

ORIGINAL

DIVISION OF CONSUMER ADVOCACY  
Department of Commerce and  
Consumer Affairs  
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PUBLIC UTILITIES  
COMMISSION

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BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

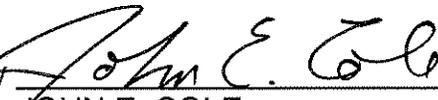
In the Matter of the Application of )  
 )  
PUBLIC UTILITIES COMMISSION )  
 )  
Instituting a Proceeding to Investigate )  
Distributed Generation in Hawaii )

DOCKET NO. 03-0371

**DIVISION OF CONSUMER ADVOCACY'S**  
**SUBMISSION OF INFORMATION REQUESTS**

Pursuant to the agreed upon schedule set forth in Prehearing Order No. 20922,  
the Division of Consumer Advocacy submits its **INFORMATION REQUESTS** in the  
above docketed matter.

Respectfully submitted,

By   
\_\_\_\_\_  
JOHN E. COLE  
Executive Director

DIVISION OF CONSUMER ADVOCACY

**DOCKET NO. 03-0371**

**PUBLIC UTILITIES COMMISSION**

**CONSUMER ADVOCATE'S  
SUBMISSION OF INFORMATION REQUESTS**

**INSTRUCTIONS**

In order to expedite and facilitate the Consumer Advocate's review and analysis in the above matter, the following is requested:

1. For each response, the Company should identify the person who is responsible for preparing the response as well as the witness who will be responsible for sponsoring the response should there be an evidentiary hearing;
2. Unless otherwise specifically requested, for applicable schedules or workpapers, the Company should provide hard copies of each schedule or workpaper together with one copy of each such schedule or workpaper on electronic media in a mutually agreeable format (e.g., Excel and Quattro Pro, to name two examples); and
3. When an information request makes reference to specific documentation used by the Company to support its response, it is not intended that the response be limited to just the specific document referenced in the request. The response should include any non-privileged memoranda, internal or external studies, assumptions, Company instructions, or any other relevant authoritative source which the Company used.
4. Should the Company claim that any information is not discoverable for any reason:
  - a. State all claimed privileges and objections to disclosure;

- b. State all facts and reasons supporting each claimed privilege and objection;
- c. State under what conditions the Company is willing to permit disclosure to the Consumer Advocate (e.g., protective agreement, review at business offices, etc.); and
- d. If the Company claims that a written document or electronic file is not discoverable, besides complying with subparagraphs 4(a-c), identify each document or electronic file, or portions thereof, that the Company claims are privileged or will not be disclosed, including the title or subject matter, the date, the author(s) and the addressee(s).

Party to Whom Discovery Directed and From Whom Responses are Solicited	Beginning IR	Ending IR
HECO,HELCO, MECO	CA-SOP-IR- 1	CA-SOP-IR-26
KIUC	CA-SOP-IR-27	CA-SOP-IR-48
HREA	CA-SOP-IR-49	CA-SOP-IR-58
DBED&T	CA-SOP-IR-59	CA-SOP-IR-60
TGC	CA-SOP-IR-61	CA-SOP-IR-75
JCI	CA-SOP-IR-76	CA-SOP-IR-84
County of Maui	CA-SOP-IR-85	CA-SOP-IR-88
HESS	CA-SOP-IR-89	CA-SOP-IR-101
LOL	CA-SOP-IR-102	CA-SOP-IR-106

Note: The Division of Consumer Advocacy has no information requests to the County of Kauai

**DOCKET NO. 03-0371**

**PUBLIC UTILITIES COMMISSION**

**CONSUMER ADVOCATE'S  
SUBMISSION OF INFORMATION REQUESTS**

**The following information requests are directed to HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), MAUI ELECTRIC COMPANY, LIMITED ("MECO"), AND HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO") and are based on THEIR JOINT Preliminary Statement of Position:**

CA-SOP-IR-1      **Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 1, issue 1, paragraph 1, lines 5 through 9.**

- a. Please identify specific cogeneration facility examples of this type. If no such examples exist, please explain why they should not be DG facilities.
- b. Later in the Companies' preliminary statement, it indicates that cogeneration should not be included because of its size. Assuming that examples as described above do exist, please elaborate by providing all reasons why cogeneration should not be considered in this proceeding.

CA-SOP-IR-2      **Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 1, issue 1, paragraph 2.**

The Companies' identify seven criteria for a form of DG to be "feasible and viable for Hawaii." Given that the scope of the proceeding requires consideration of other items such as externalities, is it the Companies' assertion that these seven criteria encompass all of the issues or do the Companies believe that other

criteria may be identified for the Commission to consider in reaching its decision?

CA-SOP-IR-3

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Pages 1 and 2, issue 1.**

- a. On pages 1 and 2, the Companies identify seven DG uses in Hawaii. Please provide a list of these DG facilities in Hawaii including ownership and operations arrangements and contractual arrangements between the facility, the utility and the customer as applicable to each facility.
- b. To the extent not already discussed in Issue 2 by the Companies, please discuss other technically feasible and viable DG options that might be implemented in Hawaii but has not yet occurred.

CA-SOP-IR-4

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Pages 2 - 4, issue 1.**

- a. The Companies identifies various fuels that might be used by certain DG technologies, such as the ICE and microturbines. Please provide the Companies' understanding as to the fuel that is used by CHP.
- b. Please provide information that includes historical (1 - 3 years) and projected fuel prices and the availability of each fuel that could be used by a DG application (natural

gas, propane, diesel, methanol, bio-gasses and gasoline). If available, please provide this information by island. Please include a copy of any analyses, reports or studies that support the response.

