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PUBLIC UTILITIES
COMMISSION

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FILED

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
INFORMATION REQUESTS TO THE PARTIES
ON THEIR DIRECT TESTIMONIES, EXHIBITS, AND WORKPAPERS

Pursuant to the agreed upon schedule set forth in Prehearing Order No. 20922, the Division of Consumer Advocacy submits its **INFORMATION REQUESTS TO THE PARTIES ON THEIR DIRECT TESTIMONIES, EXHIBITS, AND WORKPAPERS** in the above docketed matter.

DATED: Honolulu, Hawaii, July 28, 2004.

Respectfully submitted,

By John E. Cole
JOHN E. COLE
Executive Director

DIVISION OF CONSUMER ADVOCACY

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 Written Direct Testimonies:

CA-IR-1 **Ref: HECO T-1, Page 5, Lines 10 through 16.**

Mr. Seu indicated the specific size limit to DG should "be construed relative to the utility's system loads and to the loads of large customers." For each of the islands served by the Companies, please provide the Companies' view or best estimate of the range of magnitude of the size limit to DG and the manner that the system load and the loads of each customer of each island were utilized to define such limit.

CA-IR-2 **Ref: HECO T-1, Page 5, Lines 19 through 21.**

Mr. Seu indicated large scale cogeneration projects "require individual project or purchase power agreement applications with the PUC for review and approval."

- a. In the Companies' view, will individual project or purchase power agreement applications also be required for DG projects whose output is exported to the electric grid?

- b. If so, please describe the project or purchase power agreements for such DG projects as envisioned by the Companies at this time.
- c. If not, please describe the manner the Companies envision such DG projects would be handled by the utility and the process for PUC review and approval, if any.

CA-IR-3

Ref: HECO T-1, Page 6, Lines 11 through 13.

Mr. Seu describes customer-sited emergency generation, which is used during power outages as an example of a DG application.

- a. If the emergency generator is used only during periods of utility power outages, what, if any, impact does the emergency generation have on the utility or Hawaii's electric market? Explain.
- b. How does the answer to part (a) above change if the emergency generator is utilized during periods when there is not a power outage; for example to manage the customer's use of electricity from the utility?
- c. Do the Companies plan or operate their systems differently for customers that have customer-sited emergency generation for use during power outages than for customers without emergency generation?

- d. Do the Companies plan and operate for the same level of service reliability for customers that do not have customer-sited emergency generation as for those that do have customer-sited emergency generation?
- e. Is there a difference in the Companies' cost of serving customers that have customer-sited emergency generation versus those customers that do not have customer-sited emergency generation?
- f. If customer-sited emergency generation is utilized during power outages only, what impact do the Companies believe the deployment of DG will have on future customer-sited emergency generation? Explain.

CA-IR-4

Ref: HECO T-1, Page 6, Lines 21 through 22.

Mr. Seu describes an example of a DG application as “a customer that is entirely self generating and not connected to the utility grid.”

- a. What impact does a self-generating customer, not connected to the grid, have on the utility or Hawaii's electric market?
- b. How does the answer to part (a) above change for a customer that is entirely self generating and connected to the utility grid?

- c. Do the Companies plan or operate their systems taking into account customers that are entirely self-generating and not connected to the utility grid? Explain.
- d. If a customer's DG, which is entirely self-generating and not connected to the utility grid, is installed for use during power outages only, what impact do the Companies believe the deployment of DG will have on customers in the future that may be entirely self generating and not connected to the utility grid?

CA-IR-5

Ref: HECO T-1, Page 8, Lines 21 through 25.

Mr. Seu indicated that "customers making up this market will determine whether a form of DG is "feasible and viable for Hawaii".

- a. What are the most important factors that the Companies believe will be taken into account by the customer to reach a decision to install customer-sited generation?
- b. Explain why the factors identified in response to part (a) above are deemed to be the most important.
- c. What effect, if any, do the Companies believe that the utility's rate structure and the charges for service provided by the Companies will factor in the customer's decision to install customer-sited generation?

- d. To what extent do the Companies believe that the customers determination of forms of DG that are “feasible and viable” should match up with the Companies determination of feasible and viable forms of DG?

CA-IR-6

Ref: HECO T-1, Page 7, Lines 3 through Page 8, Line 8.

