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**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

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SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

**Testimony of
SUZANNE D. CASE
Chairperson**

**Before the Senate Committee on
WATER AND LAND**

**Monday, March 15, 2021
1:00 PM**

State Capitol, Via Videoconference, Conference Room 229

**In consideration of
HOUSE BILL 1280, HOUSE DRAFT 2
RELATING TO THE NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY**

House Bill 1280, House Draft 2 proposes to transfer to the Natural Energy Laboratory of Hawaii operational authority over the Makai Research Pier located at the southeast corner of Oahu. Additionally, the bill proposes to authorize the Director of Finance to issue general obligation bonds for the Natural Energy Laboratory of Hawaii to repair and upgrade the Makai Research Pier. House Draft 2 of the measure: (i) removes the section that provides the terms of any leases of tenants of the Makai Research Pier in effect on the effective date of this measure will remain in full force and effect; and (ii) makes technical, non-substantive amendments for purposes of clarity, consistency, and style. **The Department of Land and Natural Resources (Department) supports this bill and offers the following comments.**

The Department notes that Makai Research Pier is under a lease to the University of Hawaii on the Department's land and submerged land. The Department respectfully requests both the University of Hawaii and the Natural Energy Laboratory of Hawaii seek consent from the Board of Land and Natural Resources on the transfer of interest in accordance with the terms of the above-mentioned lease.

Thank you for the opportunity to comment on this measure.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Water and Land
March 15, 2021 at 1:00 p.m.

by
Kalbert K. Young
Vice President for Budget and Finance/Chief Financial Officer
and
Jan Gouveia
Vice President for Administration
University of Hawai'i System

HB 1280 HD2 – RELATING TO THE NATURAL ENERGY LABORATORY OF HAWAII
AUTHORITY

Chair Inouye, Vice Chair Keith-Agaran, and members of the Committee:

Thank you for the opportunity to submit testimony on HB 1280 HD2. The University of Hawai'i (UH) supports this measure which transfers to the Natural Energy Laboratory of Hawaii Authority (NELHA) operational authority over the makai research pier located at the southeast corner of O'ahu. This bill also authorizes the Director of Budget and Finance to issue general obligation bonds for the NELHA to repair and upgrade the makai research pier.

The UH currently has a lease from the Board of Land and Natural Resources (BLNR) for use of the makai research pier. In the past, the UH has conducted research activity at the pier and has also sub-leased facilities at the pier to private research partners. For several years now, the level of research utilizing the makai research pier by the UH has waned. The pier facility is currently used mostly by a sub-lease tenant.

The UH understands that NELHA is desirous of overseeing the makai research pier as an asset. The UH also believes that any of its future research activity that could entail using the makai research pier could be accommodated under the auspices of NELHA. The UH and NELHA have partnered on other research and projects. If NELHA is amenable to operating the makai research pier, the UH is supportive and would collaborate to effectuate transfer of the BLNR lease.

The UH also would support an appropriation of \$5,000,000 in capital funding to NELHA for making repairs and upgrades to the makai research pier.

Thank you for the opportunity to testify in support of HB 1280 HD2.



NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

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



Written Statement of
Gregory P. Barbour
Executive Director

Natural Energy Laboratory of Hawaii Authority
before the

SENATE COMMITTEE ON WATER AND LAND

Monday, March 15, 2021
1:00 pm
State Capitol, Conference Room 229

in consideration of
H.B. 1280 H.D.2
RELATING TO THE NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY.

The Natural Energy Laboratory of Hawaii Authority (NELHA) supports H.B. 1280 H.D.2 which transfers operational authority over the Makai Research Pier on Oahu to NELHA and appropriates general obligation bonds for the repair and upgrade of the pier.

NELHA has been in discussions with several agencies and private companies regarding taking over operations of the Makai Pier in Waimanalo, Oahu. NELHA's due diligence so far has consisted of a review of documentation provided, a site visit in January, reaching out to other similar research pier operations on the US mainland, researchers, R&D and commercial companies, as well as potential partners to gauge interest in possible future pier activities, and reaching out to Oceanic Institute which is a part of Hawaii Pacific University (HPU).

We are currently exploring a vision for the future of this asset. The Makai Pier itself is invaluable and most likely irreplaceable as a research platform, the office space and warehouse

building on the pier and a restricted zone offshore of the pier which is approximately 4 square miles are equally valuable.

We believe that the most promising utilization so far includes the development of these assets as part of an accelerator/incubator that would focus on ocean technology. This would include research and demonstration and innovation of deep-sea exploration, ship automation, surface and underwater drones and navigation, ocean energy, offshore aquaculture, remote sensing, and naval architecture. In addition, the accelerator/incubator could focus on development of technologies for ocean conservation as well as innovation to address ocean-related environmental challenges necessary to adapt to climate change and ocean acidification including the areas of ocean health monitoring, natural hazards and early warning systems, ocean observation and instrumentation, ocean data visualization, pollution monitoring, marine conservation, and marine archaeology.