CA-SOP-IR-5

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, pages 2 - 4, issue 1.**

The Company identifies certain other practical issues for the Commission's consideration. Please provide a more detailed insight on the following:

- a. Fuel type. For each applicable fuel type (e.g., propane, diesel, etc.), please identify each possible permit and the agency that evaluates and issues the applicable permit
- b. Efficiency. The Companies have identified a range of thermal efficiency of fuel for CHP systems. For each applicable DG technology (cogeneration, ICE and microturbines), please provide the range of thermal efficiency. Please provide copies of the analyses performed by the Companies or identify the source of the data used to support the response.
- c. Land use. In certain sections, the Companies have made references to land requirements. Please provide the following and a copy of the analysis or identify the source of the data used to support the response:

1. The range of land requirements for each DG technology. The response should be a value of land unit over unit of power.
  2. The various land permitting requirements for each DG technology and the agencies that issue the permit.
- d. Air emissions/quality. The Company has provided an abbreviated list of air emissions on page 24. Please provide the following and a copy of the analysis or identify the source of the data used to support the response:
1. A list of particulates or pollutants emitted into the air by each DG technology. To the extent that the response varies by fuel type, but are common to each DG technology, the response may be by fuel type instead.
  2. The various air permitting requirements for each DG technology and the agencies that issue the permit.
  3. Please identify any commercially available control technologies that might mitigate air emissions issues.
- e. Sound emissions/quality. Please provide the following and a copy of the analysis or identify the source of the data used to support the response:
1. The general sound quality and/or decibel issues associated with each DG technology.

2. The various air permitting requirements for each DG technology and the agencies that issue the permit.
  3. Please identify any commercially available control technologies that might mitigate sound emissions issues.
- f. Water requirements. To the extent applicable, please provide the following and a copy of the analysis or identify the source of the data used to support the response:
1. The water requirements for each applicable DG technology. In your response, please indicate whether the water requirement is limited to potable water, or whether non-potable or treated non-potable water might be used.
  2. The various permitting requirements for each DG technology that requires water and the agencies that issue the permit.
- g. By-products. For each applicable technology, please provide the following:
1. Please identify the by-products created by each applicable DG technology that requires disposal.
  2. If applicable, please identify those by-products that require testing or other control procedures by a regulatory agency.

- h. Capital costs. Please provide the estimated capital costs for each type of DG technology in a cost per power unit ratio. Please provide a copy of the analysis performed by the Companies or identify the data source used to support the response.
- i. Ongoing operating and maintenance costs. Please provide the estimated ongoing O&M costs for each type of DG technology in a cost per energy unit ratio. Please provide a copy of the analysis performed by the Companies or identify the data source used to support the response.
- j. The Company has identified the possible uses for certain types of DG technology (e.g., ICE has been used for emergency power, standby power, peaking, cycling, baseload and cogeneration applications). Please identify the possible uses for each DG technology (e.g., emergency, standby, reactive power, etc.).
- k. Please provide the current availability and reliability metrics for each DG technology.

CA-SOP-IR-6

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 4, issue 1, paragraph 4.**

- a. The Companies state that wind farms “appear to be economically feasible” but later indicate that “it remains to be seen whether small, customer-sited WTG installations are

economically feasible, taking into consideration costs and siting constraints.” Please explain what “remains to be seen”.

- b. If available, please provide the cost per kWh for WTG with and without credits for projects (if available, one or two examples would suffice) that have been completed using the federal and state tax credits

CA-SOP-IR-7

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 6, issue 1, paragraph 1.**

- a. In the Companies’ assessment, what size DG application would be considered to be “large enough” for a reasonable economy of scale? Please provide copies of any analyses that support the response.
- b. In the Companies’ assessment, what DG efficiency rating would be “highly efficient” enough to be accepted in Hawaii? Please provide copies of any analyses that support the response.

CA-SOP-IR-8

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 8, issue 2, paragraph 5.**

- a. Please provide information, studies or analyses that support that such applications (customer-sited generators) could not be cost effective for the Companies.

- b. If not included in your response to part a. above, please discuss whether such applications be cost effective for the customer and provide information, studies, analyses that support the response.

CA-SOP-IR-9

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 8, issue 2, paragraph 5.**

Please explain why the Companies do not intend to engage in the business of providing off-grid generation.

CA-SOP-IR-10

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 10, issue 2, paragraph 2.**

- a. Please provide supporting studies, analyses and examples of independent DG/CHP projects that would not be beneficial to customers and the utility.
- b. If an independent, economic bypass DG project were completed, please discuss whether it would be beneficial to the general consumers and the state, but maybe not the utility company. Please provide a copy of any analysis or study that supports the response.

CA-SOP-IR-11

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Pages 11 – 12, issue 2.**

- a. Please provide information, studies and surveys that support the statement that customers are asking the utility to offer a full range of services.
- b. If not readily evident in the studies or surveys provided, please identify the services that the customers are demanding.

CA-SOP-IR-12

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 13, issue 3, paragraph 2, lines 3 and 4.**

Why do the Companies not currently anticipate providing customer-sited emergency generation service?

CA-SOP-IR-13

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 14, issue 3, paragraph 1, lines 1 and 2.**

- a. Why would the Companies not intend to offer such a service (customer-sited generation for power purposes)?
- b. If not already discussed in the response to part a., please discuss whether the Companies would consider customer-sited generation for power purposes if this option represented the most expeditious and perhaps less expensive alternative, all other things being held equal (e.g., safety, reliability, etc.).

CA-SOP-IR-14

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 15, issue 3, paragraph 3.**

The Companies indicate that they have not taken a position on whether third-party owned installations of CHP and DG should be regulated by the Commission due to the relatively small number of such installations.

- a. Assuming that, as a result of this docket, the number of such installations increase significantly. What is the Companies' position on whether such installations should be regulated by the Commission and provide the reasons why.
- b. If not already identified in the response to part a. above, please identify the changes, if any, to the existing statutes or rules that would be required to effectuate the Companies' position.

CA-SOP-IR-15

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 16, issue 4, paragraph 1.**

It is the Consumer Advocate's understanding that MECO has a December 1997 study that analyzed dispersed generation.

- a. Please discuss whether each of companies have a similar study evaluated the opportunities and analyzed the feasibility for distributed energy resources of more recent vintage. If so, please provide a copy of those studies.

