

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of) PUC Docket 05-0145
)
HAWAIIAN ELECTRIC COMPANY, INC.)
)
For Approval to Commit Funds in Excess of)
\$2,500,000 (excluding customer contributions))
for the Purchase and Installation of Item Y-49000,)
Campbell Industrial Park Generation Station)
and Transmission Additions Project.)
_____)

LIFE OF THE LAND'S

REPLY BRIEF

&

CERTIFICATE OF SERVICE

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LOL hereby reasserts all arguments and authorities in our Opening Brief and submits this reply to address new issues raised by the Opening Briefs of Hawaiian Electric Company, Inc. ("HECO") and the Consumer Advocate ("CA").

Neither HECO's nor the CA's Opening Briefs contained a single court citation.

I. HECO's Opening Brief Misrepresented LOL's Positions

A. LOL's Proposal

"LOL made it abundantly clear that it is not proposing an alternative plan or proposal for meeting HECO's reserve capacity shortfall but is merely introducing energy concepts. LOL emphasized that it did not ask any witnesses to present proposals for any particular project on O'ahu." (HECO's Opening Brief 4:17-20) "While on its face, it may appear that LOL proposes a "renewables" alternative, the fact is that LOL has made it abundantly clear that it is not proposing an alternative plan or proposal for meeting HECO's reserve capacity shortfall. Rather, LOL is merely introducing renewable energy concepts. In fact, LOL was careful to emphasize that it did not ask any of its witnesses to present proposals for any particular project on O'ahu. Instead, LOL limited its role in this Docket to 'educate the Public Utilit[ies] Commission and its staff.'" (HECO's Opening Brief p. 82-83)

LOL did not control what our witnesses would say. We allowed them, as experts, to speak for themselves. The witnesses clearly lay out a path to meeting the entire projected shortfall: a 100 MW of Ocean Thermal Energy Conversion ("OTEC") facility in 2009; several Sea Water Air Conditioning (SWAC) units totally 60 MW, the first to come on line in 2009; modular wave energy systems that can be installed almost immediately; a wind farm in Kahuku.

"Consumer Advocate points out that wind, wave, and ocean thermal energy conversion ("OTEC") facilities are not expected to be placed in service by the completion date of the Proposed Project - in other words, by July 2009." (CA Opening Brief 9:12-15) "Dr. Krock stated that there are no plans for an OTEC facility to be producing power anywhere in the 2009-2010 timeframe." (CA Opening Brief 9:18-19)

Mr. Alm: "Q. Are you currently consulting with or meeting with OTEC companies? A. Over the last couple of years, I think we have met with at least two. Two that I'm familiar with, maybe three. Q. Which ones? A. I know that we've had -- that we met some time ago, and I think we met on and off with Hans Krock. We've had discussions with an outfit called Sea Solar, with Bob Nicholson. And then, you know, some of the other technologies, whether you call them ocean power or current power or OTEC, some degree is how they characterize it. But at least Krock and Nicholson ones I'm aware of." (Alm Tr. 368:24-369:12)

Dr. Krock: "A. We are a group of companies, actually. We've gathered together a small, very high-level group. There is Makai Ocean Engineering, related to the pipeline. There is Applied Technologies, which is actually Alfred Yee & Associates, who are involved in the floating structure. There is my own company, who's organizing the whole thing, but is mainly focused on open-cycle OTEC and freshwater production end of it, and air-conditioning portions. There -- there is the Kalina cycle people in current resources. They are the ones that have the most efficient closed-cycle system that is extended. And there are other related companies that deal with other aspects of that." (Krock Tr. 662:23-663:11) "Kalina cycle [OTEC generator] has ten years of commercial application already in waste heat management. Siemens just built 50-megawatt-size plants using waste heat in Europe." (Tr. 667:17-20)

"Q. You mentioned that this could be done in a 2009-2010 time frame, a certain project could be up. What would it take to get that done? A. Simply an agreement to do it. Q. Between? A. Between my group of companies and Hawaiian Electric." (Tr. 667:1-7)

HECO (1) knew of Dr. Krock's (OCEES) OTEC proposal; (2) HECO was meeting with Dr. Krock; (3) the OTEC facility could be built in the same time frame as HECO's proposed plant; (4) OTEC is a viable option. OTEC was given short shrift in both the EIS and this docket. Using Occum's Razor (the simplest answer is usually correct), HECO did not want competition for their proposal.

B. Process

HECO states: "LOL's arguments ... are simply beyond the scope of this proceeding" We are not sure what HECO means by this. (1) The Statement of Issues 1b states: "Whether the project is reasonable considering other feasible options?" In order to know this, other alternatives need to be laid out and the impacts from each alternative need to be compared. (2) Alternatively, HECO could be saying that environmental concerns are not found in the title of the docket. But that has not stopped the Commission from making environmental decisions in the past. For example, in 1973 the Commission stated:

"The Commission having considered the entire record herein and being fully advised in the premises, find that the portion of the Hoaeae Substation proposed for lease will not, based on projections made by the Applicant, be needed for expansion until after 1978 and leasing of that portion of property will not interfere with Applicant's utility operation. However, **for aesthetic purposes**, Applicant is urged to include in its contract a controlling clause over Lessee's operation as fair as maintaining a proper appearance of the leased portion of the property. ... IT IS FURTHER ORDERED, that the lease contract between Hawaiian Electric Co., Inc. [sic] and the Sante Fe Equipment Co. include a controlling clause over Sante Fe's operations for aesthetic purposes. "¹

HECO's Opening Brief stated that our arguments were (1) " beyond the scope of this

¹ Decision and Order No. 3239, dated July 10, 1973, in Docket No. 2291 In the Matter of the Application of HAWAIIAN ELECTRIC COMPANY, INC. For the Approval of its Hoaeae Substation Property in the Waipahu Industrial Park

proceeding"; (2) "irrelevant to this proceeding or are subjects of other dockets"; (3) "procedure is inappropriate and untimely"; (4) "not at issue".