Mr. Seu identifies and defines seven criteria that must be met for a form of DG to be considered “feasible and viable for Hawaii.”

- a. Do the Companies believe that evolving technology will result in some prototype forms of DG that currently would not meet the Companies’ criteria could or may be expected to meet such criteria in the Companies IRP planning horizon?
- b. How do the Companies propose to evaluate and consider forms of DG that at the moment do not meet the criteria in the present, but could or may be expected to meet the Companies’ criteria in its IRP planning time frame?

CA-IR-7

Ref: HECO T-1, Page 12, Lines 5 through Page 13, Line 3.

Mr. Seu identifies the ownership and operation and maintenance options for each of the seven forms of DG applications identified by the Companies.

- a. For each of the DG applications, indicate whether the DG facilities in that application could be interconnected with the

utility for customer-sited DG or interconnected with the customer for substation-sited DG.

- b. For each of the DG applications, describe the expected metering arrangements, including whether the DG would be metered for customer-sited DG and whether net metering would be applicable for customer-sited DG.
- c. For the customer-sited DG applications, describe whether the entire output of the DG facility could be separately metered and utilized.
- d. The substation sited-generation DG applications 2 and 3, as indicated by the Companies would be owned by the utilities.
 1. Would the Companies consider substation-sited generation owned by other parties? Explain why or why not.
 2. Do the Company believe that legal or regulatory constraints prevent such non-utility ownership? Explain.

CA-IR-8

Ref: HECO T-1, Page 13, Lines 6 through Page 14, Line 14.

Mr. Seu describes the Companies' plans to pursue each of the seven DG applications.

- a. Under what circumstances, if any, would the Companies consider providing customer-sited emergency generation?

- b. Under what circumstances, if any, would the Companies consider substation-sited generation owned by parties other than the utilities?
- c. With respect to customer-sited CHP systems offered by the utilities, under what, if any, circumstances do the Companies believe that the CHP service does not unduly burden other customers?
- d. Under what circumstances if any would the Companies consider offering off grid, customer-sited generation?

CA-IR-9

Ref: HECO T-1, Page 14, Lines 17 through 25.

Mr. Seu describes the potential benefits of DG with respect to the deferral of new utility facilities.

- a. Do these potential benefits of DG also apply to DG applications of customer-sited emergency generation and off-grid, customer-sited generation?
- b. How do the Companies take into account the benefits of customer-sited emergency generation or off-grid, customer-sited generation applications? Explain.

CA-IR-10

Ref: HECO T-1, Page 15, Lines 8 through 13.

Mr. Seu indicates that the utility and its ratepayers benefit by the customer choosing utility-owned CHP over self-owned or a third-party owned CHP system.

- a. Does this statement mean that utility-owned CHP systems should be chosen over CHP systems owned by the customer or a third party? Explain.
- b. What are the considerations or circumstances under which the Companies believe the utility and its ratepayers benefit if CHP is not the utility but is owned by a customer or a third party?

CA-IR-11

Ref: HECO T-1, Page 17, Line 18 through Page 18, Line 6.

Mr. Seu describes the loss of revenue potential due to third-party owned CHP. Do the Companies have any other options to address the revenue loss concern resulting from the implementation of third-party CHP other than by discounting the current rate structure to avoid the net revenue reduction impact to MECO's remaining customers on Lanai?

CA-IR-12

Ref: HECO T-1, Page 19, Lines 4 through 8.

- a. Please identify and provide the analysis referenced that considered the revenues for supplemental and backup services under regular rate schedules.
- b. Also please identify the regular rate schedules referenced in the testimony.

CA-IR-13

Ref: HECO T-1, Page 19, Lines 24 through 25.

- a. Mr. Seu indicates “the ability of the utility to directly control the operations and maintenance of a CHP system will improve its impacts on system reliability and power quality.” Could the same impacts and benefits be derived from customer or third-party owned CHP systems if the utility has direct control over the operations and maintenance of the CHP system? Explain.
- b. Please provide examples of how the operation and maintenance of a CHP facility not under the direct control of the utility would differ from that which is under the direct control of the utility.
- c. Please identify the potential conflicts of interest of a customer or third-party owned CHP system under the direct control of the utility.

