#### **MINUTES**

# WATER BOARD COUNTY OF HAWAI'I PUBLIC HEARING ON POWER COST CHARGE

# July 24, 2018

Department of Water Supply, Hilo Operations Conference Room; 889 Leilani Street, Hilo, Hawai'i

MEMBERS PRESENT:	<ul> <li>Mr. Craig Takamine, Chairperson</li> <li>Mr. William Boswell, Jr., Vice-Chairperson</li> <li>Mr. David De Luz, Jr.</li> <li>Mr. Nestorio Domingo</li> <li>Mr. Leningrad Elarionoff</li> <li>Mr. Eric Scicchitano</li> <li>Mr. Keith K. Okamoto, Manager-Chief Engineer, Department of Water Supply (ex-officio member)</li> </ul>
ABSENT:	Mr. Bryant Balog, Water Board Member Mr. Kenneth Sugai, Water Board Member Ms. Kanoe Wilson, Water Board Member Director, Planning Department (Ex-Officio Member) Director, Department of Public Works (Ex-Officio Member)
OTHERS PRESENT:	Ms. Jessica Yeh, Deputy Corporation Counsel Mr. Will Rolston Mr. Richard Hardin Mr. Richard Horn Department of Water Supply Staff
	Mr. Kawika Uyehara, Deputy Ms. Nyssa Kushi, Public Information Specialist Mr. Kurt Inaba, Engineering Division Head Mr. Richard Sumada, Waterworks Controller Mr. Daryl Ikeda, Chief of Operations Mr. Eric Takamoto, Operations Division Mr. Warren Ching, Energy Management Specialist

(Chairperson Takamine called the public hearing to order at 9:45 a.m.)

Chairperson Takamine: Will the public hearing of the Water Board on the proposed new cost of Power Adjustment Clause please come to order.

The notice of this public hearing was published in the Hawai'i Tribune-Herald and the West Hawai'i Today on July 1, 2018.

Good morning. My name is Craig Takamine, Chairperson of the Water Board, and will the members of the Board please introduce yourselves?

Board Members: David De Luz, Jr.; Bill Boswell; Eric Scicchitano; Leningrad Elarionoff; Nestorio Domingo.

Chairperson Takamine: Thank you. The Department of Water Supply is operated and controlled by this Water Board as provided by the Hawai'i County Charter. Section 63 of Part III, Chapter 54, Hawai'i Revised Statutes, reads as follows:

"The Board of Water Supply may fix and adjust rates and charges for the furnishing of water and for water services so that the revenues derived therefrom shall be sufficient to make the waterworks and water systems self-supporting and to meet all expenditures authorized by this part; the Board may establish variable rates among the several districts of the County, or among the areas served by the individual water systems within the County, for the purpose of establishing charges as closely as possible to the necessary amount required for the maintenance and operation of the particular individual water systems; provided no rates and charges shall be fixed or adjusted prior to the holding by the Board of a public hearing, public notice of which shall have been given not less than twenty days before the date set for the hearing. The notice shall state the time and place for the hearing and the proposed rates and charges to be considered thereat. The time within which the notice shall be given shall be computed by including the first day (the day of notice) and excluding the last day."

We are here to receive comments or testimony on the proposed amendment to the Power Cost Charge. The Department recommends <u>increasing</u> the Power Cost Charge from \$1.88 to **\$1.94** per thousand gallons to reflect the increase in power costs.

As stated in the hearing notice, all comments or testimony were to be filed in writing before the time of the hearing or are to be presented in person at the time of the hearing. We would like to follow this format as closely as possible; however, because there may be some of you who do not have any written statements but would like to testify or comment, we would like to afford you this opportunity to do so but would like to limit such presentations to five minutes because of the time limit.

The hearing is now open for comments from the floor. Will you please wait until you are recognized by the Chair; and for the record, could you please step forward, state your name and the organization you represent, if any. Mr. Rolston: Okay, William Rolston. Public. Okay, and I could also do this at the main event after this? I do have handouts so is that okay?

Chairperson Takamine: Sure.

Mr. Rolston: Just so...I don't want to read the whole thing. (Mr. Rolston handed out his written testimony.)

Chairperson Takamine: And just so the Board knows, Will is here to testify; but we can't ask him any questions at this time.