- b. If not specifically discussed, in any studies provided in response to part a. above, please discuss whether there are any circumstances that currently exist where DG could be effectively used on distribution circuits? Please provide copies of maps that show distribution circuits and locations that DG could be sited effectively and the studies or analyses that support the response.

CA-SOP-IR-16

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 16, issue 4, paragraph 2, lines 4 and 5.**

- a. Please give examples of units that were no longer operable or have been replaced and why.
- b. Please provide a list of DG that is still operable and discuss the Companies' assessment of why these units are still operable while others are not.
- c. What spinning and supplemental generating reserve margins (operating reserves) does the Company use during normal operating conditions?
- d. Does the Company believe the DG can supply generation planning reserves and operating reserves? If so, what DG can supply each type of reserve?

CA-SOP-IR-17

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, page 21, issue 6, paragraph 3.**

- a. Please provide a detailed explanation for the assertion that revenue would be lost because of DG. To support your explanation, please provide copies of any analyses that support the Companies' response.
- b. Please identify the estimated order of magnitude for installed DG projects installed by a customer or number of customers that would result in the need to request rate relief. Please provide a copy of any analyses that support the response.
- c. If not already provided in response to part b. above, please provide a summary of existing rates and proposed rates (for all affected classes) that would result when relief is sought.
- d. Please compare your responses to subparts b. and c. to DG projects that are utility owned. In other words, please discuss whether the threshold of seeking rate relief or impact on rates would vary if the projects were company owned.

CA-SOP-IR-18

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, page 22, issue 6.**

In this issue, and in issue 10, the Companies make reference to a discount for CHP and the possibility of charging something more than marginal, but less than fully embedded, costs.

- a. Please discuss how the Companies envision seeking recovery of the incremental difference between what might be charged and the full retail rates. Please provide a copy of any analyses or other calculations that illustrate the Companies' response.
- b. Assuming that, in the future, rates are set to migrate towards cost-based levels, please discuss how the Companies envision seeking recovery of the incremental difference between what might be charged and the fully embedded rates. Please provide a copy of any analyses or other calculations that illustrate the Companies' response.

CA-SOP-IR-19

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, page 23, issue 7, paragraph 3.**

The Company indicates that DG "of all types can reduce transmission line losses, providing additional efficiency improvements."

- a. What are the Companies' most recently calculated transmission line losses in kWh and in percent of energy supplied to Customers? Please provide the studies or analyses performed to determine the response. If the most recent analysis available was already provided in a recent rate case, please state so.

- b. Please confirm that the most recently filed map of the Companies' transmission systems with the Commission is still current. If not, please provide a copy of each company's map, or, in the alternative, if security and safety concerns apply, please confirm that a copy can be made available for review under protective order.

CA-SOP-IR-20

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 24, issue 7, paragraph 2, lines 1 and 6**

The Companies' seem to indicate that, due to certain factors, DG units may be acceptable as it relates to air emissions.

- a. What geographic areas of the Companies' systems would be conducive to DG from an environmental emissions perspective? Please provide a copy of the analyses used to support the response.

CA-SOP-IR-21

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Page 25, issue 7, paragraph 2, line 3.**

- a. If not already provided elsewhere, please identify geographic areas of the Companies' transmission systems that would benefit from DG. Please provide a copy of the analysis or study that supports the response.
- b. Please provide the most recent marginal cost of service studies for the transmission and distribution systems.

- c. Identify all transmission and distribution delivery system constraints.
- d. Please provide transmission and distribution improvement plans to relieve transmission and distribution delivery system constraints. If applicable, please identify the existing docket number for that project, or indicate whether the project appeared on each company's most recent capital budget filed with the Commission.

CA-SOP-IR-22

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 26, issue 8.**

The Companies project “that distributed generation will complement, but not replace, central station generation in Hawaii in addressing load growth. The amount of forecasted load growth is much higher than can be met with distributed generation alone, given the relatively small scale of distributed generation systems.”

- a. Please provide a copy of each company's most recent load growth projections. If the most recent projections have already been provided, please identify the applicable proceeding or filing.
- b. In projecting that DG will be complementary to, but not replace, central station generation in Hawaii to address load growth, please discuss the time frame to which this

projection is applicable. Please provide a copy of any analyses that support the response.

CA-SOP-IR-23

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 32, issue 10, paragraph 2.**

- a. Please discuss what costs the service termination charges would cover. Please provide calculations and/or workpapers that illustrate the charge that would be assessed by each company as envisioned by the Companies.
- b. Please provide a detailed discussion of how the charges envisioned by the Companies would be administered.

CA-SOP-IR-24

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, Page 36, issue 13, paragraph 1.**

- a. Did the companies prepare internal transmission and ancillary service rates? If yes, please provide transmission and ancillary service rates for each company with all workpapers.
- b. Please provide 2003 system control and load dispatching expense for FERC Account No. 556 (or by the applicable NARUC account).
- c. Please provide the following for all the generating units:
  1. Nameplate ratings (MVA).
  2. Nameplate power factor.

3. Nameplate exciter rating (kW).
  4. Maximum operating capability (MW).
  5. Nameplate reactive capability (MVA<sub>r</sub>).
- d. Please identify all of the generating units that provide load following, spinning reserves and supplemental reserves service.
- e. For each of the generating units identified in d. above, please provide the following:
1. Unit rating (MW).
  2. 2003 fixed operating and maintenance cost.
  3. Unit ramp rate (MW/minute).
- f. Please provide the following for each Company's generating units (as of December 31, 2003):
1. Turbo generation plant in service.
  2. Accessory electric equipment plant in service.
  3. FERC Account 314 plant in service (or the applicable NARUC account).
  4. Rotors, generators and their accessories plant in service.
  5. Exciters and voltage regulators plant in service.
  6. Energy generated (kWh).
- g. What were the 12-month coincident peaks in 2003?