HECO had more than ample time to raise their concerns before the PUC. The contested case process itself afforded extensive procedural requirements and several advantages, such as the opportunity to examine and cross-examine witnesses. Every party, including HECO, had numerous opportunities to marshal evidence in support of their positions.²

HECO agreed to our final Statement of Issues. We had offered HECO that LOL and HECO should each submit a Statement of Issues to the Commission, the difference being our insistence on including fuel and alternatives as issues. HECO said no, we would submit one, it would be LOL's. HECO did not object to our testimony, did not cross-examine us on these issues, did not present rebuttal witnesses, and offered no case law on the matter. Although Rule 103 is not exactly on point, it does speak to the point where one party decides, after the Evidentiary Hearing is over, to make excessively delayed objections.³

² "The contested case process itself afforded extensive procedural requirements and several advantages, such as the opportunity to examine and cross-examine witnesses. The public was fully apprised of the transmission line proceeding, and the PUC thoroughly accommodated public participation. Every person or entity seeking intervention was allowed to become a party, even long after the filing deadline had passed. Every party, including Appellants, had numerous opportunities to marshal evidence in support of their positions." IN THE SUPREME COURT OF THE STATE OF HAWAII. In the Matter of the Application of HAWAIIAN ELECTRIC COMPANY, INC. for approval to commit funds in excess of \$500,000 for Item BT-849, construction of Waiiau-CIP 138 kV #1 & #2, Part 2, transmission lines; for Item UM-844, undergrounding of distribution lines and services along Kamehameha Highway; and for a waiver of rule 14 of HECO's tariff to allow HECO to pay for Item UM-844 service conversions. NO. 18156. APPEAL FROM THE PUBLIC UTILITIES COMMISSION (Docket No. 7256) JUNE 18, 1996 MOON, C.J., KLEIN, LEVINSON, AND RAMIL, JJ., AND CIRCUIT JUDGE HUDDY, IN PLACE OF NAKAYAMA, J., RECUSED. OPINION OF THE COURT BY RAMIL, J.

³ **Rule 103 Rulings on evidence. ... Case Notes** Where plaintiffs' counsel did not object to defendant's expert's testimony until after expert had been questioned on direct examination, cross-examination, and redirect examination, and no motion to strike expert's testimony was made until two days later, after defense had already rested its case and the court had already determined the instructions to be submitted to jury, plaintiffs' objection to expert's testimony was untimely and was thus waived for appeal purposes. 77 H. 446 (App.), 887 P.2d

C. Environmental Impact Statement

HECO spends a fair amount of time criticizing us for not participating in the Environmental Impact Statement process.⁴ Ironically, in the Wa`ahila Ridge Transmission fight they used the opposite argument (we should not ask questions in the EIS process UNTIL we fully understood the project):

“Chapter 343 of the Hawaii Revised Statutes establishes a system of environmental review at the state and county levels. The law and its implementing regulations (Hawaii Administrative Rules X 11-200) are intended to ensure that environmental concerns are given the appropriate consideration in decision-making. They require the preparation of environmental impact statements for many development projects, including the construction of new fossil-fuel fired generating units with capacities in excess of 5 megawatts. [HECO T-10 at 2:3-9.]

The law requires that government give systematic consideration to the environmental, social and economic consequences of proposed development projects prior to allowing construction to begin. The EIS process includes identifying environmental concerns, obtaining various relevant data, conducting necessary studies, receiving public and agency input, evaluating alternatives, and proposing measures for avoiding, minimizing, rectifying or reducing adverse impacts. [HECO T-10 at 2:9-16.]

According to the State Department of Health’s Office of Environmental Quality Control (“OEQC”) Guidebook for the State Environmental Review Process, an EIS must be structured to disclose information in a concise manner using understandable terms. The Draft EIS process for this Project was reviewed by the OEQC and the Environmental Statement law is implemented by the OEQC. Participation in HECO’s EIS would have been helpful to LOL in this proceeding because, from an environmental perspective, the research and analysis it contains supports a conclusion that the location of the proposed Project is reasonable. As HECO understands it, although CO2 may be considered a principal greenhouse gas (which apparently is LOL’s chief concern with electricity generation), currently, the State Department of Health has no requirements in place for limitations on CO2. [Transcript at 291:16-18.]

656.http://www.capitol.hawaii.gov/hrscurrent/Vol13_Ch0601-0676/HRS0626/HRS_0626-0001-0103.HTM

⁴ "Participation in HECO’s EIS would have been helpful to LOL in this proceeding because, from an environmental perspective, the research and analysis it contains supports a conclusion that the location of the proposed Project is reasonable." We understand that HECO would prefer that we waste time rather than focusing on building a case and cross-examining HECO's witnesses. We chose to participate in the testimony and cross-examination process where each side would seek to separate the wheat from the chaff and have a neutral regulatory body weigh all of the evidence and make a scientifically and judicially defensible decision.

The Chapter 343 process for the Project is complete. After reviewing the final environmental impact statement that HECO submitted on August 10, 2006, the Department of Planning and Permitting, City and County of Honolulu, determined that the document met the acceptability criteria in HR 11-223 [sic] and accepted the final environmental impact statement. In reaching that conclusion the DPP found that the statement fulfills the definition of an EIS and adequately discloses and describes all identifiable environmental impacts, and satisfactorily responds to the public comments that were received during the process. [Transcript at 294:20-25; 295:1-9.]

