April 7, 2021

SUBMITTED VIA EMAIL TO BLNR.TESTIMONY@HAWAII.GOV

Board of Land and Natural Resources
State of Hawaii
Kalanimoku Building
1151 Punchbowl St.
Honolulu, HI 96813

Re: TESTIMONY OF DOLE FOOD COMPANY HAWAII FOR CONSIDERATION AT MEETING OF THE BOARD OF LAND AND NATURAL RESOURCES SET FOR APRIL 9, 2021 AT 9:00 A.M AS TO STAFF REPORT OA-0017

Members of the Board of Land and Natural Resources:

Dole Food Company Hawaii ("Dole") submits the following testimony to the State of Hawaii Board of Land and Natural Resources ("BLNR") for consideration regarding Item L.3 on the Agenda for BLNR's April 9, 2021 Meeting, which is the Dam Safety Enforcement Action on Wahiawa Dam (OA-0017) (the "Enforcement Action"). Dole respectfully requests that the BLNR modify the staff recommendations to: (1) allow use of the dam for generation of hydroelectric power in furtherance and support of the State's renewable energy goals; (2) allow Dole's spillway design to be based on the State's pending update to the probable maximum precipitation ("PMP") calculations, or in the alternative, to allow the opportunity for Dole to complete the ongoing approval process for a site-specific PMP calculation; and (3) eliminate the proposed penalty in recognition of the dam's effective performance in all prior flood events and the substantial past and ongoing costs to maintain and repair the dam.

Dole has always taken safety of the dam as its upmost priority and has always acted in good faith to bring the dam to compliance. In the 100 years the dam has been operational the spillway has always performed exceptionally and there has never been an instance where the dam was in jeopardy of failing. The dam is safe now and waiting for the updated regulations, hydroelectric analysis and dam sale are not putting people at risk. Dole repeats its prior recommendation that, for further safety measures in the interim, the reservoir operation level be lowered to 25 feet below the spillway, or 55 feet as measured on the reservoir staff gage.

I. Brief Background

Wahiawa Dam was constructed in 1906 as a source of irrigation water for the Waialua Sugar Company. The dam consists of an intermediate-sized earthen embankment (approximately 660 feet in length and approximately 88 feet tall) that is lined with rock. This creates an intermediate-sized

reservoir known as Lake Wilson that, when full, can hold up to 7,761 acre-feet (approximately 2,590 million gallons) of fresh water. The level of the reservoir is monitored in real time and can be controlled via valves set at varying depths in the reservoir that, when opened, divert water through 6.5 foot diameter concrete-lined discharge tunnel. The dam also has a 183-foot-wide concrete spillway that was built in the 1920s. Dole prioritizes safety and continues to operate the dam in the same safe manner it has for more than 100 years.

In 2007, the Hawaii Legislature modified the Hawaii Revised Statutes ("HRS") § 179D to require the BLNR to establish administrative rules governing how dams and reservoirs in Hawaii are designed and operated. Pursuant to that mandate, in 2010 the BLNR developed what is now Hawaii Administrative Rule ("HAR") § 13-190.1, entitled "Dams and Reservoirs."

In relevant part, HAR § 13-190.1-4(c) sets forth inflow design flood requirements for dams. In layman's terms, "inflow design flood" refers to the rate at which a dam can discharge volumes of water from its reservoir.[1] The inflow design flood requirements are based on the "probable maximum flood" ("PMF"), i.e., the ultimate "worst case" flood.[2] For example, the current PMF for the Wahiawa watershed is approximately two-times greater than a1000-year storm event. To calculate the scale of this PMF, the HAR references and relies upon a 1963 Report by the National Weather Service's NOAA[3] that attempted to calculate the probable maximum precipitation ("PMP") of the watershed surrounding the dam. DLNR has determined that the 1963 Report's PMP estimates—as well as the PMF values calculated using those PMP estimates—are outdated. We understand that over the last year, DLNR has been in the process of contracting for a study to update the PMP estimates set by the 1963 Report.