- h. What were the production and transmission insurance expenses in FERC Account No. 924 (or the applicable NARUC account) in 2003?
- i. Please provide the most recent avoided cost calculation for qualifying facilities rate schedule.

CA-SOP-IR-25

**Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A. Pages 35 - 36, issue 13.**

- a. Other than the Commission's approval of the Companies' proposed CHP program, it does not appear that the Companies have identified any other changes to the existing statutes, state administrative rules, utility rules and practices to facilitate the successful deployment of DG. Please confirm that it is the Companies' assertion that no changes to the statutes, rules and practices are required to successfully deploy DG.
- b. The Companies indicate that the process of demonstrating ratepayer benefits should be standardized. Please identify what process of demonstrating ratepayer benefits is being referring to, and discuss the procedures, etc., that should be in a "standardized" process.

CA-SOP-IR-26      **Ref: HECO, HELCO, and MECO Preliminary SOP, Exhibit A, page 36, issue 13.**

The Companies indicate that fuel cost recovery methodologies should be revised to accommodate DT. Please expand on what should be done to revise fuel cost recovery methodologies.

**The following information requests are directed to KAUAI ISLAND UTILITIES COOPERATIVE (“KIUC”) and are based on KIUC’s Preliminary Statement of Position:**

CA-SOP-IR-27      **Ref: KIUC Preliminary SOP, page 8, issue 2.**

KIUC states that who should own and operate distributed generation project will largely depend on the type, size and location of the distributed generation project. Please provide all criteria that will need to be considered in determining who will own the DG project and explain how each criteria was determined and why it is reasonable.

CA-SOP-IR-28      **Ref: KIUC Preliminary SOP, page 9, issue 2**

- a.      KIUC states that is “would also consider being a possible owner of the DG facility, but not necessarily the builder or installer of the facilities, if it would provide material benefits to KIUC and its members.”

1. Please define "material" as used in the statement. What are the parameters considered to determine whether a material benefit will be achieved?
  2. Please explain why KIUC does not want to necessarily be the builder or installer of the facility if it was determined that the facility would provide material benefits to the utility.
- b. KIUC goes on to state that owning the DG facility could protest the utility against the loss of revenues from customers leaving KIUC's electric grid. Since KIUC is a cooperative owned and operated by its members who largely consist of KIUC's electric customers, please explain KIUC's understanding of the benefits to customers installing a DG system and leaving KIUC's system.

CA-SOP-IR-29

**Ref: KIUC Preliminary SOP, page 11, issue 3.**

Please elaborate on how and why the owner of a DG project would share in the benefits a DG project would create for the electric utility system, especially if the owner of the project left the utility system?

CA-SOP-IR-30

**Ref: KIUC Preliminary SOP, page 11, issue 4.**

- a. What circumstances currently exist where DG could be effectively used on distribution circuits? Please provide

copies of maps that show the distribution circuits and locations on KIUC's system that DG could be sited effectively.

- b. Provide the transmission and distribution load data that support the assessment made in response to part a of this information request.
- c. What generation planning reserve margin does the Company use for long-term planning?
- d. What spinning and supplemental generating reserve margins (operating reserves) does the Company use during normal operating conditions?
- e. Does the Company believe the DG can supply generation planning reserves and operating reserves? If so, what DG can supply each type of reserves?

CA-SOP-IR-31

**Ref: KIUC Preliminary SOP, page 11, issue 4**

- a. Please explain why KIUC contends that the electric utility would still need to locate a transmission and distribution system in an area served by only one distributed generation facility in order to supply power in the event the facility goes down for maintenance or for unexpected reasons.
- b. What are all of the factors considered in reaching this determination.

CA-SOP-IR-32

**Ref: KIUC Preliminary SOP, page 12, issue 6, paragraph 1, lines 1 and 2**

Please provide copies of all documentation supporting the conclusion that DG would result in only minimal cost savings at best due to the small reduction in transmission line losses from providing generation at the customer location rather than having to transmit bulk energy over long distances. Include all data that was relied upon to make this determination, including load flow analysis data.

CA-SOP-IR-33

**Ref: KIUC Preliminary SOP, page 13, issue 6, paragraph 1, lines 6 and 7.**

- a. Please identify the specific fixed costs that might be increased because of DG projects and explain why these costs would be necessary.
- b. Has KIUC performed any studies to determine that rates that would be charge if DG is implemented by a Customer? If yes, please provide a copy of such studies.

CA-SOP-IR-34

**Ref: KIUC Preliminary SOP, page 13, issue 7, paragraph (b), lines 1 and 2.**

What geographic areas of the KIUC's system would be conducive to DG from an environmental emissions perspective? Explain how this assessment was determined.

**Ref: KIUC Preliminary SOP, page 13, issue 7, paragraph (c).**

- a. What are the existing transmission line losses in kWh and in percent of energy supplied to KIUC's customers? Provide all documentation to support your response.
- b. Please provide a copy of the map of KIUC's transmission systems.
- c. What specific geographic areas of KIUC's transmission systems would benefit from the installation of DG projects? Provide all documentation to support this assessment.
- d. Please identify these areas on the map provided in response to part b above.
- e. What is the booked transmission plant in service as of December 31, 2003?
- f. Please provide a copy of the most recent transmission and distribution system loss study conducted for KIUC's system.
- g. Please provide a copy of the most recent capital improvement plans for the transmission and distribution systems.
- h. Identify all transmission and distribution delivery system constraints.
- i. Please provide copies of all transmission and distribution improvement plans that have been determined necessary to

relieve transmission and distribution delivery system constraints.

CA-SOP-IR-36 **Ref: KIUC Preliminary SOP, page 15, issue 9, paragraph (b).**

The SOP refers to the safety and performance standards that would need to be complied with if the DG facility were to interconnect to KIUC's grid. Would these interconnections also need to meet the National Electric Safety Code (NESC)? Explain.

CA-SOP-IR-37 **Ref: KIUC Preliminary SOP, page 16, issue 9, paragraph (e).**

Please explain the possible deregulations to the transmission and distribution system that could be caused by DG.