As admitted by LOL, it did not review, nor did it even submit, a comment during the EIS process. LOL certainly had a reasonable and fair opportunity, like other advocacy groups and members of the public, to challenge the Project on environmental grounds during the EIS process. It chose not to do so, LOL says, because, "It's a time thing, No. 1. There's two of us. And we handle a variety of issues. Energy is one. And we have been -- this has been a busy year. We've hadn't a summer for about five years. So it's a resource thing for us." [Transcript at 453:1-8.] As a result, LOL appears at the Commission to make its environmental arguments against the Project in a capital improvements project expenditure docket. While the Commission decides such issues as it deems appropriate in its discretion, clearly a formal environmental review process was taking place at other County, State, and Federal agencies that administer environmental protection laws. While HECO sympathizes with the resource limitations of LOL, such limits cannot constitute reasonable grounds for disregarding altogether the lengthy, formal, public EIS process required by law." (Opening Brief, pp 80-82)

HECO provides no federal or state judicial decisions, federal or state law, state administrative law, nor any Commission ruling to support its preposterous statements. HECO is simply wrong on numerous counts, including but not limited to:

(1) The EIS is a disclosure document not a regulatory decision on whether to issue a permit;

(2) All regulatory agencies deciding on whether to issue discretionary permits allow additional information at the time of the formal regulatory hearing;

(3) HECO is seeking two (2) discretionary regulatory permits from two (2) state agencies, one from the State Department of Health and the other from the Commission, yet it chose to submit its EIS for review to a county agency;

(4) Putting aside for the moment whether HECO was technically just inside the legal line, wouldn't it have made far more sense to file the EIS with the PUC. After all, the Hawaii Supreme Court stated: "First of all, we see in the statutes an overall scheme

which reserves to the PUC the power to regulate public utilities, thereby serving as a limitation to the powers of the counties. ... HRS §269-6 provides: "The public utilities commission shall have the general supervision hereinafter set forth over all public utilities, and shall perform the duties and exercise the powers imposed or conferred upon it by this chapter." (Citizens Utilities Company, Kauai Electric Division v. County of Kauai, et al. Hawaii Supreme Court No. 14850 07/31/1991). Would it not make more sense to submit the EIS to the State PUC rather than an agency without any legislative mandate to regulate utility operations?

(5) The City and County of Honolulu, the accepting agency for this Final EIS, is currently confronting the State Department of Health's Office of Environmental Quality Control in a multi-year battle over the City's total disrespect of the State EIS law. HECO attorneys attend all OEQC and Environmental Council hearings and are intimately familiar with this running battle;

(6) While the Draft EIS must be minimally inclusive, only the Final EIS, no longer subject to public review, must disclose major impacts;

(7) The Final EIS was written on behalf of the developer with a very one-sided slant. How else could the Final EIS state that the proposed 2009 power plant was selected by the Integrated Resource Planning ("IRP") Advisory Committee to be an integral part of every evaluated alternative, when the current IRP process started in 2003; while HECO wants the plant in 2009, stated it requires seven (7) years of planning, that the planning for the plant started in 2002?;

(8) The statement: "CO2 may be considered a principal greenhouse gas" is ridiculous. CO2 is the principal greenhouse gas; and

(9) While HECO may think the issue is simply whether they get a permit or not, and, in a sense they are right. But in actuality, a much more significant policy question is also being asked. In light all the state, federal and international focus on runaway greenhouse gases and abrupt climate change scenarios, can the first Hawai'i regulatory agency to have dramatic and intense climate change testimony subject to

rigorous cross-examination, continue business-as-usual, or would it be more prudent to protect the public interest by making a fundamental change in regulatory policy.

D. Renewable Energy

HECO stated:

"LOL apparently disagrees with the State's policy to reduce Hawaii's dependence on imported fossil fuel and the State's encouragement of agriculture and local biofuel production. LOL even takes issue with the Renewable Portfolio Standards law, which were the subjects of (1) Act 272 (2001 21st Haw. Leg.), (2) Act 95 (2004 22nd Haw. Leg.), and (3) Act 162 (2006 23rd Haw. Leg.). The purpose of Act 272 was to reduce the State's dependence on imported oil, recognizing the economic, environmental, and fuel diversity benefits of renewable energy resources and encouraging the establishment of a market for renewable energy in Hawaii. [Act 272, Part I, Section 1] The purpose of Act 95 was to decrease Hawaii's need to import large amounts of oil. Creation of a local biofuel market, from Hawaii farmer to Hawaii customer, is a State goal." (Opening Brief 97-98)

Hawai'i State Law has sought a **goal** of energy self-sufficient since at least 1974. The Constitution has **mandated** it since 1978. The utility is further away today than it was before the first Oil Embargo (1973).

HRS §196-1 (Act 237, 1974): "The State of Hawaii, with its total dependence for energy on imported fossil fuel, is particularly vulnerable to dislocations in the global energy market. This is an anomalous situation, as there are few places in the world so generously endowed with natural energy: geothermal, solar radiation, ocean temperature differential, wind, waves, and currents--all potential non-polluting power sources. ... There is a real need for comprehensive planning in the effort towards achieving full utilization of Hawaii's energy resource programs and the most effective allocation of energy resources throughout the State." (**HRS 196: Energy Resources**)

HRS §226-18a (Act 100, 1978) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives ... (2)

Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased (**HRS 226: Hawaii State Planning Act**)

Constitutional Convention of 1978, Standing Committee Report ('SCR') No. 77 was the only committee report from the ConCon dealing with this amendment: "Your Committee on Environment, Agriculture, Conservation and Land ... begs leave to report as follows ... The consensus of your Committee with regard to self-sufficiency was to constitutionally recognize the growing concern and awareness of Hawaii as being overly dependent on outside sources for, among other resources, food and energy. Your Committee spent much time considering the need for a separate section on an energy policy for the State. However, it was concluded that the promotion of energy conservation, the development of clean, renewable sources of energy, and the achievement of increased energy self-sufficiency would be adequately covered by the provisions of this section."