Mr. Rolston: What you have is a statement that mostly involves Lālāmilo Wind Farm which I was working for the County at the time from 2009 to 2018, April, I resigned. I have my own company now. I am testifying as a public person, for someone who worked a lot on Lālāmilo, maybe the most. So I just want to say that I am here today to represent that this is one of the best projects in the United States. It's been recognized nationally as a County that's done a wind farm and water system, so it's gotten a US Mayor's Climate Change Award in 2017, almost one year ago, when President (sic) Bill Clinton was talking. This was known across the nation as one of the best systems you can do in renewable energy. You guys obviously know that with the lava flow, PGV is down, renewable energy is needed because we went from 54% a year, 57%, now 25-30%. It's my belief is that the Water Department is not taking what they promised in the contract. So this is a contract, and I believe that the counter-party, LWC, Lālāmilo Windfarm Company, has done as much as they can on their side; and I believe the Water Department should be doing more to meet and accept the wind energy. When we did the RFP, which I was an author, we asked for a minimum of 8,000 megawatt hours. So it's written there in the RFP. There are references in this document, so if you go to Page 3, or if you have front and back copy, it will be your second page, the RFP stuff that we rated these bidders on is listed here. We never would have ran an RFP unless we had a minimum energy amount because no bidder can be assured that their project would be financially viable unless there is a minimum threshold that we throw out there. So the minimum threshold we threw out was 8,000 megawatt hours a year. A little bit more, if you look at the monthly minimum base case that we said, which was like 726,000 kilowatt hours per month. You times that by twelve, that works out to 8,600 and something. Long story short, they're taking about half. DWS is taking about half of that energy. I believe it's because the Lālāmilo and Parker wells, number one, there's some that are down, maybe three pumps right now that are down. Number two, I believe that they, in the Power Purchase Agreement and in the RFP, it was said that the Water Department would live up to their counter-party expectations and take the maximum, we always said maximum wind energy that they could. I don't believe this is happening. So I believe that the counter-party, DWS, should live up to their side of the bargain and take the maximum wind energy, as we intended to do. Now just so you know, there's a lot of people involved

in this project that are gonna get angry if this is not done. And that involves the Feds, Department of Energy, gave grant money to the best lab for renewable energy, National Renewable Energy Lab, who I worked with to co-author the RFP and the pro-forma Power Purchase Agreement that we put with the RFP that the bidders bid on. Also the Hawai'i Clean Energy Initiative, which is run out of the State Energy Office, which is overseen by the Governor. So there's a lot of people, if we don't resolve this, that are gonna start getting involved. So I think if we're gonna talk about this, and I know Keith will talk about this, and it comes down to contractual issues, I have the information from 2009 until 2013 when the Water Board unanimously awarded it to Site Constructors International, which then formed an LLC, Lālāmilo Wind Company. And they were awarded that based upon that minimum contract energy. If they couldn't meet that minimum contract energy, we would have kicked them out of the evaluation. You guys have all the evaluation criteria spreadsheets. I was one party that did it, Julie Myhre was the second, and Clyde Young was the third. You have all those records, you have how we evaluated them. Site Constructors International was number one by far. They didn't even bid the most renewable energy which was done by another firm which I can't mention, and they were the best developer by far. Not only do we want the minimum, but we want it to go up to 13,000 so it was reviewed at the site by National Renewable Energy Lab and others that this site could actually do up to 13,100 megawatt hours. So the idea was that you would take wind energy first and HELCO as a backup. Now you guys know with PGV down, they're using a lot more fossil fuels, mostly from Hāmākua Energy Partners, which is now owned by a subsidiary of Hawai'i Electric Industries, Pacific Current. They're taking a lot of that fossil fuel and we have to pay for that fuel which is now kerosene, jet fuel, whatever you want to call it. We're paying extra fuel costs. That's why you have a power cost adjustment charge going up, and it's gonna keep going up because you're gonna use lots more fuel from fossil fuel plants like Keohole, and another thing that's coming, is the last thing I'll say, is with Hawai'i being the first state to claim 100% renewable portfolio standard by the Governor, who's gonna stick by it, by 2045, lots of renewable energy, lots of infrastructure on the grid is gonna have to change. Because renewable energy, for the most part, wind, solar, are intermittent so there's a lot has to change on this century-old grid. So those costs are gonna be driven to the rate pavers. And it's expected by 2045 that our rates today, 40 cents, are gonna double to 80. So just alone, in the next ten years, rates are expected to go up 50% from what you have today, 40 to 60. And that's all documented in the PUC dockets. I make myself available to the Water Board, when you do go into Executive Session, as a consultant, as a free agent, unpaid, to advise you on anything you wanna know that happened on Lālāmilo from 2009 to when I left three months ago. That's all I have.

