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November 2, 2018

Alec Wong, Clean Water Branch
Environmental Management Division
State of Hawaii Dept. of Health
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Pearl City, HI 96782

Pepe'ekeo Community Association
Pepe'ekeo Shoreline Fishing Committee
27-1049 Mamalahoa Hwy.
Pepe'ekeo, HI 96783

Warren Lee
Hu Honua Bioenergy, LLC
Bioenergy Facility
28-283 Sugar Mill Road
Pepe'ekeo, HI 96783

Re: Hu Honua Bioenergy's application and for NPDES permit #S000557

Aloha Mr. Wong

Life of the Land ("LOL") requests a contested case proceeding. Hu Honua Bioenergy LLC has misrepresented the facts to suppress serious impacts to the environment. WE do not support building the facility, but if it is built, then it should be done so in an environmentally sensitive way.

Life of the Land is Hawai`i's own energy, environmental and community action group advocating for the people and `aina for 48 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Life of the Land has closely following the Hu Honua proposals since their inception, filmed the State Legislative biofuel hearing in Hilo in 2008, was admitted by the Public Utilities Commission (“Commission”) as a participant in the Hawaii Electric Light Company (“HELCO”)- Hu Honua Bioenergy, LLC (“Hu Honua”) Power Purchase Agreement (“Original PPA”) filed in 2012, appointed by the Commission as a participant in the opening order for the 2017 regulatory docket to consider the Amended and Revised Power Purchase Agreement (“Amended PPA”), and appealed the 2017 Commission decision and order approving the Amended PPA to the Hawai`i Supreme Court (oral arguments held on October 25, 2018).

Hu Honua Bioenergy consultant Integral Consulting Inc. wrote “Thermal Analysis of Future Cooling Water Discharge” (“Thermal Report 1”), dated May 1, 2018, and the “Supplemental Analysis Addendum to Thermal Analysis of Future Cooling Water Discharge” (Thermal Report 2”), dated August 20, 2018.

Thermal Report 1

“The weighted average temperature of spent cooling water of 30°C (86°F) was used for modeling, based on the temperature mass balance through the boiler and condenser when operating at low load for 10 hours per day (temperature of 27.9°C [82.2°F]) and high load for 14 hours per day (31°C [87.8°F]) (ACSI 2018).”¹

¹ Thermal Report 1, p. 2-1

“A total flow of 21.6 mgd was withdrawn equally from four production wells and distributed equally to the three UIC wells, so that the total withdrawals and injection flow rates were balanced within the model domain.”²

“The model simulates a plume of heated water observed to migrate downgradient of the UIC wells and to discharge through the offshore seafloor boundary.”³

Thermal Report 2

“At the request of the State of Hawaii Department of Health, Clean Water Branch on September 13, 2018, a supplemental analysis was performed to evaluate a “worst case” operating scenario at the highest load of 21.5 MW net (25.5 MW gross) for 24 hours/day under the power purchase agreement with the utility (even though such an operating scenario is highly unlikely since the facility is subject to dispatch limitations with the utility) consisting of a cooling water flow (injection) rate of 21.6 mgd at a constant operating temperature of 32.5°C (90.5°F).”⁴

Commission Docket

Hu Honua was concerned that requiring the utility to pay over 20 cents per kilowatt-hour for baseload biomass energy as compared to recently approved Hawai`i solar plus storage contracts at 11 cents per kilowatt-hour would look really bad.

Therefore Hu Honua reconfigured their proposal from low fixed costs high variable costs (Original PPA), to the opposite: high fixed costs and low variable costs (Amended PPA). “Hu Honua believes [this] is appropriate given that the reduction to the energy price will make Hu Honua more competitive with other system resources.”⁵

² Ibid, p. 3-2

³ Ibid, p. 3-3

⁴ Thermal Report 2, pp. 1-2

⁵ Commission Decision and Order No. 34726, dated July 28, 2017, Docket No. 2017-0122, p. 11

Shift in Dollars/Year (2017 \$) ⁶	Original PPA	Amended PPA
Capacity Charge Rate & Fixed O&M Component	\$145,000	\$948,000

Obviously, the more electricity sold to the utility, the more the fixed costs are spread out. Thus allowing high fixed costs mandates using the plant as much as possible.

The Department of Commerce and Consumer Affairs (“DCCA”) Division of Consumer Advocacy (“Consumer Advocate”) is a party to every Commission proceeding. “In lieu of stating a position on whether the Purchased Power Costs to be paid by HELCO pursuant to the A&R PPA are reasonable, the Consumer Advocate noted the following: 1. Hu Honua's estimated pricing is based on a dispatch of 200,000 MWh, which would assume a dispatch level greater than 21.5 MW.”⁷

Hawaii Electric Light Company (“HELCO”) released a Supplemental Analysis on June 30, 2017.⁸

Hu Honua Status	Megawatts
Maintenance	0
Emergency Minimum Output	7
Minimum Output	10
Maximum Output	25

Hu Honua may produce between 7 and 30 MW at any given time, except when they are offline and producing nothing. To average 200,000 MWh/year they must average 22.8 MW net

⁶ Ibid, p. 12

⁷ Ibid, pp. 39-40

⁸ Ibid, p. 15

output at any given instant. To offset maintenance and low output periods, Hu Honua must produce near or at the maximum for a significant amount of time. For example, during peak solar periods in mid-day during sunny weather, the utility will rely mostly on solar.