CA-SOP-IR-38 **Ref: KIUC Preliminary SOP, page 16, issue 9, paragraph (k).**

Please expand on the standards, regulations and requirements that KIUC believes is most important to the utility, if a DG facility were allowed to interconnect to KIUC's grid. Explain.

CA-SOP-IR-39 **Ref: KIUC Preliminary SOP, page 17, issue 10.**

Please identify the specific tariffs that will allow KIUC to provide on-site generation that is owned by KIUC.

- CA-SOP-IR-40 Please provide the following for all the generating units:
- a. Nameplate ratings (MVA).
  - b. Nameplate power factor.
  - c. Nameplate exciter rating (kW).
  - d. Maximum operating capability (MW).
  - e. Nameplate reactive capability (MVA<sub>r</sub>).
- CA-SOP-IR-41 Please identify all of the generating units that provide load following, spinning reserves and supplemental reserves service.
- CA-SOP-IR-42 For each of the generating units identified in response to the above information request please provide the following:
- a. Unit rating (MW).
  - b. 2003 fixed operating and maintenance cost.
  - c. Unit ramp rate (MW/minute).
- CA-SOP-IR-43 Please provide the following information as of December 31, 2003 for each Company's generating units:
- a. Production plant in service.
  - b. Accessory electric equipment plant in service.
  - c. FERC Account 314 plant in service (or by applicable NARUC account).
  - d. Rotors, generators and their accessories plant in service.

- e. Exciters and voltage regulators plant in service.
- f. Energy generated (kWh).

CA-SOP-IR-44 What were the 12-month coincident peaks in 2003?

CA-SOP-IR-45 What were the production and transmission insurance expenses incurred in 2003 and charged to the FERC Account No. 924 (or by the applicable NARUC account)?

CA-SOP-IR-46 What are the 2003 production and transmission depreciation expenses?

CA-SOP-IR-47 For each generating unit, please provide the following 2003 expenses:

- a. Total production.
- b. Fuel.
- c. Maintenance supervision and engineering.
- d. Maintenance of boiler.
- e. Maintenance of electric plant.

CA-SOP-IR-48 Please provide a copy of the most recent avoided cost calculation for qualifying facilities.

**The following information requests are directed to HAWAII RENEWABLE ENERGY ALLIANCE (“HREA”) and are based on HREA’s Preliminary Statement of Position:**

CA-SOP-IR-49

**Ref: HREA SOP, page 6, lines 7- 9**

- a. Please identify the specific sites where the near-term DG projects can be installed on each island and the anticipated capacity of each system from each technology identified as being possible in the “near-term.”
- b. Please explain what efforts have been taken to ensure that the necessary permits to install the units can be obtained.
- c. Are the possible projects anticipated to serve only a specific customer(s)?
  1. If yes, please identify the customer(s) who will be served by the units.
  2. Does HREA envision the customer(s) entire load to be served by the DG project, or only part of the customer(s)’ load with the utility serving the remaining load. Explain.
  3. If no, will the energy produced by the DG facility be connected to the utility’s transmission and distribution system to serve the utility’s customers?
  4. If yes, will transmission and distribution system upgrades be required to inter-connect the DG project to the utility system?

5. If yes, what efforts have been taken to ensure that the necessary permits can be obtained to construct the additional transmission and distribution system.

CA-SOP-IR-50

**Ref: HREA SOP, page 7, issue 2, line 3**

- a. Please explain to what “all barriers to the market” refers and identify each perceived barrier.
- b. Explain why HREA contends that each item listed in response to part a above is perceived to be a barrier to the market.
- c. List the specific actions that must be taken to remove each identified barrier.

CA-SOP-IR-51

**Ref : HREA SOP, page 7, issue 2, lines 8 through 13**

- a. Please elaborate on HREA’s vision of the “DG Market.” In your discussion, please include sufficient details on how the market would operate.
- b. Please identify the specific steps, beyond erecting appropriate firewalls, that would need to be taken to implement and maintain HREA’s vision of the DG market.
- c. What are the “appropriate firewalls” and explain how they would ensure a level playing field.

- d. HREA states “[t]he un-regulated utility entity would then compete with our energy service providers.” Please identify to whom “our energy service providers” refers.

CA-SOP-IR-52

**Ref: HREA SOP, page 7, issue 3, lines 17 through 21**

- a. Please explain how the current rebate programs referred to would work to support the envisioned DG market.
- b. If there were a rebate, please explain how the rebate would allow the utility and other owners to be competitive with each other.
- c. Who would be responsible for paying the costs of the rebate offered in the DG market.
- d. HREA states “DG energy service providers have access to the market”. Please explain to what “the Market” refers.

CA-SOP-IR-53

**Ref: HREA SOP, page 7, issue line 22.**

Please provide copies of the administrative rules that would need to be implemented.

CA-SOP-IR-54

**Ref: HREA SOP, page 8, issue 4**

- a. Will DG owners be compelled to operate the DG projects in order to provide reliability to the electric utility system; or will the DG facilities be operated based solely on the savings or

profits to the customer who is served by the DG facility or the owner of the facility? Explain.

- b. Please identify the specific situation(s) in which HREA has determined that DG can be used to avoid distribution system upgrades to a new hotel or resort?
- c. In each of these situations, who is expected to pay for the DG project? Explain.
- d. Please elaborate on what is meant by “the innovative and competitive manner that DG would be implemented.”

CA-SOP-IR-55

**Ref: HREA SOP, page 10, issue 5, lines 3 through 8.**

- a. Please provide specific examples of non-fossil-fueled DG projects that have achieved greater system availability than fossil-fueled generators and that can be dispatched for reliability purposes when called upon within 10-15 minutes notice.
- b. If not already discussed in the response to part a. above, please identify any examples of non-fossil-fueled DG projects in Hawaii, or on other island systems, that have achieved greater system availability than fossil-fueled generators and that can be dispatched for reliability purposes when called upon in a 10 – 15 minute notice.