CA-IR-14

Ref: HECO T-1, Page 25, Lines 9 through 11.

The referenced testimony indicates that customer support for utility owned CHP was the sentiment that the utilities' involvement provides more choices and options among CHP vendors, which maximizes competition in the market. The testimony at pages 15 through 21 indicates, however, that CHP systems that are not owned by the utility are not as favorable or beneficial as utility-owned CHP.

- a. Should utility-owned CHP systems be favored over non-utility owned CHP systems? Explain.
- b. What advantages or benefits would non-utility owned CHP systems have over utility-owned CHP systems? Explain.
- c. Is there a maximization of competition in the market if the Companies believe that only utility-owned CHP systems make sense for the utility and its ratepayers and thus have the opportunity to discount a customer's rates to retain the customer's load when the customer is considering installing a non-utility owned CHP system? Explain.

CA-IR-15

Ref: HECO T-1, Page 29, Lines 9 through 15.

The testimony indicates that concerns have been expressed by others regarding an unfair advantage by the Companies versus the standby charges in HELCO's Rider A standby service.

- a. Do the Companies see the administration of rates and standby charges differing between utility-owned CHP systems and non-utility owned CHP systems, creating at least the appearance that utility-owned CHP is being handled differently and having an advantage over non-utility owned CHP systems? Explain.
- b. Would an alternative to addressing this perception be that any CHP system, whether owned by the utility, the customer or third party, be assessed the same rates and charges for standby service and be related directly to whether the DG is directly controlled by the utility in use of its output?

CA-IR-16

Ref: HECO T-1, Page 30, Lines 6 through 9.

Please expand on the “sole supplier” provision that the Companies have reconsidered and will delete from its standard cogeneration energy purchase agreement. Explain the basis for the Companies’ position on this matter.

CA-IR-17

Ref: HECO T-1, Page 32, Lines 6 through 11.

The testimony indicates that larger units for CHP projects are likely to be required than are covered by the HECO-HESS teaming agreement. Please elaborate on these larger units and whether such larger units are considered by the Companies to be DG.

CA-IR-18

Ref: HECO T-1, Page 37, Lines 8 through 14.

The testimony describes the Companies' view that if CHP and DG are to play a larger broader role, the utility should be directly involved in developing and owning CHP and DG projects.

- a. Do the Companies believe that third-party or customer-owned CHP and DG projects could provide the same benefits as utility-owned DG? Explain.
- b. Under what circumstances, if any, could non-utility owned CHP and DG systems provide the same benefits as utility-owned CHP and DG systems?

CA-IR-19

Ref: HECO T-2, Page 14, Lines 3 through 9.

Mr. Seki indicated that "grid interconnection of wind turbines may be challenging" and that the "[f]luctuating output from wind turbines can negatively impact voltage and frequency of the electric utility system."

- a. Please expand on the statements by providing specifics information regarding the interconnection and operations of wind turbines and their impact on the electric utility system.
- b. Please provide examples and descriptions of the Companies' experiences relating to the interconnection and operation of wind turbines.

CA-IR-20

Ref: HECO T-2, Page 15, Lines 1 through 11.

- a. In addition to defining “small” relative to utility system loads and to the loads of large customers, do the Companies consider the location of wind turbines on the Companies’ distribution system to be a factor in evaluating whether the definition of capacity rating for the lower and upper limits for the wind turbine falls into the “small” DG category? Explain.
- b. Is the same location consideration relevant to other forms of DG in addition to wind turbines? Explain.

CA-IR-21

Ref: HECO T-2, Page 18, Lines 8 through 11.

Mr. Seki indicates that some equipment upgrades may be required to accommodate small DG wind systems.

- a. Please expand on the specific equipment upgrades that may be required and explain the circumstances under which the upgrades would be required.
- b. Please provide examples of the Companies’ experiences of the circumstances requiring such equipment upgrades and the equipment upgrades that were installed to accommodate DG on the Companies’ electric systems.

CA-IR-22

Ref: HECO T-2, Page 26, Lines 4 through 6.

Mr. Seki indicates that PV may be feasible for off grid applications.

- a. Are renewable small generators that are utilized for off-grid applications included in the RPS definition and the computation of attaining RPS goals?
- b. Is the RPS level reported by HECO, HELCO and MECO inclusive of off-grid renewable resources?