The State Constitutional Convention (ConCon) of 1978 proposed amending the constitution to include the term energy-self-sufficiency: Article XI, Section 1 was adopted by the ConCon and enacted by the popular vote in the November 1978 general election: "the State ... shall conserve and protect ... natural resources, including ... energy sources, and shall promote the development and utilization of these resources ... in furtherance of the self-sufficiency of the State."

LOL supports achieving energy self-sufficiency, not talking about it, trying to achieve it, and/or setting goals to bring it about.

E. Energy Efficiency

HECO stated:

"LOL stated that "The amount of MW needed is highly dependent on what is to emerge from the Energy Efficiency Docket." LOL made an unsupported assertion that under a scenario of third party administration of the energy efficiency DSM programs, "we will be able to achieve greater energy efficiency penetration levels and the utility

will need less new generation." They did not provide a projection of energy efficiency DSM penetration levels as a function of time and therefore no assessment of the validity of LOL's assertions could be made. [HECO RT-2 at 16:23-25; 17:1-5.]" (Opening Brief app. 87-88)

The Commission opened docket 05-0069 to examine statewide energy efficiency programs. There were a large number of parties.⁵ Preliminary Statement of Positions were due on March 1, 2006. The Consumer Advocate recommended keeping the existing structure.⁶ LOL favored Third Party Administration. Parties met to talk explore different options (the Consumer Advocate chose not to participate). The parties Final Statement of Position were filed on June 1, 2006. LOL's Final Statement of Position (page 2) analyzed the five competing models presented: HECO's strawman (business-as-usual, with the caveat that the utility may choose to outsource the implementation of specific programs), Rocky Mountain Institute's ("RMI") straw model (business-as-usual, with the caveat that some unspecified programs or segments would be transferred to a non-utility third party), Maui County (carving out low income, Lana`i and Moloka`i markets from whatever model was chosen, and to promote plug in vehicles which would increase load), Hawaii Renewable Energy Alliance ("HREA") (competitive bidding), and LOL's strawperson (Third Party Administration based on Efficiency Vermont).

In the docket, HECO presented information on the Maximum Achievable Potential ("MAP"), which revealed that it provided less MW reduction than the amount of savings available building a few Sea Water Air Conditioning (SWAC) systems. (See

⁵ Hawaiian Electric Company ("HECO"), Maui Electric Company ("MECO"), Hawaii Electric Light Company ("HELCO"), Kauai Island Utility Coop ("KIUC"), and The Gas Company (TGC); the government: Department of Defense ("DoD"), County of Maui ("COM"), County of Kauai ("COK"), the Consumer Advocate ("CA"), Department of Business, Economic Development and Tourism ("DBEDT") consultant Rocky Mountain Institute ("RMI"); trade groups: Hawaii Solar Energy Association ("HSEA"), Hawaii Renewable Energy Alliance ("HREA"); and the environmental community: Life of the Land ("LOL"). The United States Environmental Protection Agency ("US EPA") is participating in the docket.

⁶ First, the Consumer Advocate recommends that the Commission retain the established 'market structure' in which Hawaii's electric utility companies retain the role as the administrators of DSM resources. ... Fourth, the Consumer Advocate contends that the utilities no longer require an incentive to actively pursue the implementation of DSM programs. (Division of Consumer Advocacy Preliminary Statement of Position, Docket No. 05-0069 p 2, dated March 1, 2006)

testimony and Exhibits of HREA in PUC DN 05-0069, and testimony of LOL Witnesses Dr. Rezachek and Reb Bellinger in PUC DN 05-0145) Hence, LOL's total achievable penetration far exceeds HECO's Maximum Achievable Potential.

F. Climate Change

HECO stated:

"In summary, HECO agrees with the following statement from the Consumer Advocate regarding the consideration of global warming in this Docket: ... 'Planning for contingencies that may occur decades removed from the immediate need for the power generation require [] HECO and the Commission to ignore HECO's obligation to serve.' [CA's Response to LOL-CADT-IR-15.]" (Opening Brief p 82) Mr. Alm said "we need to be a part of the solution."⁷.

Assuming these statements are both true, these statements taken together would indicate that HECO believes that climate change is real but we don't have to do anything about it.

II. HECO's Position is Inadequate

A. HECO and the CA disagree about the scope of the docket.

HECO: The project appears to be a building and a generator, but not fuel.

"Q. First off to clarify, is HECO asking us to approve the use of biofuels in the unit in this docket? A. I do not believe that they were asking for specific approval to utilize biofuels in this docket. We're asking for a commission approval of this -- of this type of generating technology." (Simmons)

"The -- this hearing is for a combustion turbine, and we have a number of fuels being evaluated. " (Seki)

⁷ Mr. Alm stated: "But like you, we've seen the growing body of scientific evidence which tells us the following: That human activity has caused an increase in global warming, that the human activity which has the strongest impact on this increase is the burning of fossil fuel, and that global warming has associated climate change impacts. We accept -- you know, even though we cannot independently, scientifically verify that, we accept this as an operating premise for our actions and we accept our need to be part of the solution." (Alm Tr. 325:19-326:5)

The Project involves HECO's proposal to add firm peaking generating capacity on HECO's system consisting of: (1) the construction of a new nominal 110 megawatt ("MW") generating facility ... (2) the construction of a second 138 kV transmission line ... (3) the expansion of HECO's existing Barbers Point Tank Farm site, and (4) the construction of substation upgrades (HECO's Opening Brief 5:18-6:4)

CA: The approving the project is dependent upon commitment to 100% biofuel

"The Consumer Advocate does not oppose HECO's request to commit funds for the CIP project **provided that** the proposed project uses 100 percent biofuels as its fuel." (Herz. Tr. 410:6-9) (emphasis added)

This difference of importance is critical. If the use of biofuels is a part and parcel of the project then we are talking about either imported or taxpayer subsidized domestic biofuels. If it is the latter, then the State Environmental Law applies:

HRS §343-5 Applicability and requirements. (a) Except as otherwise provided, an environmental assessment shall be required for actions that: (1) Propose the use of state or county lands or the use of state or county funds.