Chairperson Takamine: Thank you, Mr. Rolston.

Mr. Rolston: You're welcome.

Chairperson Takamine: Okay folks, for the record, the Board has received a piece of written testimony from Julie Myhre, dated July 23, 2018, a copy of which has been distributed to the Board for consideration. Does anybody want to make a Motion that this Public Hearing be closed?

Mr. Boswell: So move.

Chairperson Takamine: Moved by Bill.

Mr. De Luz: Second.

- Chairperson Takamine: Seconded by David. You know, for discussion, I would like to note that the Board has received written testimony from Julie Myhre, dated July 23, 2018, and it has been taken into consideration. All in favor?
- Board Members: Unanimous ayes.

Chairperson Takamine: Any opposed? (none) Motion carried. Thank you.

(The Public Hearing adjourned at 9:55 a.m.)

Recording Secretary

Approved by Water Board 8/28/2018

July 19, 2018

RE: July 24, 2018 Power Cost Charge Hearing Public Testimony

Dear Hawaii County Water Supply Board Chairman:

I submit the below-written testimony to the Hawaii County Board of Water Supply public hearing for the Power Cost Charge rate increase on July 24<sup>th</sup>:

DWS is requesting a rate increase due to HELCO's cost of fuel in its electric rates. Before the Board of Water Supply votes to increase the Power Cost Charge (PCC) from \$1.88 to \$1.94 per thousand gallons for the cost of electricity, I invite you to really explore and gain a complete understanding of: 1) how the DWS staff is currently working with the Third-Party Operators of the Lalamilo Wind Farm, and 2) how the staff are operating the eight (8) wells in its Lalamilo water system. The PCC is tied to HELCO and not the cost of electricity from the wind farm. Is this renewable energy source being used by DWS to avoid or minimize the PCC rate increases? The power from the Lalamilo Wind Farm is a fixed rate, and not subject to fluctuations in the cost of oil, as is the case when DWS purchases electricity from HELCO.

For nearly seven (7) years from 2007 to 2014 while employed by the Hawaii County Department of Water Supply Operations Division, I was responsible for the re-powering of the Lalamilo Wind Farm, that started with securing a 40-year lease for DWS from the State of Hawai`i. The purpose of the project was to optimize the use of wind energy to supply power to eight (8) well motors in the DWS South Kohala system (see attached info sheet from DWS Website). Upon my resignation from DWS in 2014, the project was moved from the DWS Operations Division to the Engineering Division. I'm happy to report that the system runs perfectly, however I'm sad to learn that the wind power is completely under-utilized.

The Lalamilo Wind Farm has extremely sophisticated electronic sensors that are tied into the well motors, allowing the motors to be run when the wind is blowing. All motors can be run from the electricity being generated from the wind. Because DWS is <u>not</u> operating its wells in the South Kohala - Lalamilo system to maximizes the wind power, the Third-Party Owner-Operator of the wind farm has reached out to me to get involved. They have continuously attempted to meet the intent of the project, but have been unsuccessful in working with DWS staff to operate the wells to maximize use of the wind energy. The third party is closing in on bankruptcy and litigation. The wind farm has more than enough capacity to produce the amount of energy in DWS' power purchase agreement of 8,000 megawatts minimum and 13,100 megawatts average per year, <u>if only the Third Party Owner-Operator could form a supportive</u>, <u>reactive partnership with DWS staff</u>.

As the DWS Board contemplates the impact of the increase in the Power Cost Charge to the water supply customers, I encourage you to please hold off; take a step back and mandate that the electric power currently generated on property DWS leases from the State of Hawai`i for the

purpose of controlling the Power Cost Charge for its customers, be used to its maximum extent. Demand that DWS support the State's energy goals for renewable energy, especially since the Puna Geothermal Ventures was inundated by lava last month.