CA-IR-23

Ref: HECO T-3, Page 2, Lines 16 through 23.

The testimony indicates that firm capacity is the generating capacity, which can be called upon by the utility to safely and reliably provide energy in defined amounts at scheduled times. The testimony goes on to state that “in many instances, DG can be considered firm capacity. In order for a DG installation to be considered firm capacity, the utility should be able to control the operations of and maintenance quality of the installation. The DG should also have a reliable fuel supply and an adequate amount of fuel storage.” What DG technologies would meet the firm capacity requirements described above? Explain.

CA-IR-24

Ref: HECO T-3, Page 3, Lines 4 through 6.

The testimony indicates that “[y]es, if the DG can be considered firm capacity and the DG facility (or multiple DG facilities in

aggregate) are sufficiently large, it can defer the need for new central station generating capacity.” What capacity amounts in kilowatts (kW) would be considered “sufficiently large?” Explain.

CA-IR-25

Ref: HECO T-3, Page 11, Lines 17 through 19.

The testimony indicates that “[I]f a utility does a CHP system project instead of a third-party, the utility incurs costs (in the form of the CHP system investment and O&M expenses for the system), but retains revenues that would otherwise have been lost.”

- a. Can customer-owned or third-party owned DG be firm capacity if the DG unit provides control to the electric utility system? Explain.
- b. If the third-party DG is metered and billed such that all of the customer’s energy use continues to be billed at rates that reflect generation related costs and non-generation related costs, would the Companies’ concern for the potential lost revenues be alleviated? Explain.

CA-IR-26

Ref: HECO T-3, Engineering Standard Practice, Page 3, Rule Number 2.

The testimony indicates that there must be enough net generation running in economic dispatch so that the sum of the three-second quick load pickup power available from all running units, not including the most heavily loaded unit, plus the net loads of all other

running units must equal or exceed 95 percent of the hourly system net load (which excludes power plant auxiliary loads but includes T&D losses). Please provide example calculations using real-life numbers that show how Rule Number 2 applies to the HECO systems.

CA-IR-27

Ref: HECO T-4, Page 8, Lines 14 through 19.

The testimony indicates that “non-T&D options such as implementing sustained demand side management (“DSM”) programs and installing DG facilities have been considered in past T&D analyses and increased evaluation of non-T&D alternatives is being included in more recent T&D analyses.” The testimony also indicates that “[n]on-T&D options related to DG facilities have included the evaluation of diesel generators at the Company’s substations, customer-sited, utility-owned CHP programs and utilizing emergency standby generation.”

- a. Why have no other DG technologies other than diesel generators and CHP been considered?
- b. Please provide copies of the analyses performed of DG facilities that have been considered by the HECO systems.

CA-IR-28

Ref: HECO T-4, Page 18, Lines 1 and 2.

This section of the testimony discusses the Companies' "Conceptual overview of T&D avoided cost calculation" and "Avoided costs." Please provide sample calculations with real-life numbers that illustrate a DG avoided cost analysis on the HECO systems. State all assumptions made in deriving the calculations and explain why these assumptions are believed to be reasonable.

CA-IR-29

Ref: HECO T-5, Page 7, Lines 4 through 21.

The testimony indicates that "the cross subsidies embedded in the Companies' rates are one of the significant rate design and cost allocation issues that must be considered with the deployment of distributed generation in Hawaii" and that if the DG market develops significantly "the Companies' embedded cost of service study may be expanded to include DG customers as a separate class in the study."

- a. Considering that the DG class could consist of residential and commercial customers, what subsidies, if any, do the Companies envision will be applicable to the DG class in the cost of service study? Explain.
- b. What rate structure do the Companies envision will be applicable to the new DG rate class? Please explain how this rate structure was derived and provide copies of all

calculations made to derive this rate structure, state all assumptions made and explain the basis for these assumptions.

- c. Please expand on the “more detailed breakdown” of costs (described in lines 16 through 18 of the referenced testimony) that the Companies may include in the study and stated whether this expansion would occur absent DG deployment.
- d. Please describe the “more detailed cost information” (referenced in lines 18 through 20 of the referenced testimony) that are presently not available or easily determined that would be required for the expanded cost of service study
- e. What would be the “cost of developing and collecting the required data” described in lines 20 through 21 of the referenced testimony? Provide copies of all workpapers and/or calculations made to support the response, state all assumptions made in performing these calculations, and explain the basis for each assumption.