Hawaii Revised Statutes, Hawaii Administrative Rules, and Hawaii Supreme Court rulings oppose segmentation of projects to avoid environmental review. For example:

"A group of actions proposed by an agency or an applicant shall be treated as a single action when: The component actions are phases or increments of a larger total undertaking; An individual project is a necessary precedent for a larger project; An individual project represents a commitment to a larger project" (Hawaii Administrative Rules §11-200-7)

Kauai Ethanol LLC proposed an Ethanol plant in Kauai. Thirty nine (39) testimonies were filed as part of the Hearing process in late 2006. The Hawai'i Department of Health's Clean Air Branch ("CAB") is now requiring Kauai Ethanol LLC to write an Environmental Assessment on their proposed ethanol plant (email correspondence with CAB).

The fact that the 100% biofuel requirement occurred after the Final EIS was published means a Supplemental EIS is called for.

If there is any change in any of these characteristics which may have a significant effect, the original statement that was changed shall no longer be valid because an essentially different action would be under consideration and a supplemental statement shall be prepared and reviewed as provided by this chapter. (Hawaii Administrative Rules §11-200-26)

B. Fuel Use

"Since 1998, HECO has consistently maintained that the next firm capacity central-station generating unit on the system should be a simple cycle

combustion turbine installed in 2009. (Opening Brief 41:3-5) LOL's plan was not reviewed in an Integrated Resource Plan" (Opening Brief 84:8)

"A. As I stated in -- in the IRP-2 plan that was submitted back in 1998, at that point it was envisioned that the unit would utilize diesel fuel. In the 2002 evaluation report, there was indication that a combustion turbine would have some flexibility in -- in the fuel it could possibly use. In the 2005 IRP filing, there was indication in there of efforts by Hawaiian Electric to do a bio-fuels assessment to obtain more information on what type of biofuels might be able to be used on the Hawaiian Electric system. Q. Was there a thought of growing the crops locally to produce the fuel? A. The -- the source of the biofuels was not -- was not discussed, I don't believe, in -- in any great length in the IRP announced. It was more the fuel itself and what might be possible." (Hashiro 199:21-200:12)

Greenhouse Gases

"The proposed project, when viewed by itself, does not reduce, avoid, or sequester greenhouse gas emissions. The proposed generating units burn fossil fuel. However, this project is not an isolated undertaking and should not be viewed as such. When viewed as part of HECO's overarching IRP strategy for supplying energy to O`ahu into the future, it becomes clear that the cumulative effect of HECO's various approaches to energy supply and conservation are much more consistent with reducing greenhouse gas emissions. This can be accomplished in particular through reducing energy consumption through DSM and continuing to explore alternative energy and fuel sources." FEIS Section 6.2 Hawai`i State Plan, page 6-8.

HECO expects the peak to continue its long-term upward trend. FEIS Load Forecast Update p 1-29

Ratio of Indigenous to Imported Energy Use

The proposed project in and of itself does not improve the ratio of indigenous to imported energy use. It does not preclude increased self-sufficiency, as the generating unit will be capable of using several types of fuels **if and when** they are locally available. However, as discussed in Section 1.3, the proposed project should be understood as a component of HECO's long term Integrated Resource Plan. The systemwide strategies detailed in the IRP are cumulatively compatible with the goal of increased energy self-sufficiency. **However, it is important to note that these are also dependent to some extent on the advancement of specific technologies.** The proposed facility's ability to use biofuels creates a greater opportunity for the use of indigenous fuel sources. FEIS Section 6.2 Hawai`i State Plan, page 6-8.

Fossil Fuels

Additional fuel would be required to power the generating unit, but HECO expects that this will be naphtha and other products that are already produced at the two refineries located at Campbell Industrial Park. Currently, excess naphtha not used on the island is exported, and

the proposed generating station would utilize much of that product. Hence, it would not substantially alter the level of activity at/emissions from the two existing oil refineries located there, and it would slightly reduce emissions related to the shipping fuels off-island. Further, the proposed generating station is also capable of utilizing alternative fuels, such as biofuels (ethanol and biodiesel) and hydrogen, thus creating a market for these products if and when they are commercially available and economical to use on O`ahu. FEIS Section 7.1 Secondary and Cumulative Impacts, p 7-1.

C. Biofuel Source

"Limited local supply for biodiesel is the major drawback for this biofuel" (IRP-2)

Mr. Seki

"Biomass is being looked upon now locally, by the Clear Fuels people, to look at biomass to make ethanol." (Seki 133:25-134:2)

"Q. So would you contemplate growing the energy crop locally so it would be near the mill, and then using that onsite for ethanol for the power plant? A. I -- can you rephrase that question again? Q. Yes. In one of the IRs, Hawaiian Electric said that adjacent to their proposed plan there would be an ethanol plant; and the ethanol plant would be used to generate the ethanol needed for the power plant. Are you familiar with that? A. I don't -- I don't have that particular IR. Q. Have you been part of any discussion within the company about where either the ethanol or biodiesel would come from that would be used in the power plant? A. I think that's a question for Mr. Isler, who's going to be looking at supplies of fuels for the combustion turbine." (Seki 146:17-147:8)

"If you talk to Mr. Isler about where the supply is going to come, it may not come initially from Hawaii. It may have to be imported at some point, but the hope is in the future locally grown biofuels could be made available for this unit." (Seki 147:21-25)