CA-SOP-IR-56

**Ref: HREA SOP, page 10, issue 6, lines 19 through 26.**

- a. What type of DG project is envisioned that will permanently avoid T&D upgrades? Please provide a detailed response that describes the applicable project and the applications by which the DG project would permanently avoid T&D upgrades.
- b. What type of DG project would be dispatchable in a manner that can supply spinning reserves? Please provide a detailed response that describes the applicable project and applications by which the DG project could be dispatched in a manner to supplant the existing means of providing spinning reserve.

CA-SOP-IR-57

**Ref: HREA SOP, page 13, issue 10, lines 19 through 24.**

- a. Please explain how the suggested tiered-rate system would be consistent with the utility's cost of service. Provide copies of all computations that support the response.
- b. Please explain why the customer charge currently authorized for each electric utility operating in the State would decrease if, in fact, customer charges collect fixed costs and not variable costs such as fuel?

CA-SOP-IR-58 **HREA SOP, Page 14, lines 2-3.**

- a. Please provide the values the each identified benefit and explain how the value would be used to facilitate DG implementation.
- b. Please explain how each value provided in response to part a. of this information request was determined.

**The following information requests are directed to DEPARTMENT OF BUSINESS ECONOMIC DEVELOPMENT AND TOURISM (“DBED&T”) and are based on DBED&T’s Preliminary Statement of Position:**

CA-SOP-IR-59 **Ref: DBEDT Preliminary SOP, chapter 3, page 19, paragraph 1, lines 12 through 16.**

- a. Please confirm that it is DBEDT’s position that small customers would encounter the likelihood of having no electric service during peak periods when the customer’s DG unit is out of service?
- b. If this understanding is incorrect, please elaborate on DBEDT’s position and how small customers would be served during peak periods when the customer’s DG is out of service.

CA-SOP-IR-60 **Ref: DBEDT Preliminary SOP, chapter 3, standby charges, page 23, number 16.**

- a. Please provide a detailed discussion of how the Commission will implement the regulatory system that would allow the

transition from a distribution system and rate base designed to serve 100% of a customer's energy use to paradigm where customers are charged based on as-available use.

- b. Please confirm that it is DBEDT's assertion that customers who use the distribution system on an as-available basis should only pay variable charges, and no fixed charges whatsoever, because, at non-peak times, if a particular customer did not use the system, there would be "excess" capacity on the distribution system where no contribution to the fixed costs would be recovered anyway.

**The following information requests are directed to THE GAS COMPANY ("TGC") and are based on TGC's Preliminary Statement of Position:**

CA-SOP-IR-61      **Ref: TGC Preliminary SOP, Section II. Summary, page 2 paragraph 2.**

Please explain why if the DG facility was sited on the user's property and designed and used only to meet the electric needs of that user or property must the DG facility be deemed non-utility in nature, even though the facility were owned by the electric utility.

CA-SOP-IR-62      **Ref: TGC Preliminary SOP, Section II. Summary, page 3, paragraph 1, lines 1 through 5,**

- a. Please provide a further explanation of how and why installations classified as non-regulated would level the playing field for all potential competitors and neutralize an

electric utility's natural market power to encourage a more competitive market.

- b. Provide explain what is meant by "if warranted by market power." Provide all criteria that would determine when market power would allow the electric utilities to compete via separately capitalized and separately staff-regulated affiliate.

CA-SOP-IR-63

**Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 3, paragraph 1, lines 4 through 6**

TGC states that it believes that user-sited DG installations would be deemed non-utility and not part of the regulated electric utility business. Please explain what how it would work and include all of the mechanisms that would need to be established to allow for the proposal as suggested by TGC.

CA-SOP-IR-64

**Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 1, lines 3 through 4**

- a. Please provide copies of information, studies or analyses relied upon by TGC to support the recommendation that any ownership or operation by electric utilities of small, user-sited DG should be structured to mitigate such market power. Provide specific examples of how the DG market would be structured to mitigate "such market power."

- b. Explain how a user-sited DG should be structured and provide examples of a separately capitalized, separately staffed non-regulated affiliate DG project.

CA-SOP-IR-65

**Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 2, line 2.**

TGC states that it believes that user-sited DG installations comprise one segment of Hawaii energy markets in which competition can be practicable. Please explain what “competition can be practicable” and provide examples of why TGC believes this statement.

CA-SOP-IR-66

**Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 3, parts a and b.**

- a. Provide examples of why TGC believes that user-sited generation is not a traditional utility function and specify what other state commissions treat user-sited DG as non-utility and non-jurisdictional.
- b. Cite examples of why user-sited DG on utility reliability is not different whether the DG is owned or operated by the utility.

CA-SOP-IR-67

**Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 4, lines 1 and 2**

- a. Please explain further why TGC believes that if electric utilities are allowed to design, construct, install, own and/or operate user-site DG systems to their benefit and the benefit

of their utility customers, that the regulatory agencies must considered the significant impacts on other utilities and utility customers under their jurisdiction.

b. What are the specific impacts that must be considered?

CA-SOP-IR-68 **Ref: TGC Preliminary SOP, Section III. Planning Issues, question 3, page 5, paragraph 3, lines 4 and 5.**

Please explain and give specific examples of the advertising of DSM measures and available rebates at other ratepayer expense.

CA-SOP-IR-69 **Ref: TGC Preliminary SOP, Section III. Planning Issues, question 3, page 6, paragraph 2b, lines 5 and 7**

What does TGC envision to be the applicable electric tariffs and regulations? Please provide samples of the specific tariffs and regulations.

CA-SOP-IR-70 **Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 4, paragraph 1, line 3**

Please identify the specific Commission-approved requirements that are being referenced in this paragraph of the SOP.

CA-SOP-IR-71 **Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 5, paragraph 1, line 2**

What supports TGC's belief that the impact will be generally limited to the user, other than the obvious which is that the system will serve the specific customer?