Does the Board know what projects are being planned to increase the use of renewable energy and support the Island's water supply resources? These could include interconnecting the South Kohala and Waimea systems, adding more storage in the South Kohala system, and interconnecting with Waikoloa Water system with wells located only about 1,000 feet from the DWS wells at Lalamilo in Parker Ranch. The current state laws prohibit wheeling electricity across property lines, but water could be shared with Waikoloa – water pumped using wind power.

Before approving this PCC rate increase, I challenge the Board to use this opportunity to use renewable, non-fossil fuel resources that have a positive influence on the environment and to show the water service customers that DWS is taking action towards sustainability and resiliency.

Sincerely,

Allyhie

JULIE A. MYHRE, P.E. Austin, Texas Email Address Redacted



# DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720 TELEPHONE (808) 961-8050 • FAX (808) 961-8657

#### October 26, 2015

# Lālāmilo Windfarm Information Sheet

#### **Overview**

On January 9, 2015, the Department of Water Supply (DWS) obtained a new lease from the state of Hawai'i for a windfarm in Lālāmilo, South Kohala. In 2011 a similar state/DWS lease agreement had expired for a previous windfarm constructed in the mid-1980's that was decommissioned in anticipation of re-powering the site. The proposed new windfarm, located adjacent to eight DWS water wells, will provide a much less expensive renewable energy source for the DWS pumping equipment and generate significant energy savings for DWS customers. To maximize the use of renewable energy, radio controls will be installed to coordinate DWS operations with the wind generated energy production.

## Benefit to Water Supply Customers, Hawai'i County, and state of Hawai'i

DWS's mission is to provide affordable water service to the people of Hawai'i Island. In April 2011, DWS established an energy policy to reduce energy use and its associated costs and environmental impacts. The Lālāmilo windfarm is consistent with this policy and is expected to save DWS customers **\$1.0 million** per year in energy costs over the next 20 years. New facility construction will create about 50 temporary construction jobs, and about three permanent positions will operate the windfarm. This project will contribute to the State's Clean Energy Initiative's goal of 100 percent renewable energy by 2045.

## **Project Status**

The National Renewable Energy Laboratory in Colorado, through a partnership arranged by the County of Hawai'i's Department of Research and Development (R&D), completed its modeling of the energy output potential for the windfarm site. This was done at no cost to DWS or its customers. The DWS and County R&D have been working together closely on every aspect of project development. A short-list of three Offerors prepared proposals for the Third-Party, design-build-own project. DWS awarded Lālāmilo Wind Company LLC the project in April 2013 and executed a Power Purchase Agreement in October 2013. An Environmental Assessment for the project has been completed and accepted by the State of Hawaii Office of Environmental Quality Control (OEQC). The OEQC issued a Finding of No Significant Impact (FONSI). Currently, an Interconnect Agreement with HELCO is being finalized. Groundbreaking for the construction phase of the Windfarm Repowering Project took place in September 2015, with the commercial operation scheduled to occur in the latter half of 2016.

## About the Department of Water Supply

The Department of Water Supply is a semi-autonomous agency of the County of Hawai'i which operates by Rules and Regulations adopted by a nine-member, appointed Water Board. The Department operates and maintains its water systems with revenues generated through water service sales. The primary function of the Department is to provide safe drinking water through its 24 water systems and 70 sources throughout the island. The Department strives to provide dependable, high quality, potable water at a reasonable cost. More information is available at <u>www.hawaiidws.org</u>.

## Contact

Owen M. Nishioka, P.E. Civil Engineer V, Engineering Division, Hilo <u>onishioka@hawaiidws.org</u> (808) 961-8070 Aloha County of Hawai'i Department of Water Supply - Water Board:

As former Energy Coordinator for the County of Hawai'i (resigning April '18 to return back to the private sector), I am here today to discuss the underutilization of Lalamilo Wind Farm, one of the most innovative renewable energy projects ever built to hedge against Power Cost Charge increases while providing Environmental Leadership for this beautiful Island - we call home. It is also a project that comprised seven (7) dynamic years of my public service where we stopped bad projects like Aina Koa Pono (expensive biofuels in Ka'u) and NextEra's Merger (high risk to ratepayers) to implementing LED Street Lamps across the entire Island (darkening the night skies and providing a host of environmental benefits for animals & humans; a first for any county in the United States).

