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KAHEA: The Hawaiian Environmental Alliance,
a domestic non-profit Corporation

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

In the Matter of:) Case No. BLNR-CC-16-002
)
A Contested Case Hearing Re Conservation) **KAHEA: THE HAWAIIAN**
District Use Permit (COUP) HA-3568 for) **ENVIRONMENTAL ALLIANCE'S**
the Thirty Meter Telescope at the Mauna) **RESPONSE TO UHH/TIO PROPOSED**
Kea Science Reserve, Kaohe Mauka,) **FINDINGS OF FACT, CONCLUSIONS OF**
Hamakua District, Island of Hawai'i, TMK) **LAW, DECISION AND ORDER;**
(3) 4-4-015:009) **CERTIFICATE OF SERVICE**
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RESPONSE TO UHH/TIO PROPOSED FINDINGS OF
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KAHEA: The Hawaiian Environmental Alliance (hereafter KAHEA) submits the following responses to the University of Hawaii at Hilo and TMT International Observatory, LLC's Joint Finding of Fact, Conclusions of Law and Decision and Order filed May 30, 2017 as follows:

1. FOF 8 fails to identify the fact that KAHEA is a domestic non profit corporation. FOF 10 fails to identify the fact that TIO is a Delaware non profit Delaware limited liability corporation.
2. With respect to FOF 39, such a denial should be timely addressed in a minute order.
3. FOF 72, the last sentence, is objected to as calling for exparte communications.
4. FOF 81 is objected to as the transcript of the October 3, 2016 pre hearing conference is not the subject of the matters taken up in the evidentiary hearing and not in evidence.
5. FOF 102 fails to identify Kahea's rebuttal witness Brian Cruz who testified on February 28, 2017.
6. FOF 114 is objected to as the document speaks for itself.
7. With respect UHH witness James Hayes, repeated and relied upon by UHH/TIO in their proposed FOF, COL, Decision and Order, including, but not limited to, FOFs 194-199, 201, 212, 216, 226-227, 280, 307, 427-430, 481-482, 677, 776-782, 784-786, 788, 791-792, 824-832, 834, 848, 902-905, 908-909, 968-971, and 978-983, Mr. Hayes was neither qualified or competent to prepare and submit the Environmental Impact Statement as part of the HRS Chapter 343 process for the TMT Project.

On cross-examination, Mr. Hayes conceded that he had only obtained AB degrees, (the equivalent to a Bachelor of Science degree at UH) in earth and planetary science and international development and that he had no advanced degrees in construction, science or the law. Mr. Hayes also testified that he did not have any traditional Hawaiian cultural training. Tr. 10/31/16:Vol.3:80:22-25; 81:1-25

Furthermore, during cross-examination, Mr. Hayes admitted that he was unaware or had not read Article XI, Sec. 1 and Article XII of the Hawai'i State Constitution (Tr.10/31/16:Vol.3:137:2-5) and had not read significant Hawai'i Supreme Court cases, commonly known for their protection of rights of access and traditional Hawaiian cultural practices, in the "PASH", "Pele Defense Fund", "Iao", or "Kapa'akai O Ka Aina" decisions. Tr.10/31/16:Vol.3:140-141.

Though testifying that he was primarily responsible for the preparation and submission of the Draft EIS and Final EIS for the TMT Project "that includes all components including Volume 1, Volume 2, Volume 3, including all appendixes" (Tr.10/31/16:Vol.3:111:23-25; 112:1-9), Mr. Hayes admitted that his prior experience consisted of only two other examples where he was primarily responsible for the drafting, completion and submission of an EIS. Tr.10/31/16:Vol.3:115:23-25; 116:1-25; 117:1-18.

By his own testimony, Mr. Hayes establishes that he is not qualified to be primarily responsible for the drafting, completion and submission of the EIS (Draft or Final) for the TMT Project and even less qualified to comply with the affirmative duties and obligations imposed by the Hawai'i State Constitution, State Statute and related administrative rules and established case precedent for a proposed use in a conservation district, protected under the Public Trust Doctrine, where said use would "From a cumulative perspective, the impact of past and present actions on cultural, archaeological, and historic resources is substantial, significant, and adverse; these impacts would continue to be substantial, significant, and adverse with the consideration of the Project and other reasonably foreseeable future actions" (Ex. B32: Vol. 1, TMT FEIS, p. S-8; Ex. B13d: FEIS for Outrigger Telescope Project, p. 4-124).

Accordingly, the testimony of James Hayes is not credible to withstand any reasonable scrutiny of the (F)EIS for the TMT Project. As reliance on Mr. Hayes' FEIS is an essential component in submission of the CDUA for the TMT Project, it too must fail.