Mr. Hashiro

"Q. With regard to the -- this CT unit -- which was originally slated for fossil fuels, right? As the fuel, originally? A. In the IRP-2 plan, it was a fossil-fueled unit, yes. Q. And at some point, it became that it would be 50 percent ethanol and 50 percent fossil fuel, at some point? A. That's my understanding, yes. Q. And at some point, it became 100 percent biofuels? A. That's my understanding, yes. Q. And as director of integrated resource planning, were you involved in those processes, and those steps? A. Since we did not have an active integrated resource planning process at that time, no, I was not involved in the -- in the details of that." (Hashiro 196:24-197:16)

Mr. Isler

"Q. When, if ever, does HECO expect locally produced biodiesel to become available in quantities sufficient to fuel the proposed generation unit? A. I really don't know the answer to that. And as far as using local biofuels or anything like that, that's more of a policy-type decision that would be appropriate for Mr. Alm." (Isler 266:22-267:3)

Mr. Alm

"A. Certainly. No one by themselves can create a biofuel industry for Hawaii. In order to make the state less reliant on imported product, we all need to work together. A collaborative effort will be required from everybody, from government, city and state, from businesses, institutions, neighborhoods, and residents. We understand clearly, though, that we are a significant part of that equation; and we want to do our part to make it a reality. We are not, for example, in the agricultural business. But we believe we can play a role by providing a market for agricultural products. A fuel contract to supply the utility is one of the best means for securing financing for business plans for those who are interested in either getting into or processing biofuel crops. We are, as a company, exploring different ways to encourage the, the -- the creation of a local biofuels market. As mentioned in our rebuttal testimony, we're experimenting with biodiesel in our Maui generating And again, you know, we just see that the best thing we can do in terms of -- of assisting in the creation of a local agricultural energy business is to provide a good market for those products." Alm 312:4-13:5

"Q. What's the difference between ethanol and biodiesel? A. From a -- from a scientific standpoint, I don't know the answer to that question. From a practical standpoint, and probably pretty germane to these proceedings and to many of your questions about how our position has evolved, there is a local market in ethanol, largely derived from the transportation requirement. But it has brought ethanol to Oahu, to Hawaii, and brought forth a number of people who believe they can either import it or produce it locally. Biodiesel's taken a little bit longer to arrive here and -- and to have the same sort of vibrancy. I think that's probably true around the world as well." (Alm 319:11-320:1)

"A. I think we would welcome ethanol from Kauai. We'd welcome it from Maui. And initially, as I think we've made clear, it may come from outside of Hawaii if the local industry is not ready to provide locally grown ethanol. Q. So you'd substitute importing oil for importing ethanol? A. Yeah. Green is green." (Alm 358:20 - 359:2)

"Q. When does HECO first expect to be able to use locally grown biofuels? A. I think that from our point of view, you know, our goal was to provide the market, do the bid and, in the bid, ask the people use local crops and then we'll see what happens. I mean, that's -- that's up to other people than us and up to decisions they make about both planting and using the crops they have. I think that -- that there was an announcement last year, the Maui Land and Pine, Kamehameha Schools, and I thought there was one other. Were looking at whether their lands, slash, crops should be used for -- for energy purposes. So I -- you know, you're asking me to guess at what the agricultural folks in the island will do, and I don't know. I don't know the

answer to that." (Alm 361:6-22)

"Q. And if you had to import it from beyond the state, would you have any restrictions on where it came from, the biodiesel or ethanol? A. I think that in the, the -- the bid process, we're going to ask people to talk to us about their supply and the assurances we have of that supply. You know, I'm not sure exactly what you're getting at but, you know, there are probably limits to what we will feel we have a right to either check on or -- or be able to evaluate in terms of -- of differentiations between supply. I mean, what we're talking about is a supply contract of biofuels for a unit to operate in 2009. What we need to be assured of is that that supply will exist, that there are sources for it, backup for it, that in fact you can deliver it to us. It's not a -- a paper promise. Because, you know, this isn't a case of, well, if you don't deliver, we can penalize you. If we don't have the fuel, we can't run it off penalty. So we need to -- to have a fuel supply that we can be sure of will exist in the summer of 2009. So, I mean, that's going to be the major thing we're looking at. Q. For example, Malaysia is mowing down rain- forests to grow monocropping palm oil for biodiesel. That might be something you would say you don't want to encourage. Well, do you want to encourage it? A. You've used that example a couple of times. I don't know in fact what's happening in Malaysia. If you have some evidence of what's happening to it and you want to give it to us, you know, I don't know if we'll take a look at that in the -- in the bid process; but at this point, that's simply a statement you've made here that I have no way of confirming or not." Alm 376:21-378:5

HECO stressed supply and not supply characteristics would be the major factor:

HECO stated its commitment to use 100% biofuel in its proposed CT unit. To reach that goal, HECO outlined the following steps: . b. Establish a Biofuel Supply. Hawaiian Electric will initiate a solicitation process for a biofuel provider in 2006 with the selection of a biofuel provider and completion of a contract by the end of 2007. The process will, among other criteria, require that the winning bidder be able to commit to the company, the regulators and the public that it has reliable sources for fuel that can meet the volumes necessary to reliable operate the CT Unit when operational, which is expected to be in the summer of 2009. This requirement includes demonstrating that a vibrant, multi-sourced national and international market supply exists in such fuels. (Exhibit A, filed December 6, 2006)

Can the Commission mandate a local supply?