The previous County of Hawai'i Administration, DWS's Administration & Staff, previous DWS – Water Board, Department of Energy, National Renewable Energy Lab, State Energy Office - Hawaii Clean Energy Initiative who served during the years 2009-2016 before you worked even harder than I did on Lalamilo. Most importantly, the reason this project is recognized by every major county and city across the United States is: we picked the Best Developer using a rigorous, ethical and solid engineering-based evaluation process from a three-person evaluation committee composed of two DWS engineers and myself (a power-generation engineer with 33 years of experience).

For context, this is not just any Renewable Energy Project; the uniqueness of the Lalamilo Wind Farm is echoed by the recent statement at last year's 85th UNITED STATES CONFERENCE OF MAYORS at the 11<sup>th</sup> Anniversary Winners Mayors' Climate Protection Awards (as an Honorable Mention - USCM is the official non-partisan organization of cities with populations of 30000 or more; over 1400), The USCM said: "This is arguably the first time in Hawai'i, and perhaps the nation, that a local government has developed such a wind-powered, water-pumping facility capable of significant greenhouse gas reductions at no-cost to the taxpayer." This is a very significant accomplishment recognized by over 1400 diverse governments for this distinction, including some of the most sophisticated counties & cities across the nation.

Understanding that this is a hearing for the Power Cost Adjustment Charge, I would like to provide some background and focus the discussion on likely increases in HELCO rates and thus more Power Cost Adjustment Charges beyond this one today. With the recent lava flows, most of you are aware that Puna Geothermal Venture who provided approximately 25% of our Island's total annual energy and over 50% of our Renewable Energy annual percentage (54%) and was our most cost effective generator will be out-of-the-mix at least for the short-term (if not indefinitely).

#### What does this really mean?

This means that residents who are County water ratepayers and electric ratepayers will increasingly shoulder the burden of increasing costs due to the necessity of increased fossil-fuel generation now needed to make up the PGV deficit.

What you may not know, is there is another upward pressure on power cost charges; with the State of Hawaii's mandate to reach 100% Renewable Electricity. To get to this 100% mandate by 2045, essential infrastructure changes (generation, transmission & distribution) must be installed and newly developed in the next 5, 10, 15 and on to 25 years to fulfill that law. In fact, in a recent Public Utility Commission Docket – the Power Supply Improvement Plans (Docket No. 2014-0183 where I represented the County),

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HELCO has projected that their rates (even before the Lava flow / PGV shut-down) were expected to increase by 50% in the next ten (10) years. So if you think these escalating rates (and Power Cost Charges) are going to go stabilize or move downward, please think again- so I encourage everyone again, to ask the question, "What does this really mean?"

From all statements and signals of the Hawaiian electric utilities and most particularly HELCO, the electric rates are actually projected to double in the foreseeable future as we start building the Renewable Infrastructure to replace century-old electric grid. I really don't have to remind anyone, that on these Hawaiian Islands, and particularly the Big Island we have already been paying the highest electricity rates in the United States (maybe only Molokai is slightly higher than Big Island).

The Lalamilo Wind Farm Project was conceived out of this urgency with Leadership's desire to find solutions to mitigate these escalating costs and stabilize the water rates (at least the Power Cost Charges) for island residents. Of great significance is that the County Water Department represents the single largest consumer of electricity on the Island of Hawai`i (yes, HELCO's Largest Customer) at approximately \$20 million a year. Therefore, it was evident to us as energy coordinators, energy analysts and engineers that Re-Powering the Lalamilo Wind Farm to produce most cost-effective renewable electricity to be consumed at the largest-deepest water wells on the island was the obvious first step to mitigate rising energy costs. As I mentioned, it was conceived from County of Hawai`i Government Leadership in addressing the largest electricity user of the water-pumping stations on the Island of Hawai`i (Lalalmilo represents approximately 25% of all water pumping power cost charges across the Island).

# Why isn't County Department of Water Supply using All or at least the minimally-contracted lower-cost renewable electricity of the Lalalmilo Wind Farm?