CA-SOP-IR-72

**Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 5, paragraph 1, lines 4 and 5.**

- a. Please identify the specific Commission requirements that are being referenced in this paragraph of the SOP.
- b. Explain why each requirement will prevent potential power quality or reliability disturbances for the electric utility.
- c. What specific actions need to be taken to ensure that **all** power quality or reliability disturbances are satisfactorily addressed?
- d. Please explain negative power quality or reliability disturbance impacts be prevented?

CA-SOP-IR-73

**Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 7, question 6, paragraph 1, lines 2 and 3**

Please identify the specific costs, other than fuel, that are being referring to when TGC discusses a general reduction in variable operating costs?

CA-SOP-IR-74

**Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 8, question 8, paragraph 1, line 1**

TGC previously indicated in this SOP that fuel would be avoided and now TGC states that it takes no position on the issue of the potential for distributed generation to reduce the use of fossil fuel. Please explain the different positions.

CA-SOP-IR-75

**Ref: TGC Preliminary SOP, Section V. Implementation Issues, page 8, question 10, paragraph 2, lines 1 through 3**

What specific rates and riders does TGC believe should be authorized for DG installations? Explain how these rates and rider would be determined and the specific costs that each rate or rider would be expected to recover.

**The following information requests are directed to JOHNSON CONTROLS, INC. ("JCI") and are based on JCI's Preliminary Statement of Position:**

CA-SOP-IR-76

**Ref: JCI Preliminary SOP, II. Executive Summary, page 4, paragraph 4**

- a. Why should the regulated electric utilities be allowed to participate in DG only through a separate unregulated affiliate? Explain.
- b. Please explain how this would be implemented.

CA-SOP-IR-77

**Ref: JCI Preliminary SOP, II. Executive Summary, page 4, paragraph 6**

- a. Who's goal is it to develop a competitive market for DG? Explain.
- b. How does JCI envision that a competitive DG market be structured? Provide specific information and the steps that need to be completed to achieve the desired goal.

CA-SOP-IR-78

**Ref: JCI Preliminary SOP, II. Executive Summary page 4, paragraph 7**

- a. What specific charges does JCI suggest that be implemented, explain why each change is required, and identify the specific steps that need to be completed for each change?
- b. What standby charge is considered reasonable and does not discourage potential customers? Identify the specific costs that are to be recovered through the recommended standby charge.

CA-SOP-IR-79

**Ref: JCI Preliminary SOP, page 5, III General SOP, paragraph 1, lines 3 through 5**

- a. Why is the concentration of electric generation in the hands of electric utilities not the best course of action? Explain.
- b. Where should the concentration of generation be developed if not by the current electric utilities? Explain.

CA-SOP-IR-80

**Ref: JCI Preliminary SOP, page 6, III General SOP, paragraph 2, lines 11 and 12**

- a. Please provide a list of the policies, rules and regulations that apply to unregulated entities that do not apply to regulated electric utilities in Hawaii.
- b. Please provide an explanation of each of the policies, rules and regulations.

CA-SOP-IR-81

**Ref: JCI Preliminary SOP, page 12, issue 1 (a), paragraph 2, lines 1 and 2**

If standby charges are eliminated, which customer's rates would be increased to provide standby services to DG owners/operators? Identify the specific costs that would need to be recovered through the increased customer rates and explain how these costs would be determined.

CA-SOP-IR-82

**Ref: JCI Preliminary SOP, page 14, issue 2 (a), paragraph 2, lines 1 through 4**

In this situation would the customer then be limited to a lesser amount of distribution service than is required by its total electrical requirement? Explain.

CA-SOP-IR-83

**Ref: JCI Preliminary SOP, page 16, issue 2 (b), paragraph 3, lines 1 and 2**

- a. How would a regulated utility provide DG at no cost to a customer? Explain.
- b. Does this mean the customer would pay nothing to the electric utility? Explain.
- c. Would the DG customer receive free service? Explain.

CA-SOP-IR-84

**Ref: JCI Preliminary SOP, page 25, issue 3, number 2, paragraph 2, lines 1 through 3**

- a. Would such a customer no longer be connected to the utility electric system? Explain.
- b. If so, who should pay for the facilities that were previously constructed to serve that customer? Explain.

**The following information requests are directed to County of Maui ("County") and are based on the County's Preliminary Statement of Position:**

CA-SOP-IR-85

**Ref: County Preliminary SOP, page 1, issue 1, paragraph 1, lines 5 through 8**

The County indicates that "the expected growth of the DG CHP market sector can significantly defer near term electric utility load growth in power generation and transmission/distribution capacity."

- a. Please discuss the County's understanding of the expected growth of DG CHP. Please provide any studies or analyses that support the County's statement.
- b. To the extent not discussed in response to part a. above, please elaborate on how much power generation and transmission/distribution capacity might actually be deferred by DG CHP. Please provide any studies or analyses that support the County's statement.

CA-SOP-IR-86

**Ref: County Preliminary SOP, page 1, issue 1, paragraph 2, lines 1 through 3**

- a. Please explain the significance of the “next five years” and please identify the specific years that are being referred to.
- b. Please elaborate on how a virtual backup power plant will be operated. To the extent that different scenarios may be applicable (e.g., different ownership, connection to utility’s SCADA system, etc.) , please discuss each one.
- c. Please provide the names of the energy consumers and provide pertinent data related to their respective backup power plants including generating types and capacities that would comprise this virtual backup system.

CA-SOP-IR-87

**Ref: County Preliminary SOP, page 4, issue 4, paragraph 1, lines 15 through 17.**

If available, please provide additional information and statistics about this technology that has been implemented on Maui beyond the commercial information made available on Encorp’s website.

CA-SOP-IR-88

**Ref: County Preliminary SOP, pages 5 - 6, issue 5.**

The County asserts that county-specific wheeling tariffs are justified.

- a. Please provide a sample wheeling tariff that would accomplish what the County proposes.

- b. If not evident in the proposed tariff language, please discuss what differentiates the ability to control benefits for a county-specific tariff and a wheeling tariff for any customer able and willing to implement a DG unit.