According to Hu Honua, “Hu Honua expects to provide 30 MW of Available Capacity, and the A&R PPA [Amended PPA] provides HELCO the opportunity to dispatch the plant up to the available amount.”⁹ “The facts are simple [] Hu Honua's "Available Capacity" can be more than 21.5 MW, and Hu Honua has designed the plant to provide 30 MW of Available Capacity. [] As a result of an apparent misunderstanding between HELCO and Hu Honua, HELCO modeled the maximum Available Capacity of the Hu Honua facility as 25 MW, instead of 30 MW.”¹⁰ [emphasis added] The Commission concurred, “Hu Honua expects to provide 30 MW of Available Capacity.”¹¹ The Consumer Advocate explained what 30 MW means, “[T]he new generator is rated to produce 36 MW (gross).”¹² To produce 30 MW for HELCO, Hu Honua must produce 36 MW and consume 6 MW (parasitic load). “The difference between the net capacity and gross capacity is explained by the plant’s approximate 6 MW parasitic load when operating at its maximum capacity.”¹³

If Hu Honua is down for maintenance two weeks per year, then each hour they are up they must average 24 MW plus a parasitic load of 5 MW. Assuming output varies, then they must produce 36 MW gross for long periods of time.

The Big Island was impacted during the recent tropical storms/hurricanes, as solar output dropped significantly and a hydro plant was knocked off line. Only one O`ahu wind farm opted

⁹ Hu Honua Bioenergy, LLC's Reply Statement of Position, p. 21

¹⁰ Ibid, p. 26

¹¹ Commission Decision and Order No. 34726, dated July 28, 2017, Docket No. 2017-0122, p. 55

¹² Hu Honua response to Consumer Advocate Information Request #2, p. 7, dated June 2, 2017

¹³ Ibid, p. 12

to shut down as the storm approached. During critical weather events, which are expected to increase, Hu Honua must be able to maintain high output.

This worst case of 36 MW gross output for a few days does not match Hu Honua's assertion that 25.5 MW (gross) for 24 hours/day is a worst case scenario. Hu Honua then asserts, but does not provide any citation for, "such an operating scenario is highly unlikely since the facility is subject to dispatch limitations."

In the Commission proceedings, Hu Honua often made bold uncited statements, and then refused to answer Life of the Land Information Requests asking for documentation.

Thermal Pollution

Integral Consulting Inc. wrote, "The warm spent cooling water, injected into UIC wells, migrates through the groundwater aquifer and discharges to a limited area of the seafloor (aquifer/ocean interface)."¹⁴ [emphasis added] A pathway from a well to a limited area of the ocean is functional equivalent of a direct discharge. The Ninth Circuit Court of Appeals unanimously ruled that an NPDES permit is required under the Clean Water Act for a discharge via groundwater, if it is the functional equivalent of a direct discharge. Integral Consulting Inc. established its expertise in analyzing Hawai'i toxic impacts, but Hu Honua is the client.

Integral Consulting Inc. was founded in 2002 and offers scientific and engineering consulting for specific environmental, health, and technology.¹⁵ The County of Hawai'i hired Integral Consulting to "conduct environmental assessments and land surveys at both sites and provide oversight of the solid waste debris removal at the closed Kona scrap yard."¹⁶ Integral Consulting wrote the Draft Environmental Assessment Former Kealakehe Metal Salvage Facility

¹⁴ Thermal Report 1, p. 3-3

¹⁵ <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=31091327>

¹⁶ <http://www.hawaiiicounty.gov/fnpu-prof-srvcs-award-fy1415?currentPage=5>

Remediation and Closure.¹⁷ Integral Consulting analyzed bioaccessible arsenic in soils of former Hawaii sugar cane plantations.¹⁸

Higher temperature emissions focused on a targeted section of the ocean seabed is serious, from a climate change perspective and from a marine flora and fauna perspective. Although Hu Honua`s agricultural operations will release greenhouse gases, and heating the ocean floor will have a climate impact, Hu Honua drew an artificial boundary around their smokestack and asserted that climate impacts they caused outside of their artificial boundary were not their problem.