In my expert opinion (33 years of power-generation engineering experience), I believe it is because the Lalamilo Water System, specifically, the water pumping operations are not being coordinated with the wind system which is the responsibility of the Water Department. To further exacerbate matters, it has been brought to my attention that several pumps at the Lalamilo site have failed (are currently non-operational) and those should be replaced (or fixed) as soon as possible. On the other hand the Lalamilo Wind Company (the owner of the wind farm) has made numerous modifications (on their own dime) to enhance the capability of DWS's Lalamilo & Parker wells to increase the use of LWC's cost-effective renewable energy.

#### Why does this all matter?

LWC designed, constructed and financed a facility that would, in fact, produce the minimum energy DWS needed per DWS's Request for Proposal and Power Purchase Agreement (a legally enforceable two-party contract). Designing to that minimum energy with millions of dollars of infrastructure & technology, the project only makes financial sense if that minimum energy is consumed & paid for by DWS.

However, since full operation on September 2017, DWS is not purchasing enough energy from the Lalamilo Wind Farm to cover LWC's financing costs of the project. The production and purchase records for the period of September 2017 through June 2018 show that the running ten month record shows average revenues of approximately \$85,000, much less than half the minimum contracted for by DWS.

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During the same time frame, DWS paid HELCO an average of \$180,000 per month, which if purchased from Lalamilo Wind Farm, would have complied with the contract purchase requirements. As the RFP and PPA show, the intent of the project was the 'reverse of this equation', in other words; to purchase cost-effective renewable wind energy first to provide the majority of DWS Lalamilo (& Parker) well needs and use HELCO as back-up.

I still believe that the DWS Lalamilo Wind Farm is a project that DWS and County water ratepayers should be proud of and more importantly, benefit from! Unfortunately, the reality is that the project currently averages more than a \$100,000 loss per month, which does not include any upside that wind farm was expected to benefit from high wind production months. In fact, I have heard that LWC's finance company, American Savings Bank (a bank very familiar with power generation projects) will no longer extend necessary credit to ensure the project's future viability. To meet debt service, LWC is still obligated to make repeated capital contributions (due to DWS's shortfall) that continually increase LWC's current losses. I am hopeful that we can have a resolution with DWS & DWS Water Board so that the project does not cease operations – as this would be a tremendous loss for the Island.

#### How the Bids were evaluated by Evaluation Committee that to resulted in a unanimous vote by DWS Water Board and a DWS Contract?

- 1. Every Bid was evaluated on the ability to deliver a maximum amount of Renewable Electricity to the DWS Lalamilo (& Parker) Water Pumping System;
- 2. Every Bid was evaluated on a Blended Rate, which means DWS had a minimum contract MWh number the Bidders relied on;
- The three (3) final bidders used Base Case Monthly Number = 721,052 kWhs/Month contained in the RFP and bids were all evaluated on that number. The Evaluation Committee reviewed the three (3) finalist bidders who ranged from providing 71% to 87% of the Base Case Monthly number – the winning bidder (LWC) was 75% of that number;
- 4. The RFP Re-Advertisement published in West Hawaii Today (August 23, 2012) and Hawaii Tribune Herald (August 23, 2012) included: "Installing Supervisory Control and Data Acquisition equipment so that the pump motors can maximize the use of renewable energy generated electricity". Therefore, the evaluation team also ranked the Winner based on their ability to maximize their proposed wind energy system to match the Lalamilo (& Parker) water pumps;
- 5. From RFP -- RFP-2: "When wind-generated electricity is not available, DWS will purchase its remaining power requirements from HELCO or its successor in interest", surely indicated to the bidders that DWS was interested in the most renewable energy possible;
- 6. RFP-3: RFP Table I which the bidders relied on shows EXISTING LOAD PROFILE on a 24-Month Average for 2010 and 2011 which is stated as 721,052 kWhs per month;
- 7. RFP-4: DWS was looking for even more Renewable Energy than the Base Case MWhs of Renewable Energy from Developer:
  - "6. ALTERNATIVE IMPROVEMENTS