**The following information requests are directed to Hess Microgen (“Hess”) and are based on Hess’s Preliminary Statement of Position:**

CA-SOP-IR-89      **Ref: Hess Preliminary SOP, page 2, number 2, paragraph 3, lines 3 and 4**

Please explain what “having the meter on their side” means and why it is important or beneficial to a customer.

CA-SOP-IR-90      **Ref: Hess Preliminary SOP, page 3, number 3, paragraph 3, lines 2 through 4**

- a. If applicable, please provide a more specific discussion of how rates should be designed and implemented so that all customers, regardless of DG technology or ownership, are treated fairly and equitably.
- b. Hess makes reference to “other fees and charges.” Please provide a list of the other fees and charges to which is being referred.

CA-SOP-IR-91

**Ref: Hess Preliminary SOP, page 3, number 3, paragraph 4, lines 4 and 5**

- a. Hess mentions that the role of utilities and the Commission being important to assist in meeting the needs of the customers to have alternatives. Please discuss what the alternatives are that can meet a customer's need for reliable power at a fair price.
- b. For purposes of this statement, please discuss the definition of reliable as used.
- c. For purposes of this statement, please discuss what criteria the Commission should consider when determining a fair price.

CA-SOP-IR-92

**Ref: Hess Preliminary SOP, page 4, number 1, paragraph 1, lines 1 through 3**

Please identify the current or future DG technologies expected to be permanent and reliable enough to replace transmission and distribution facilities. If available, please provide any studies or analyses of Hawaii's transmissions and distribution system that supports Hess' expectation.

CA-SOP-IR-93 **Ref: Hess Preliminary SOP, page 4, number 1, paragraph 3.**

Please identify any geographic areas where voltage support is currently tenuous. Please provide a copy of any studies or reports that support the response.

CA-SOP-IR-94 **Ref: Hess Preliminary SOP, page 4, number 1, paragraph 4**

Please define what “vast reduction” means and specifically what decrease in line losses could occur with DG. Please provide a copy of any analyses used to support the statement.

CA-SOP-IR-95 **Ref: Hess Preliminary SOP, page 5, number 2, paragraph 1**

- a. Please identify the types of DG that will provide all of the positive impacts identified in this paragraph.
- b. What DG systems are more reliable?
- c. Please provide reliability statistics by DG type that support this statement.

CA-SOP-IR-96 **Ref: Hess Preliminary SOP, page 5, number 2, paragraph 4.**

- a. What DG units does Hess have experience with?
- b. Hess asserts that a “contingent of three DG systems will together be more reliable than the utilities . . .” Is this referring to all DG or specific technologies?

CA-SOP-IR-97

**Ref: Hess Preliminary SOP, page 6, paragraph 2, lines 2 through 4**

- a. Hess indicates that its units on customer's sites are not part of the utility's grid. Please confirm that Hess is not asserting that the customer is not off-grid, but that the units are not controlled by the utility.
- b. If this understanding is incorrect and Hess units are not connected to the grid and also do not serve 100% of the customer's electric needs, please explain how the remainder of the customers' electrical needs is served.

CA-SOP-IR-98

**Ref: Hess Preliminary SOP, page 6, number 3, paragraph 1, line 1**

Hess asserts that "every element of a utility's costs can be avoided by the deployment of DG." Please elaborate on this statement by identifying every element of utility costs that could be avoided and how those costs would be avoided by DG deployment.

CA-SOP-IR-99

**Ref: Hess Preliminary SOP, page 6, number 3, paragraph 1, lines 4 and 5**

Please elaborate on how and what utility capital costs would be reduced by DG deployment?

CA-SOP-IR-100 **Ref: Hess Preliminary SOP, page 8, paragraph 2, lines 1 and 2**

Hess provides certain statistics related to coal and average efficiency.

- a. Other than the AES plant, how does electricity operated from coal apply to Hawaii and its electric utilities?
- b. If available, please provide the relevant statistics specific to Hawaii. Please identify the source of the data used to support the response.

CA-SOP-IR-101 **Ref: Hess Preliminary SOP, page 10, number 5, paragraph 1, lines 1 through 3**

Hess indicates that the Hawaii Administrative Rules and Utility Rules and Practices need to be amended.

- a. Please identify the various administrative rules and utility rules and practices that should be amended.
- b. For each identified item above, please provide the suggested amendments.

**The following information requests are directed to LIFE OF THE LAND (“LOL”) based on LOL’s Preliminary Statement of Position.**

CA-SOP-IR-102      **Ref: Life of the Land’s Preliminary SOP, page 3.**

What does Life of the Land consider to be an indigenous fuel to be in the State of Hawaii? Provide copies of all documentation supporting LOL’s response.

CA-SOP-IR-103      **Ref: Life of the Land’s Preliminary SOP, page 18, Virtual Power Plant**

- a.      What does LOL propose to be the number of hours of operation, etc., associated with a Virtual Power Plant?
- b.      What is the capacity of the Virtual Power Plant? Provide copies of all documentation relied upon.

CA-SOP-IR-104      **Ref: Life of the Land’s Preliminary SOP, page 22, paragraph 1, lines 2 through 5**

- a.      Please identify the other solutions that were considered as reasonable by LOL.
- b.      Would an unregulated IPP that purchases and operates generation that was previously owned by a regulated utility be an economical solution for customers?

CA-SOP-IR-105 **Ref: Life of the Land's Preliminary SOP, page 22, paragraph 2, line 4**

If generation is no longer owned by the utility, how would Net Metering arrangements continue to be feasible? Explain.

CA-SOP-IR-106 **Ref: Life of the Land's Preliminary SOP, page 26, number 14**

Please explain why all new generation should be DG?

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S INFORMATION REQUESTS** was duly served upon the following parties, by personal service, hand delivery, and/or U.S. mail, postage prepaid, and properly addressed pursuant to HAR § 6-61-21(d).

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DATED: Honolulu, Hawaii, May 24, 2004.

*Ann Johnson*

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