



# NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

*An Authority of the State of Hawaii attached to the Department of Business, Economic Development & Tourism*



AMENDED

Statement of  
**Gregory P. Barbour**  
**Executive Director**

Natural Energy Laboratory of Hawaii Authority  
before the

**SENATE COMMITTEE ON ECONOMIC DEVELOPMENT, TOURISM, AND TECHNOLOGY**  
and  
**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

Monday, February 5, 2018  
1:20 pm  
State Capitol, Conference Room 414

in consideration of

**SB 3056**  
**RELATING TO RENEWABLE ENERGY TECHNOLOGIES.**

The Natural Energy Laboratory of Hawaii Authority (NELHA) supports the intent of SB 3056 which would encourage private sector investment in renewable energy technologies that would broaden the States diverse portfolio in energy technologies, so long as it does not displace Administration funding priorities.

We recently received a proposal from Renewable Ocean Energy, Inc. (ROE) to test a new technology they have developed known as the Poseidon Hydroelectric System which will produce electricity on any passive water source. ROE proposes to test this new technology in the ocean adjacent and offshore of Keahole Point at NELHA. The proposed pre-commercial research project would test a low power (2 kilowatt) prototype. It is our understanding that the data from the test of this prototype (including measurements of water chemistry, temperature, physical operation, productivity of the device and verification that no hazards to

marine life exist) will be used to continue development of a larger 1 MW Poseidon Hydroelectric System.

This project fits within our mission and we are certainly willing to host it at NELHA as long as the business receives the necessary permits. However, it is important to note that we do not have the expertise to evaluate the specifics of ROE's technology. We generally defer to the private sector. NELHA's role is typically related to providing a "master-permitted outdoor demonstration site" for emerging advanced energy technologies and providing assistance with incubator facilities, business support, and permitting.

We understand that ROE is also currently seeking private funding and a Small Business Innovation Research grant to further develop their prototype. We believe this is a good direction for them to continue pursuing.

Thank you for the opportunity to offer these comments.

**SB-3056**

Submitted on: 2/2/2018 4:29:44 PM

Testimony for ETT on 2/5/2018 1:20:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Richard Reed		Oppose	No

Comments:

The text of this bill reads like a scam. The supposed explanation is that it is not for wave energy but rather a new process to draw water from the ocean (expending energy), "amplify its power" mysteriously, tap the energy and return it to the sea unharmed. There is a Poseidon Hydroelectric company but it is a Dutch outfit with a prototype selling floating wave and wind generation stations.

Support of Senate Bill 3056  
Relating to Hydroelectricity  
Introduced by  
Senators Will Espero, Lorraine Inouye,  
Karl Rhoads, and Gil Riviere.

By  
Dr. Richard Navarro  
Chief Executive Officer  
Renewable Ocean Energy, Inc.  
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808 726 0897

[drric@solutionsforenergy.net](mailto:drric@solutionsforenergy.net)  
[www. Solutionsforenergy.net](http://www.Solutionsforenergy.net).

Thank you for meeting with us to discuss our exciting proposal for the Natural Energy Laboratory Hawaii Authority (NELHA), Kailua-Kona. Supporting Senate Bill 3056 will allow Renewable Ocean Energy, Inc. (ROE) to demonstrate our patent pending technology that promises to reduce the cost of electricity in Hawaii. By using ocean water to produce low-cost renewable hydroelectricity, we seek to help every Hawaii resident while lowering the cost of business in every sector of the economy.