II. Response to the Staff Recommendations

The recommendations set forth in the Department of Land and National Resources' ("DLNR") Staff Report (OA-0017) (the "Recommendations") would force Dole to incur more than $15 million in costs to update the dam's spillway based on the PMP and PMF estimates that DLNR itself is currently reevaluating. Those spillway updates would also preclude ongoing efforts to develop Lake Wilson and the dam as a hydroelectric resource for the community and the State.

For the following reasons, good cause exists to modify the Staff Recommendation.

A. The Recommended Order Would Preclude Hydroelectric Development Opportunities

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[1] "Inflow design flood" is formally defined as "the flood hydrograph used in the design or evaluation of a dam, its appurtenant works particularly for sizing the spillway and outlet works, with which the upper limit of the inflow design flood is the probable maximum flood." *See* HAR § 13-190.1-2.

[2] *See* HAR § 13-190.1-4(c), which defines PMF as "as the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region."

[3] *Id.* referencing National Weather Service, NOAA, Publication HMR-39, "Hydrometeorological Report No. 39 - Probable Maximum Precipitation in the Hawaiian Islands" (1963).

Lake Wilson has long been identified by our state as an alternative energy resource, either for hydroelectric power generation, or for pumped-storage hydroelectricity. The Staff Recommendation would preclude current efforts to develop this resource in favor of costly and rapid design changes to the dam spillway without a hydroelectric component.

Hawaii has adopted the most aggressive clean energy goals in the nation and must remain on target to meet its goal of 100% renewable energy by 2045. Hydroelectric opportunities are an important part of this goal. The Staff Recommendation, however, does not allow sufficient time for the engineering and design work for development of this important hydroelectric resource, instead requiring a conceptual design for the spillway remediation within 6 months and a Dam Safety Permit Application package within 12 months.

Dole has been in active discussion with both public and private entities regarding development of this important hydroelectric resource. It is unlikely such a sale would be feasible if the BLNR requires $15 million in non-hydroelectric improvements on an aggressive schedule, and the imposition of an inflexible $5,000 per day penalty would make development of this resource highly unappealing to potential developers.

Agribusiness Development Corporation ("ADC") has for several years considered acquiring the dam. ADC would preserve the reservoir as an important source of water for agriculture, and also develop pumped-storage hydroelectric power for farmers. ADC has projected 800,000 kWh of stored energy in Lake Wilson, and ADC's hydroelectric project has been the subject of several resolutions before the legislature (*e.g.*, H.B. 1700 in 2014, S.C.R. 193 in 2015, and S.B. No. 1207 in 2017). This potential acquisition by ADC is presently on ADC's agenda for its upcoming board meeting on April 28, 2021. The Staff Recommendation would have a preclusive effect on ADC's effort to develop these resources, and should not be adopted until ADC has the opportunity, following its board meeting, to submit testimony to the BLNR regarding its plans.

In addition, Dole has been marketing the dam to private entities. Although these discussions have been delayed since March 2020 due to the COVID-19 pandemic, Dole received a Letter of Intent on March 25, 2021 from a developer that would acquire the dam and develop the dam as a hydroelectric resource. This development could not go forward under the quick timetable set forth in the Staff Recommendation.

B. <u>The Basis for Existing Dam Design Requirements is Being Updated by DLNR</u>

The DLNR has acknowledged the need to reevaluate the conservative assumptions in the 1963 NOAA Report and has hired an outside consultant to conduct this evaluation. In spring 2020, the study was predicted to be complete in 18 months but, as we understand, may not be completed until sometime in 2023. As PMF standards are based on PMP, the DLNR's updated PMP calculations will allow the BLNR to establish updated inflow flood design and PMF standards for dams. In light of this pending update to the applicable PMP and PMF standards, the DLNR should not require dam owners and operators—including, but not limited to Dole—to invest tens of millions of dollars to renovate and modify dam infrastructure to comply with design standards that the DLNR is in the process of updating.

