement does not alleviate the cogenerator of their responsibility to mitigate excessive flicker.

- d. This is difficult to answer as SCE's system is firmly interconnected to the west coast grid. It is Hess' understanding from FERC records that SCE controls approximately 5.1 GW of generation so that 10 MW would be less than 0.2%. Hess is unsure of the relevance to the interconnect process as the 10MW number is reflected nationally in IEEE 1547 and could apply to significantly smaller "Co-Op" utilities.
- e. Please see Rule 21, Section I.3.g., Cal PUC Sheet 31604E to 31605E. To paraphrase, this is the screen to determine if the generator is expected to impact the distribution system fault characteristics as far as fuse coordination, or relay sensitivity. It involves determining the SCCR (Short Circuit Current Contribution Ratio) on the primary side of the transformer nearest the Point of Interconnect (HECO definition).
- f. Please see Rule 21, Section I.3.h., Cal PUC Sheet 31605E. It is the screen used to determine if significant (of nuisance or damage to customers or the utility) overvoltages could occur on loss of grounding when the utility opens their substation breaker. In single phase and utility delta configurations it is not of concern; however in a grounded system the size of the generation facility must be less than or equal to 10% of the peak distribution circuit load to avoid further study.

HECO/Hess-DT-IR-5

Hess' May 7, 2004 Preliminary Statement of Position discussed the fourteen issues set forth in Prehearing Order No. 20922, filed April 23, 2004. Please state

whether Hess' position on the fourteen issues has changed from the position set forth in its Preliminary Statement of Position. If the answer is anything other than an unqualified "no", please (1) identify each issue on which there has been a change in position, (2) state and fully discuss each changed position on the issues, and (3) provide the basis for each changed position on the issues (including a copy of any material relied in support of each changed position).

Response: No.

**Hess Microgen (“Hess”) Responses to Information Request from
Kauai Island Utility Cooperative (“KIUC”) based on
Hess’ Written Direct Testimonies**

- KIUC/HESS-DT-IR-1** Hess's Direct Testimonies do not appear to distinguish between KIUC's cooperative ownership structure and the investor-owned ownership structures of the other Hawaii electric utilities. As noted in KIUC's Direct Testimonies, KIUC is a cooperative owned by its member/customers. As a member, these customers are entitled to share in the margins of the cooperative through patronage capital refunds/credits. In the event a member of KIUC decided to install its own DG facilities, this would impair the cooperative's margins, its build-up of equity, and the resulting ability to provide patronage capital refunds to its members. In addition, because KIUC is required to maintain a certain relationship of sales to members versus non-members in order to retain its tax-exempt status, the loss of members to non-KIUC owned DG facilities, where such members for whatever reason decide to forego their membership but remain connected to KIUC's system for back-up or supplemental power, could threaten this tax-exempt status.
- a) Given the above, please explain whether a member of KIUC would have less of an incentive to install its own

DG system, thus foregoing or reducing its build-up of patronage capital, than if it were a customer of an investor-owned utility.

- b) Please explain whether the above supports the ownership of DG facilities by KIUC in order to protect KIUC's build-up of equity, the continued availability of patronage capital refunds to its members, as well as KIUC's tax-exempt status.

Response:

- a) A member of KIUC would have to make that decision on his/her own based upon their individual circumstances.
- b) Yes. As stated in its testimony, Hess is in favor of both regulated electric utility companies' and private companies' ownership of DG facilities because they both offer customers distinct options in regards to ownership, installation, maintenance, and rates. These distinct options will permit customers to select the provider that will best meet their needs for reliable power at a fair cost.

**Hess Microgen (“Hess”) Responses to Information Request from
Hawaii Renewable Energy Alliance (“HREA”) based on
Hess’ Written Direct Testimonies**

HREA-HESS-T-1-IR-1. On page 2 (line 22), to be clear, does HESS support a competitive market with a level playing field in Hawaii for DG?

Response: Yes.

HREA-HESS-T-1-IR-2. As a follow-up to HREA-HESS-T-1-IR-1, do HESS believe there can be a level playing field if the utilities are allowed to participate directly as DG providers in the market? Please explain your answer.

Response: Yes. As long as the utilities are dealing fairly and in a timely manner with the private companies who are offering DG to customers. Also, to achieve a level playing field, the utilities should not be allowed to charge customers of the private companies standby charges or other fees and charges that it does not charge its DG customers. Nor, should the utilities be allowed to provide their DG customers with special discounts to gain a competitive advantage over private companies. In essence, the utilities and the private companies must be playing by the same rules to achieve a level playing field.

HREA-HESS-T-1-IR-3. On page 2, do you believe some form of standby charges are appropriate? Please explain your answer.

Response: 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 and the utilities must be willing to apply such

standby charges to its DG installations, if they are allowed to have DG installations.

HREA-HESS-T-1-IR-4. If possible, could you provide the approximate savings to DG customers on HESS installations in Hawaii to date?

Response:

Hess objects to this IR because it requests confidential and proprietary information.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served copies of Hess Microgen, LLC Responses to Information Requests to its Direct Testimonies from the Division of Consumer Advocacy; Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc. and Maui Electric Company, Limited; Kauai Island Utility Cooperative; and Hawaii Renewable Energy Alliance; 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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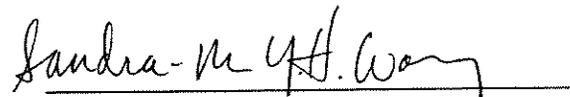
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DATED: Honolulu, Hawaii, August 18, 2004



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