Supreme Court of Hawai`i asserted in *Roxas v. Marcos* 89 Hawai`i 91, 969 P.2d 1209, 1242 (1998) “Pursuant to the doctrine of judicial estoppel, [a] party will not be permitted to maintain inconsistent positions or to take a position in regard to a matter which is directly contrary to, or inconsistent with, one previously assumed by him, at least where he had, or was chargeable with, full knowledge of the facts, and another will be prejudiced by his action.”

Receiving Waters

“The receiving water, the Pacific Ocean at 19.842801°N latitude, 155.084964°W longitude and 19.843665°N latitude, 155.084645°W longitude, is classified by the DOH as Class A, Marine Waters, Open Coastal. It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. According to law, these waters shall not act as receiving

¹⁷ http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2016-04-08-HA-DEA-Kealakehe-Metal-Salvage-Facility-Closure.pdf

¹⁸ <http://www.hawaiidoh.org/references/Cutler%20et%20al.%202013.pdf>

waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class.”¹⁹

Hawaii Administrative Rules (“HAR”) Chapter 54 Water Quality Standards

HAR §11-54-9 Zones of mixing. (a) As used in this section, "zones of mixing" means limited areas around outfalls and other facilities to allow for the initial dilution of waste discharges.

HAR §11-54-9 Zones of mixing (c) Establishment, renewal, and termination. (5) No zone of mixing shall be established by the director unless the application and the supporting information clearly show that: (A) The continuation of the function or operation involved in the discharge by the granting of the zone of mixing is in the public interest [] (D) The discharge occurring or proposed to occur does not violate the basic standards applicable to all waters, will not unreasonably interfere with any actual or probable use of the water areas for which it is classified, and has received (or in the case of a proposed discharge **will** receive) the best degree of treatment or control. [] (6) (A) If the zone of mixing is established on the grounds that there is no reasonable means known or available for the adequate prevention, control, or abatement of the discharge involved, it shall be allowed only until the necessary means for prevention, control or abatement become practicable, and subject to the taking of any substitute or alternative measures that the director may prescribe. No renewal of a zone of mixing established under this subsection shall be allowed without a thorough review of known and available means of preventing, controlling, or abating the discharge involved

¹⁹ Pepe‘ekeo Community Association and Pepe‘ekeo Shoreline Fishing Committee Request for a Contested Case Proceeding, November 1, 2018.

HAR Chapter 55 Water Pollution Control

HAR §11-55-02 General policy of water pollution control. (a) It is the public policy of this State [] (b) Any industrial, public, or private project or development which could be considered a new source of pollution or an increased source of pollution shall, in its initial project design and subsequent construction, provide the highest and best degree of waste treatment practicable under existing technology.

Conclusion

The Department of Health should hold a contested case proceeding so that, if built, the facility does not violate the Clean Water Act, nor infringe on the environment and the public interest.

Mahalo

/s/ HENRY Q CURTIS

HENRY CURTIS

EXECUTIVE DIRECTOR, VICE PRESIDENT FOR CONSUMER ISSUES

AFFIDAVIT OF HENRY Q CURTIS

Henry Q Curtis, being first duly sworn on oath, deposes and says that:

1. I joined the Life of the Land Board of Directors in July 1994.
2. Since March 1995, I, Henry Q Curtis, have served as the Executive Director of Life of the Land.
3. Since January 1996, I, Henry Q Curtis, have served as the Vice President for Consumer Issues of Life of the Land.
4. My address is Henry Curtis, Life of the Land, P.O. Box 37158, Honolulu, HI 96837.
5. The Life of the Land Board of Directors has designated me to represent Life of the Land in all regulatory proceedings.
6. Life of the Land has taken an active role in regulatory proceedings on the Big Island including coral reef protection, climate change, and all aspects of proposed biomass and biofuel production on the Hamakua Coast.
7. Life of the Land was admitted into Public Utilities Commission proceedings involving Hu Honua in 2012 and 2017.
8. I swear that the statements that I filed in this filing are true and accurate.

Further Affiant Sayeth Naught.

DATED: November 2, 2018, Honolulu, Hawaii.

/s/ HENRY Q CURTIS

HENRY Q CURTIS

EXECUTIVE DIRECTOR, VICE PRESIDENT FOR CONSUMER ISSUES

CERTIFICATE OF SERVICE

The foregoing REQUEST FOR A CONTESTED CASE PROCEEDING AND AFFIDAVIT OF HENRY Q CURTIS was filed by electronic delivered to entities listed below

Alec Wong <Alec.Wong@doh.hawaii.gov>

Jaerick-Lee Medeiros-Garcia, Pepe‘ekea Community Association @PCA96783

DOH Clean Water Branch <cleanwaterbranch@doh.hawaii.gov>

Warren Lee <Warren.Lee@twc.com>

DATED: November 2, 2018, Honolulu, Hawaii.

/s/ HENRY Q CURTIS

HENRY Q CURTIS

VICE PRESIDENT FOR CONSUMER ISSUES