"Q. Is there any problem with the commerce clause of the Constitution restricting the biofuels to be grown here and not from out of state? A. My understanding of the law -- and I didn't do the research myself but -- but I understand that the state of the law is that if that requirement comes from a private company like ours, that it will withstand commerce clause attack. If the State of Hawaii or the Public Utilities Commission forced that, that it would not." (Alm 361:23-362:7)

Misstatement

"In fact, when LOL questioned Mr. Alm at the evidentiary hearing, he addressed the film "An Inconvenient Truth," which he saw, and the book, which he read. Mr. Alm

pointed out that 'at the end of the book Vice President Gore has a list of things we can all do to -- to deal with the global warming issue. And *one of the specific ones he suggest[s] is biodiesel and ethanol.* [Transcript at 314:17-23]" (HECO's Opening Brief p. 82)

HECO's citation is correct. The quote does come from page 314. But the question was made by the author of HECO's Brief, and not LOL, as shown by the Transcript at page 241 which states:

12
ROBERT ALM
13 Direct Examination by Mr. Nakanishi..... 307
Cross-Examination by Mr. Curtis..... 316
14 Cross-Examination (Continued) by Mr. Curtis..... 368
Cross-Examination by Mr. VanDrunen..... 403
15 Examination by Chairman Caliboso..... 404

The citation comes from a passage where HECO attorney asked HECO witness about greenhouse gases and biofuels. HECO's counsel referenced to a document not in the record. HECO's witness answered the question referring to another document not in the record. The document was not made available to the parties. The specific citation (page number, quote, context) was not stated. This undocumented citation appears to be HECO's sole proof that biofuels have some good attributes.

III. Consumer Advocate's Position is less than Credible.

The Consumer Advocate has recommended that the proposed power plant be approved only if it is fueled by ethanol (or some other biofuel). So the question of whether additional firm capacity is needed is not the only issue, even for the Consumer Advocate. The Consumer Advocate is betting (risking) a lot of consumer money on the possibility that an adequate supply of biofuel will be available at an acceptable cost. **If they are wrong, consumers will have to pay a significant premium for ethanol or be saddled with yet another fossil fuel power plant for 30 years.** Neither choice is a good one.

The Consumer Advocate said "Without the necessary permitting, sites, and qualified developers for any of LOL's cited renewable energy alternatives, LOL facilities will not be built in a timely manner." (Opening Brief, page 10) This statement more aptly defines the state of the biofuel industry, since LOL included technologies, companies, and general locations, while neither HECO nor the CA specified crops, islands, agricultural companies, technologies, bioconversion methods, biofuel plant companies, biofuel plant locations, etc. Furthermore, while some ethanol companies proposed Hawaii ethanol plants to be operational in 2005, no ethanol plant has yet to be

approved.

Mr. Herz represented the Consumer Advocate in this docket. He was their one and only testifier. But Mr. Herz had no understanding of the issue he was representing. "Mr. Herz does not represent himself to be an expert on biofuels."⁸ "Mr. Herz has not testified on matters focused on biofuels."⁹

The Consumer Advocate¹⁰ has acknowledged that there are no power plants anywhere in the world that use 100% biofuels. Hawai`i consumers should not be required to assume the risks and costs associated with being the "guinea pigs" associated with the first 100% biofuel power plant in the world. Hawaii consumers are already subjected to the risks of inadequate reserve margins and an over-dependence on expensive imported oil.

In its response to LOL-CADT-IR-12, page 18, the Consumer Advocate accepts and endorses HECO's statement that "...its evaluation of whether biofuels are commercially viable will be based on factors such as: 1. availability in sufficient quantities; 2. meeting technical specification characteristics; and, 3. supplier's ability to deliver in an appropriate manner." However the Consumer Advocate has not presented sufficient evidence to demonstrate that: (1) ethanol will be available in sufficient quantities in Hawaii by 2009 to meet both the needs of the gasohol blenders and power plant requirements; (2) that ethanol will be able to be used in the proposed power plant; and (3) that suppliers will be able to deliver the fuel in an "appropriate" manner. The Consumer Advocate has merely assumed, but have not verified, that this will be the case.

When asked about the time tables for ethanol power plants in Hawaii, in their response to LOL-CADT-IR-22, on page 30, the Consumer Advocate states that "[t]he primary question at issue in this proceeding is whether the Commission should

⁸ Consumer Advocate Response to LOL-CADT-IR-51(b)

⁹ Consumer Advocate Response to LOL-CADT-IR-52(b)

¹⁰ In response to LOL-CADT-IR-38, page 46, the Consumer Advocate acknowledges that "[t]o Mr. Herz's knowledge, there presently are not any power plants of the size and type of HECO's proposed CIP Project which use 100% biofuels."

approve HECO's application to commit funds in excess of \$2,500,000 to construct the proposed CIP Project and, if so, what conditions if any should be included as part of such approval. The time table for construction of Gay & Robinson's proposed ethanol plants, or construction of any other ethanol plants in the State as a potential renewable fuel source for generation, does not affect the determination as to whether additional firm capacity is needed."

The Consumer Advocate further states in LOL-CADT-IR-38, page 38, that "[i]n the event HECO can demonstrate that despite its best efforts, it is either impractical or cost prohibitive to use 100% biofuels, the Company could then seek relief from such requirement for the Commission." Basically, the Consumer Advocate is asking the Commission to speculate on whether ethanol is an appropriate fuel for the proposed power plant. Therefore, the Commission does not have sufficient information to make an informed decision about the use of ethanol and should reject this proposal. And, if the use of ethanol cannot or has not been justified, the Consumer Advocate should oppose the proposed power plant as it would not meet the Consumer Advocate's stated requirement for its approval (i.e., "that HECO be required to use ethanol or some other renewable fuel").