CA-IR-30

Ref: HECO T-5, Page 10, Line 7 through Page 11 Line 7.

The testimony indicates that the “Companies’ load-factor block energy rate form is a mechanism for minimizing intra-class subsidy,

and is appropriate with the deployment of distribution generation as DG customers are served under these rate schedules.”

- a. Please explain how the load-factor block energy rate is a mechanism for minimizing intra-class subsidy, as opposed to a rate consisting of a non-load factor demand and energy rate structure with no demand-related costs included in the energy charges.
- b. Why is the load-factor block energy rate form appropriate with the deployment of DG?
- c. Other than the statement “DG customers are now served under these rate schedules”, are there any other reasons why the Companies’ load factor block energy rate form is appropriate with the deployment of DG? If so, please provide and explain such other reasons.
- d. Are there any other appropriate rate structures for the deployment of DG? Explain why or why not.

CA-IR-31

Ref: HECO T-5, Page 11, Lines 9 through 20.

The testimony indicates that the Companies’ rate design process takes into consideration, among other items, the fact that “3) rates must produce stable revenues and avoid rate shocks” and “5) rates must be fair, stable and equitable for all customers.”

- a. Will the Companies' current rate structures provide stable revenues and avoid rate shocks with the deployment of DG? Explain.
- b. Are there circumstances where the deployment of DG under the Companies' current rate structure does not produce stable revenues and may cause rate shock? If yes, what are those circumstances and why would each produce this result?
- c. Do the Companies' current rate structures provide fair, stable and equitable rates for all customers if the deployment of DG is to increase significantly? Explain.

CA-IR-32

Ref: HECO T-5, Page 14, Line 18 through Page 15, Line 13.

The testimony indicates that the deployment of DG should include some rate realignments to reduce or eliminate the cross-subsidies, between and within rate classes.

- a. Should such a realignment occur in the absence of the deployment of DG? Explain why or why not.
- b. If so, what impact does the deployment of DG have on the a realignment of rates referred to on page 15, line 16 through page 16, line 6 of HECO-T-5?
- c. Is unbundling of the Companies' rates reasonable for purposes of establishing rates and charges to recognize the

different services provided to customers with the deployment of DG, even in absence of mandated utility industry restructuring in Hawaii? Explain.

- d. It is indicated that the “information required to further unbundle the cost of ancillary services is not available.” Please identify and describe the information required to further unbundle the cost of ancillary services that is not available.

CA-IR-33

Ref: HECO T-5, Page19, Line 18 through Page 20, Line 11.

It is indicated that “[t]he energy rate discounts offered under the Rule 4 Rate Contract were set at amounts less than or equal to the percentage “subsidy” borne by the rate class.” Next, it is concluded that “the rates (even with the discount) under the Rule 4 Rate Contract were still well above marginal costs.”

- a. Is the percentage “subsidy” borne by the rate class as referenced in the testimony the percentage as determined from the Companies embedded cost of service study?
- b. If affirmative, how is it that staying within the embedded cost of service percentage subsidy results in rates “still well above marginal costs?”
- c. Under the Companies’ current rate structures, is the lost revenue from the deployment of DG retainable only through

the application of standby charges, which as indicated may be voluntary for HELCO's system in the future, or through customer retention rate discounts provided under the Rule 4 Rate Contract? Explain.

CA-IR-34

Ref: HECO T-5, Page 20, Lines 17 through 21.

The testimony indicates that with “the evolution of the Companies’ approach to DG/CHP, HECO and HELCO are in the process of reevaluating the applicability of the Rule 4 Rate Contract.”

- a. What are HECO and HELCO in the process of reevaluating?
- b. How would this reevaluation by HECO and HELCO affect MECO?

CA-IR-35

Ref: HECO T-6, Page 8, Line 2 through Page 9, Line 21.

- a. With respect to customer-sited CHP systems, it is indicated that the “utility also provides backup and supplemental service to the customers.” How do the Companies propose to charge such customers for the services provided?
- b. Beginning at page 8, line 25 it is indicated that the other utility customers should “not be unduly burdened” by the utilities backup service provided to customers with customer-sited CHP systems or DG. Does this mean that

some level of “burden” could be reasonably applied to other customers? Explain.