- After a proposal is selected by DWS, further improvements may be negotiated beyond the Base Case as part of the Power Purchase Agreement negotiations. If an agreement is not able to be reached on the benefit of further improvements, the Power Purchase Agreement will be negotiated on the elements of the Base Case Proposal. The footprint of any alternative improvement must be within the same area as proposed for use by the wind generation equipment. Described below are some suggested items:
- A. ENERGY STORAGE
- 1. Battery system to power the "radio shack" housing the SCADA system for a minimum of 24 hours in the event of a power outage, or alternatively, to be "off grid" completely.
   11. Batteries, Fly Wheel, Fuel Cell, or other energy storage feature to maximize the cost effectiveness of the project. iii. Install additional water reservoir(s).
- B. ADDITIONAL RENEWABLE ENERGY 1. Supply more renewable-energy generated electricity to DWS. 11. Install two 100-kw hydro generators at elevation 610 within DWS reservoir site to generate electricity for onsite use by DWS. This may involve power line installation to bring the power to the demand source as no power is used on the reservoir site. 111. Installation of solar photovoltaic or concentrated solar power electric generation system within the State-leased land at Lalamilo and/or within DWS reservoir sites to be used by the eight (8) onsite well motors in conjunction with the wind energy power.
- C. ENERGY MANAGEMENT
- i. Devise a system to minimize demand charges on the system, such as working with DWS SCADA programs, incorporate the use of the existing 1,000 kW backup diesel generator located at the Parker 2 well site, and/or incorporating the use of the hydro generators described in B.ii above. 11. Consideration of strategies for further development and use of DWS State-leased Lalamilo property in support of the Hawai'i Clean Energy Initiatives."
- 8. RFP-6: "1. Energy Costs: The bottom-line blended-rate cost of energy that DWS will have to pay to operate its wells on a monthly basis will be used to compare proposals. The Offeror should use the existing load profiles in appendix E, the wind resource data in appendix F, and the anemometer data provided at the pre-proposal conference to prepare its proposal. The Base Case for proposal comparison assumes the combined, blended Offeror and HELCO rates, with HELCO portion assumed at an electricity rate of \$0.40/kilowatt-hour".

#### What can the DWS-Water Board do to help solve this problem?

LWC came before the DWS-Water Board at the last meeting (June 26, 2018) with solutions that can begin to address the situation. In my mind, we All need to make the right-ethical decisions and honor the tenets & intents of the contract.

Rather than being litigious and confrontational on DWS's contractual obligations, LWC's solutions- & perseverance-based approach in exhausting all options (by being the highest-ethical counterparty with DWS), several successful meetings were held with DWS and LWC and as a result LWC had deployed their

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system experts (SCADA) to improve the situation. Although LWC has achieved more production with these modifications, it is not nearly enough to cover on-going costs of LWC's financing and operations.

Out of my personal past efforts on this remarkable renewable energy project, I am making myself available to the DWS-Water Board and DWS as a resource for solutions involving the Lalamilo Wind Farm. I was there in 2009 from Inception with Department of Energy, National Renewable Energy Laboratory, I was there in 2010-11 as co-author on the Request for Proposals, Power Purchase Agreement, and was One (1) of the Three (3) person Evaluation Committee in 2012, who Awarded the project to the Best-possible Developer and provided follow-up in 2013 through 2016 to make sure of the project's successful completion all the way to full-operations in 2017.

As County of Hawai`i - Department of Water Supply's mission proclaims **'…Water, Our Most Precious Resource... Ka Wai A Kãne...'** I humbly ask the Water Board that we come together to fulfill each of our respective **Kuleana (Kuleana is a uniquely Hawaiian value and practice...** the word kuleana refers to a **reciprocal relationship between the person who is responsible, and the thing which they are responsible for**); restoring the Lalamilo Wind Farm and Lalamilo Water Operations to its proper reciprocal relationship: as the most innovative and cost-effective renewable energy project a county government has ever accomplished at the most important system a County relies on Water, so why don't we conserve our most precious resource.

Finally, it bears repeating that our Nation is looking to Hawaii for Renewable Energy Leadership and they see this outstanding project as leading the way with the words: "This is arguably the first time in Hawai'i, and perhaps the nation, that a local government has developed such a wind-powered, water-pumping facility capable of significant greenhouse gas reductions at no-cost to the taxpayer."