C. Dole's Considerable Effort and Expense to Maintain the Dam

Dole has always prioritized the safe operation of the dam. To that end, Dole has spent considerable effort and incurred considerable expense to comply with the relevant HARs. Since just 2008, for example, Dole spent nearly $3 million dollars on repairs and improvements on the dam. Those improvements included updating the Wahiawa Dam Gatehouse to install modern valves and reinforce infrastructure (approx. $1 million), resurfacing and repairing the 6.5-foot diameter outflow tunnel (approx. $1.2 million), upgrading the dam's level monitoring system, updating the dam discharge flume (approx. $500,000), and conducting spillway and slope stability analysis (approx. $200,000). Those upgrades are in addition to the dam's substantial operational costs. These upgrades, as well as the operation of the dam, have been complicated by Dole's efforts to accommodate the State's request that the reservoir be maintained at a higher depth of 65 feet to facilitate recreational use and to improve the quality of sport fishing. We highlight these contributions to reiterate that Dole has not been delinquent or stingy in its efforts to modernize and maintain the dam. Under Dole's stewardship, the dam has provided and continues to provide substantial benefits to the State and the community with regards to flood control, irrigation, wastewater treatment, and recreation. The safety of the dam was apparent during recent heavy rains in March 2021. Although those recent rains resulted in flooding in Haleiwa, the dam effectively prevented flooding in Kaukonahua Stream below the dam.

D. Interim Safety Measures

Although millions of dollars have been spent on dam safety, and although safety was demonstrated during recent heavy rains, to address any remaining safety concerns, Dole reiterates its recommendation that the water level in Lake Wilson be reduced. The DLNR Staff Report – Wahiawa Dam (OA-0017) states that, "On October 26, 2016, DLNR restricted the reservoir operation level to be 15 feet below the spillway, or 65 feet as measured on the reservoir staff gage." As noted above, this operational level is not set based on Dole's operational requirements, but instead is based on DLNR's desire to facilitate fishing and recreational use at Lake Wilson. Dole does not need to maintain a reservoir depth of 65 feet to accommodate its agricultural water needs and repeats its prior recommendation that the reservoir operation level be lowered to 25 feet below the spillway, or 55 feet as measured on the reservoir staff gage.

III. Dole's Requested Revisions to the Staff Recommendation

Respectfully, Dole urges the Board to: (1) eliminate the $20,000 fine in paragraph 1(a) of the Staff Recommendation; (2) eliminate the $5,000-per-day fine in paragraph 1(c) of the Staff Recommendation; and (3) allow Dole and the DLNR the flexibility to accommodate the pending PMP study and potential acquisitions by State and private hydroelectric developers as provided for under the variance provision in HAR § 13-190.1-9.

Dole supports the DLNR's efforts to update the PMP and PMF calculations with modern analysis, as this is critical to any spillway design of this magnitude. However, we understand that this PMP study is taking longer than expected. Depending on the expected delivery of this updated PMP study, Dole is willing to consider conducting its own, site specific PMP/PMF study for the Wahiawa Reservoir and share the results of that study with DLNR. Dole proposes the following timeline:

Activity	Estimated Time to Complete
Find consultant and define scope of work to calculate site specific PMP/PMF	4 months
Perform site specific PMP/PMF analysis	6 months
DLNR Review of PMP/PMF analysis	TBD
Submit plan to address spillway including conceptual design	6 months after DLNR review of PMP/PMF analysis
DLNR review of plan	TBD
Submit Dam Safety Permit application	12 months after DLNR approval of the plan to address spillway

Dole also requests that any order entered allow the opportunity to modify the timeline set forth above for good cause shown, including to provide for an updated timeline that would allow for hydroelectric development.

Respectfully submitted,

Daniel X. Nellis
General Manager at Dole Food Company Hawaii