CA-IR-36

Ref: HECO T-6, Page 11, Line 10 through Page 12, Line 1.

Do the Companies believe there are any other revisions that should be made to the Hawaii Public Utilities Commission’s administrative rules and the Hawaii utility rules and practices to facilitate the successful deployment of DG other than the Companies’ proposed CHP program and CHP tariff described in the referenced testimony?

The following information requests are directed to KAUAI ISLAND UTILITIES COOPERATIVE (“KIUC”) and are based on KIUC’s Written Direct Testimonies:

CA-IR-37

Ref: KIUC T-1, Page 12, Lines 3 through 17.

Mr. Miyamoto indicates that “if one of KIUC’s members were to install a distributed generator, KIUC’s sales and revenues will correspondingly reduce.” It is also indicated that “it is KIUC’s position that utility ownership of DG facilities should be allowed and even encouraged on the island of Kauai.”

- a. If KIUC’s rates were restructured such that net revenues would not be adversely impacted if one of KIUC’s members were to install a DG facility, would KIUC’s position on ownership of DG facilities change with respect to the revenue reduction concern? Explain.

- b. Under such a situation involving restructuring of KIUC's rates, what other concerns would KIUC have, other than the loss of revenue concern, if one of KIUC's members or a third-party were to install a DG?

CA-IR-38

Ref: KIUC T-2, Page 2, Line 18 through Page 3, Line 4.

The testimony provides a description of the benefits of new DG generation, under KIUC ownership, added to the KIUC system. Under the appropriate rate and interconnection agreement arrangements, would the same benefits not be realized if such DG generation were owned either by the customer or a third-party? Explain.

CA-IR-39

Ref: KIUC T-2, Page 3, Lines 6 through 8.

Are there any DG technologies that are not believed to be feasible or viable for either Hawaii or Kauai at the current time? Explain.

CA-IR-40

Ref: KIUC T-2, Page 3, Lines 11 through 23.

Would the development and implementation of standard interconnection and agreement arrangements for DG be appropriate for establishing DG standards and requirements for the KIUC system? Explain.

CA-IR-41

Ref: KIUC T-2, Page 4, Lines 3 through 10.

- a. Under KIUC's standby tariff for providing backup and maintenance power to a customer-sited DG, would such a standby tariff be mandatory? Explain.
- b. What modifications does KIUC anticipate are needed to its standby tariff with respect to the deployment of DG? Explain why these modifications are believed to be necessary.
- c. With respect to the exit fees referenced at Lines 8 through 10, would such exit fees apply to customers that "quit the system" due to bankruptcy, change of ownership, relocation off the island, etc.? Explain.
- d. What administrative guidelines would KIUC establish to "fairly and equitably" administer exit fees?
- e. Would exit fees also be applicable to customers that cease operations but maintain some level of minimum load so as to not "entirely quit the system?" Explain.

CA-IR-42

Ref: KIUC T-2, Page 5, Lines 3 and 4.

- a. Would the DG definition, in KIUC's opinion, include customer-sited emergency generation that is only utilized during utility outages? Explain.
- b. Would the DG definition, in KIUC's opinion, include customer-sited off grid generation? Explain.

CA-IR-43

Ref: KIUC T-2, Page 26, Lines 16 through Page 27, Line 17.

The testimony indicates that “it is KIUC’s position that the particular DG owner/beneficiary should be required to pay for all costs associated with accommodating the interconnection of the DG unit.”

- a. What does “all costs associated with accommodating the interconnection of the DG unit” encompass; interconnection costs only, or other “costs” associated with the DG unit?
- b. If “all costs” include more than direct interconnection costs, please define all of the items under KIUC’s position that should be taken into account.

The following information requests are directed to the County of Maui (“County”) and are based on the County’s Written Direct Testimonies:

CA-IR-44

Ref: COM T-1, Page 16, Lines 7 through Page 17, Line 14.