A detailed inspection of the pier in 2019 determined that the pier needs considerable repairs and maintenance if it is to continue to be operational. Approximately \$500,000 is needed immediately for emergency repairs to address the advanced deterioration on three portions of the pier. The preliminary rough estimate for the full repair amount is in the \$5,000,000 range. We are concerned that actual costs could be significantly higher.

We believe that additional funds are necessary, and the total cost is \$8,300,000. This will allow for several additional tasks that were not included in the original study. These tasks include: 1) a contingency and construction management for the emergency repairs; 2) engineering and design study to complete a detailed inspection for the long-term repairs that should also consider fortifications to account for sea-level rise over the next 40 years; 3) additional contingency, construction management, and construction funds to fortify the pier;

and most importantly, 4) design and master plan for the modification of existing buildings to develop detailed costings of additional funds necessary to turn these assets into a self-sustaining ocean technology accelerator and incubator.

We support this measure provided that its passage does not replace or adversely impact priorities indicated in our Executive Budget.

Thank you for the opportunity to offer these comments.



Statement of
Hermann Kugeler
Business Development Manager
Makai Ocean Engineering, Inc.
before the
Senate Committee on Water & Land
Monday, March 15, 2021
1:00pm
In consideration of
HB1280 HD2
RELATING TO THE NATURAL ENERGY LABORATORY OF HAWAII
AUTHORITY.

Chair Inouye, Vice Chair Keith-Agaran, and Members of the Committee

Makai Ocean Engineering, Inc. **SUPPORTS HB1280.**

Makai is a locally-owned and operated technology company based in Hawai'i, located on the Makai Research Pier for over 48 years. Makai is at the forefront of R&D and engineering services on a variety of growing ocean technology programs, including autonomous underwater vehicles, next-generation machine learning controls and navigation, submarine and subsea cable systems, offshore deep water wind, ocean thermal energy conversion (OTEC) and seawater air conditioning (SWAC) systems, and a Department of Energy project to grow and harvest macroalgae offshore in Hawaiian waters for food and future energy products.

Makai has called the Makai Research Pier home since our formation in 1973, and since then, has continued to grow and expand the ocean-based industry here in Hawai'i. Makai currently has 36 employees, with offices at the Makai Research Pier supporting 21 full-time on-site employees and up to 5 University of Hawaii College of Engineering interns. Makai's reputation in key areas of the growing "Blue Economy" creates a strong position and outlook for steady growth well into the future. The Makai Research Pier is a significant factor, providing a critical resource and key differentiator for our business, and by extension, the growth of a diversified workforce in the marine industry in Hawai'i.

The pier needs immediate repairs as it has sustained structural damage over the years that requires these significant repairs to be made in order to maintain operational condition. The overall total cost is estimated at \$5,000,000. This bill will allow those repairs to be made before the damage worsens to a point that the pier is no longer usable or recoverable.

Makai has been successful in bringing in tens of millions of dollars in funds from federal, commercial, and international sponsors to Hawai'i, due in large part to our offices located on the Makai Research Pier. A majority of Makai's services and products are exported out of state with recent clients being Department of Defense (DoD) programs in the Office of Naval Research (ONR), NAVFAC, NAVAIR, NAVSEA, Army, United States Air Force (USAF), Defense Advanced Research Projects Agency (DARPA); Department of Energy (DoE) programs in



Advanced Research Projects Agency – Energy (ARPA-E); and a commercial business network around the world including Lockheed Martin, AT&T, Prysmian Group, IT Telecom, Orascom, DEME, and many others.

The pier provides us with a location to rapidly prototype hardware, and easily access the ocean waters where we can test these systems. This ocean water access that the pier facility provides allows Makai to save our clients time and money throughout the development process. Without the appropriated funds to repair the pier, the damage to the pier will soon worsen to a point that it is no longer safe to operate on the pier and the tenants like Makai must leave, along with it the existing jobs and the potential future growth. It is our opinion that, due to a number of circumstances, a pier of similar capability for marine research and operations would never be constructed in Hawai`i again within our lifetimes. Loss of the pier would not only impact Makai and current pier tenants, it would be a permanent and irreplaceable loss to the State for any future marine industry and research.

The Makai Research Pier and Makai’s work have helped to stem the tide of “brain drain” of talented kama`aina kids going to the mainland. The Makai Research Pier facilities have allowed Makai to make a strong economic impact in terms of high paying jobs, and demonstrated success in commercializing R&D, which has increased taxable revenue for the state, and brought home kama`aina scientists and engineers.

This bill would allow the Makai Research Pier to remain operational and allow the Pier’s tenants like Makai to continue to strongly compete and win against mainland peers in high quality federal R&D projects. Without the valuable resource that the pier provides, Makai and other pier tenants would lose our competitive advantage to mainland competitors that are closer to the clients, and the State of Hawai`i would lose an anchor to national and international ocean technology opportunities. The pier has allowed companies like Makai and other tenants to expand and diversify Hawaii’s economy, and enable our tech industry to support high-paying, highly-skilled professional jobs for our keiki here at home.

This is why we **SUPPORT HB1280** which authorizes the director of finance to issue general obligation bonds for the natural energy laboratory of Hawaii authority to repair and upgrade the makai research pier, and allow the pier to remain operational.