The Consumer Advocate has stated, in its response to LOL-CADT-IR-2, on page 4, that "[s]ubject to the condition that HECO be required to use ethanol or some other renewable fuel, and the requirement that HECO work with DBED&T to develop a local resource of biofuels, the Consumer Advocate does not oppose the commitment of funds for the construction of the new combustion turbine generating facilities to meet the Company's service obligations." This requirement was also stated several times elsewhere.¹¹ At the same time, the Consumer Advocate is apparently relying on a single reference¹² to develop its recommendations regarding the use of biofuels, in general,

¹¹ See also - Consumer Advocate's response to LOL-CADT-IR-5, on page 9, "...the proposed CIP Project is expected to be capable of using biofuels, and the Consumer Advocate is recommending the Commission require HECO to use a renewable fuel (e.g., ethanol) for the proposed CIP Project; Consumer Advocate's response to LOL-CADT-IR-25, on page 33; and Consumer Advocate's quote in LOL-CADT-IR-37, on page 45

¹² University of Hawaii's "Assessment of Biofuels for Electric Power Generation – Phase 1"

and ethanol, in particular, in the proposed power plant. This does not seem adequate or appropriate. The Consumer Advocate apparently has not reviewed any other documents that might support (or refute) this single reference. Until the Consumer Advocate has reviewed and evaluated other references on this subject, it can not make a well-informed decision or recommendation. And, according to both HECO and the Consumer Advocate (both strong proponents of the IRP process), such important decisions should only be made in an IRP process. Therefore, it is recommended that this issue be taken up during the next IRP and that no decision be made at this time.

Use of Ethanol Would be an Expensive, Risky Experiment. Preliminary estimates of the cost premium that consumers will have to pay for using ethanol range from \$13.5 to \$20.4 million per year (or, \$404 to \$613 million over the 30-year life of the power plant).¹³ This premium cost does not appear to have been considered or justified by HECO or the Consumer Advocate in their apparent rush to use this fuel in the proposed power plant. Therefore, neither HECO or the Consumer Advocate have any basis to conclude or propose that the use ethanol (or any other biofuel) should be required in the proposed power plant.

Furthermore, this definition of “commercially viable” does not include any assessment of cost effectiveness. Without a mandate for use in gasoline blends, and significant subsidies, it is unlikely that ethanol would be used in Hawaii in any large quantities. Similarly, the very high cost premium that consumers will have to pay for ethanol use in the proposed power plant make it unlikely that ethanol would be the fuel of choice unless it is mandated. Therefore, in the absence of mandates and/or substantial subsidies, ethanol does not appear to be “commercially viable.”¹⁴

¹³ The lower figure is for ethanol vs. diesel and the upper figure is for ethanol vs. Low Sulfur Fuel Oil (LSF) based on the following assumptions: (diesel – HHV = 138,700 Btu/gallon and \$90/bbl; LSFO – HHV = 149,700 Btu/gallon and \$60/bbl; ethanol – HHV = 84,300 Btu/gallon and \$2.3639/gallon delivered to Oahu; heat rate for new power plant = 10,571 Btu/kWh; and annual output from power plant = 111,645,100 kWh/yr)

¹⁴ Hawai'i residents will pay for ethanol in two different ways: through taxes and through electric rates. LOL asked the CA if they have considered the total impact to consumers: Life of the Land Question: "What would the taxpayer (as opposed to ratepayer) impacts be from using 100% biofuels?" Consumer Advocate Response: "The Consumer Advocate does not possess the knowledge or expertise to this

Furthermore, HECO states in HECO RT-12, page 6, that “[o]ur plans include using a blend of ethanol in our proposed new unit. Many vendors have responded to our solicitation of interest to supply ethanol for the new unit.” More recently, HECO has declared that they propose to fuel this power plant entirely with ethanol. The mere assertion that “many” (an undefined term) vendors have responded to HECO’s solicitation of interest, does not in any way guarantee that an adequate supply of ethanol will be available at an acceptable cost. HECO further states in HECO RT-12, page 7, “[t]here is an old adage about, which comes first, the supply or the market. In this case, we have created the market and we believe the supply will come.”

In calculating the ratepayer impact, the Consumer Advocate ignored that ratepayers make payments through rates and through taxes. Q. "What would the taxpayer (as opposed to ratepayer) impacts be from using 100% biofuels?" A. "The Consumer Advocate does not possess the knowledge or expertise to this question."¹⁵ Q. "For each dollar that HECO would spend buying ethanol, how many dollars of taxpayer money is being used to subsidize the price of ethanol? This is a key question, as the Consumer Advocate, can you support unknown taxpayer expenditures to subsidize ratepayer rates?" A. "The Consumer Advocate does not possess the knowledge or expertise to this question."¹⁶

"Consumer Advocate is not suggesting who, if any, is responsible for regulating the biofuel industry."¹⁷ The Consumer Advocate also failed to analyze the length of time it would take to develop all of the permits needed to develop a biofuels industry in Hawaii, assuming that it is possible. A biofuels market would need labor, but we have the lowest unemployment in state history (1.5%). So workers would have to come from somewhere. If we imported them, we would also need to provide them affordable

question." (LOL-CADT-IR-41)_Life of the Land Q Question: "For each dollar that HECO would spend buying ethanol, how many dollars of taxpayer money is being used to subsidize the price of ethanol? This is a key question, as the Consumer Advocate, can you support unknown taxpayer expenditures to subsidize ratepayer rates?" Consumer Advocate Response: "The Consumer Advocate does not possess the knowledge or expertise to this question." (LOL-CADT-IR-42)

¹⁵ Life of the Land Q Question, Consumer Advocate Response re LOL-CADT-IR-41

¹⁶ Life of the Land Q Question, Consumer Advocate Response re LOL-CADT-IR-42

¹⁷ Consumer Advocate Response to LOL-CADT-IR-3

housing, and should the imported workers get affordable housing before our own workers? We would need to pay low wages to compete against foreign sources. We need water which raises public trust issues. We need to spend \$100 million to upgrade the state irrigation system. We need to expand harbors.

Certificate of Service

I hereby certify that I have this date served a copy of the foregoing OPENING BRIEF by Life of the Land, Docket Number 05-0145, upon the following parties. The original plus 11 copies to the PUC. Three copies each to the Consumer Advocate and HECO.

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