- a. Please identify each of the “large commercial back-up generators” referenced on Page 16, Line 13.
- b. To the extent possible, please describe the type of generators for each of these facilities, the firm capacity capability of each generator and the current ability of each generator to be dispatched by MECO.
- c. Describe whether the large commercial backup generators could be dispatched for the purpose “to provide reserve capacity to MECO during emergencies” as described on lines 14 through 16 of page 16.

CA-IR-45

Ref: COM T-2, Page 17, Line 14 through Page 18, Line 5.

- a. How does the deployment of DG relate to the suggestion that “the Commission needs to adopt generation impact fees?” Explain.
- b. Is it recommended that generation impact fees be implemented regardless, and independent of the deployment of DG? Explain.

CA-IR-46

Ref: COM T-2, Page 28, Lines 4 through 13.

- a. Please describe how the two types of standby service, firm and best efforts, would be administered by the utility (i.e., would best efforts standby service be interruptible)?
- b. How would standby service be administered by the utility for a customer that “might choose firm standby for a portion of their load, and best efforts standby service for the rest?”
- c. What would the rate structure be and how would the rates be administered for the two types of standby service? Include all workpapers and/or calculations illustrating the derivation of the proposed rate structure, state all assumptions made in the calculations and state the basis for the assumptions.
- d. Would standby service continue to be available to customers with DG even after the DG facilities become inoperable? Explain why or why not.

The testimony uses the term “virtual power plant” which is described as “a process of knitting together existing customer emergency generators into a viable utility reserve resource to meet extreme conditions.”

- a. Does the “virtual power plant” essentially involve placing customer-sited emergency generators under the dispatch control of the utility? Explain.
- b. If customer-sited generation is placed under the direct control of the utility, are the same results achieved without the necessity of creating a “virtual power plant?” Explain.
- c. Would the utility “provide for the coordination of these units to provide supplemental capacity to the grid” as indicated on lines 19 through 21 of page 50 of the referenced testimony? Explain.
- d. What are the known and estimated number, size and type of existing generators that are considered to be available to provide supplemental capacity to the MECO grid? Also, please identify the source of the information provided in the response.
- e. What is the estimated cost to implement the items referenced at page 51, lines 5 through 10 of the referenced testimony? Please provide copies of all calculations made in

determining the estimated cost, state all assumptions, explain why these assumptions are reasonable, and identify the source of the information from which the calculations are based.

- f. What is the estimated compensation that would be provided by the utility to the emergency generator owners for use of the existing customer emergency generators to meet MECO system requirements? Please provide copies of all calculations made in determining the estimated cost, state all assumptions, explain why these assumptions are reasonable, and identify the source of the information from which the calculations are based.
- g. Would the compensation be determined based on MECO's marginal, avoided cost determined from MECO's IRP? Explain.

CA-IR-48

Ref: COM T-2, Page 92, Line 14 through 20.

- a. Please describe the possible size and type of the "renewable generating facility or a combined heat and power facility" that could be developed by Maui County.
- b. Who would own and operate the Maui County generating facility?

- c. What are the number, locations and sizes of the Maui County load that could be served by such a facility developed by Maui County? Provide the source of the information relied to respond to this information request.
- d. Relative to the location of Maui County loads, where would the Maui County generating facility likely be constructed (i.e., customer-sited on location of a particular Maui County load, adjacent or nearby Maui County loads or remotely located from Maui County loads)?
- e. Please identify and describe the “duplicative distribution facilities” that would be placed into service by Maui County absent wheeling by MECO.
- f. What is the estimated installed and operating costs of the duplicative distribution facilities referenced at lines 19 through 20? Please provide copies of all calculations made in determining the estimated cost, state all assumptions, explain why these assumptions are reasonable, and identify the source of the information from which the calculations are based.

The following information requests are directed to Hess Microgen (“Hess”) and are based on Hess’s 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.

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?

The Consumer Advocate does not have information requests for LIFE OF THE LAND (“LOL”), HAWAII RENEWABLE ENERGY ALLIANCE (“HREA”), DEPARTMENT OF BUSINESS ECONOMIC DEVELOPMENT AND TOURISM (“DBED&T”), the County of Kauai on their Written Direct Testimonies

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S INFORMATION REQUESTS TO THE PARTIES ON THEIR DIRECT TESTIMONIES, EXHIBITS, AND WORKPAPERS** 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, July 28, 2004.

Ann Nakazawa