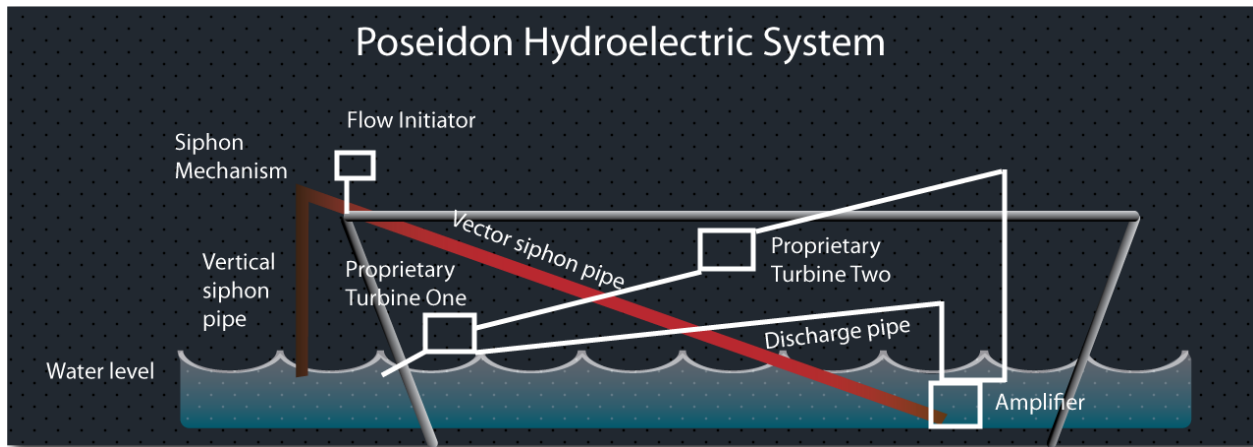
Hydroelectric is the lowest cost form of renewable energy but has limited use in Hawaii. Our revolutionary technology changes that and keeps Hawaii as the world leader in renewable energy production. There are 138 low head dams in Hawaii and some of these dams may be suitable for hydroelectricity production with our Active Water Technology called Hydro Dynamic Turbines.

We use these turbines in our Passive Water technology called Poseidon Hydroelectric to produce electricity on the Pacific Ocean. So, this project will be an expanded test for both technologies.

In a study conducted as part of the Hawaii Island Business Plan Competition last October, full implementation of our Poseidon Hydroelectric System island wide was projected to show energy cost savings of \$ 200 million dollars a year on Hawaii Island alone. The savings would be significantly greater for other islands particularly Oahu.

Poseidon Hydroelectric siphons water directly from the ocean, amplifies the power of the water, and uses it to produce electricity before returning it unharmed to the ocean. It uses solar power to start the flow of water but once that flow is started no external energy source is required. It applies technology that has been proven to work for hundreds of years but has never been used to produce electricity on the ocean. This project has been in development for over ten years with

private investments of over \$ 275,000 and our lab prototype unveiled in October 2016 proved the concept. We hold two U.S. patents and have two patents pending. Poseidon Hydroelectric does not use wave energy or temperature inversions but relies on proven technology to address an important need for the people of Hawaii.



By adding \$350,000 to the budget of the Natural Energy Laboratory Hawaii Authority, ROE will be able to complete the next two steps at NELHA and strategically help other Hawaii entities:

- Step One is a 2-kilowatt pilot project on the ocean.

Projected cost of this Step	\$ 112, 875
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Projected time required <sup>a</sup>	4 months
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- Step Two is a 50-kilowatt project to lay the foundation for a 100-Megawatt power plant on Oahu.

Projected cost of this Step	\$ 200,000
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Projected time required <sup>a</sup>	8 months
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Overhead and administrative	\$ 37,125
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<sup>a</sup> Projected construction times. Federal, state and county approval times are not included in these estimates.

## Strategic Benefits to Supporting SB 3056

1. This project helps NELHA achieve its strategic mission.
2. By partnering with Hawaiian Electric Company and its subsidiaries, we seek to cut the cost of energy across Hawaii.
3. Poseidon Hydroelectric has the potential to help achieve the goal of 100% renewable energy for Hawaii years before the target date.
4. Low cost energy will facilitate the operations of the Department of Business Economic Development and Tourism (DBEDT) by making Hawaii a more attractive place to live, do business, and enhance tourist spending.
5. This technology is uniquely Hawaiian as I started researching it at Chinaman's Hat Kaneohe Bay in 2007. So, it keeps Hawaii as the world leader in renewable energy while lowering the cost of living so residents and businesses can spend that money for other purposes.
6. Over the last year, we have been contacted by many countries around the world but have deferred moving forward with others until we bring this technology home to Hawaii.

We look forward to working with you and providing tangible benefits to every resident, business person, and tourist in Hawaii.

Thank you for the opportunity to share this important information. I am happy to address any questions you may have.

Richard Navarro  
Chief Executive Officer