8. With respect to FOF 123-135, the 2000 Master Plan was not approved by the Board of Land and Natural Resources and is not a planning document of the of Department of Land and Natural Resources, State of Hawaii.
9. With respect to Ms. Kakalia's testimony, she did testify that the Kahu Ku Mauna, of which she was a member for 8 years, suffered from short meetings and not enough time to deliberate. Tr. 2/27/17, Vol. 41
10. No cultural resource manager was hired by the OMKM until early 2016.
11. With respect to FOF 141, 144, and 145 the Natural Resource Management Plan, Cultural Resource Management Plan and Public Access Plan speak for themselves and have been accepted into evidence. KAHEA objects to the wholesale regurgitation of self serving statements made in planning documents.
12. With respect to FOF 152, it misstates the role of the BLNR in approval of those activities necessary to undertake the decommissioning process by each observatory as well as its approval of the decommissioning funding plan necessary to implement the proposed decommissioning. Ex. A13
13. With respect to FOF 156 KAHEA states that Exhibits B.03e through B.03.m speak for themselves as to the decommissioning and restoration requirements imposed upon each of the 11 sublessees.
14. With respect to FOF 156 there is no writing which the UH can proffer to support its contention of an understanding which comports with the Statute of Frauds.
15. With respect to FOF 157, it is inconsistent with the representation made in FOF 152 that UH has final approval.
16. With respect to FOF 159, no TIO "formation" documents have been offered in evidence as to the its limited liability members' obligations to fund the decommissioning funding plan, nor has the entity itself committed to funding the decommissioning of TMT as no representative of TIO signed Ex. A-39. Ex. A-39 at page 2, Testimony 1/3/17, Vol 20 at 139:16-23.

17. With respect to FOF 159, it misstates Ex. A-39 as the \$1 million a year contribution does not commence until first light or 2024 and does not become “fully funded” until 2051 or year 31 (Ex. 39 at page 3).
18. With respect to FOF 169, the 2000 Master Plan has not been approved by the BLNR.. It is described on page 2-3 of the CMP (Ex. A09) as UH’s development planning framework. Furthermore, the 2009 CMP takes care at page 2-3 to identify what issues lie beyond the scope of the CMP, one being proposed new development on Mauna Kea, including the TMT and Pan Starrs projects.
19. With respect to FOF 169, the CMP did not advocate or promote new telescope development (Ex. A09 at 7-55) but rather to proactively address issues related to new land uses, amongst which was featured the need to update the CMP every five years. (Id. at 7-65). For the UH to now propose the siting of TMT from a 2000 internal planning document runs counter to the specific recommendation of the 2009 CMP to update every five years.
20. With respect to FOF 167-178, the UH has failed to adhere to the five year update of the CMP. It attempts to rely upon its 17 year old planning document in violation of the 2009 CMP in evaluating the impacts of such development on the cultural and natural resources of Mauna Kea.
21. FOF 180 fails to acknowledge the recommendation made in the 2009 CMP at page 7-65 that the CMP be updated every five years. It has been acknowledged by UH that no such update has taken place, although it is now 3 years past due.
22. With respect to FOF 180 and 182, the BLNR is considering a 7 year old CDUA, with 7 year old FEIS and a 7 year old CMP in making its decision. Certainly, under the mandate of the 2009 CMP, at a minimum, the CMP itself should have been updated as required.
23. With respect to FOF 189, the 2009 CMP at page 7-65 mandates the revision and update of the CMP every five years and expressly provides for such revision and update when a new development is being proposed. The extent verbiage in the CMP with respect to the 5 year update is “shall”

and “should”. It is similarly contemplated that the 2000 Management Plan be “updated” to include the five year revised CMP.

24. With respect to FOF 203, one need only compare Ex B44 (the draft report prepared for review) against B45 to understand the distinction in what was provided the reviewer(s) for comment. Furthermore, B44 was prepared under the names of its principal, Hallett H. Hammatt, Ph.D and Mindy Simonson, M.A.

Cultural Surveys Hawaii, Inc.'s (CSH) Preliminary Draft CIA (Cultural Impact Assessment) in its "Recommendations" concludes: "1. Based on the majority view of participants in this current study who have voiced their concerns against the proposed actions on Maunakea, it is recommended that Project proponents strongly consider no further development, including the TMT Observatory Project and the Mid-Level Support Facilities at Hale Pohaku, take place on Maunakea." (hereinafter referred to as "no further development"). Ex. B-44.

The PD-CIA, containing the above-referenced "no further development" was prepared by Brian Kawika Cruz, B.A., Mindy Simonson, M.A. and Hallet H. Hammett, Ph.D. and its contents including the "Recommendations" is not disputed.

Deletion of CSH's "no-further development" (and other PD-CIA) recommendation from the Draft Environmental Impact Assessment ("Draft EIS") is affirmed by the Draft EIS (Ex. B-45) and the sworn testimony of Brian Cruz. Tr. 02/28/17, V.42:103:9-10. Additionally, replacement and/or reintroduction of CSH's "no further development" recommendation into the Final EIS is affirmed by the FEIS (Ex. B-34 at D-3, xiv) and the sworn testimony of Brian Cruz. Tr. 02/28/17, V.42:11-13.

Removal of the 'no further development" recommendation from the Draft EIS and replacement of the "no further development" recommendation into the Final EIS is not disputed or rebutted by any credible evidence. In its proposed FOF, COL and Order, UH/TMT fails to provide any evidence that CSH's "no further development" recommendation was not removed from and/or included anywhere in the Draft EIS submitted for review and public comment pursuant to the HRS Chapter 343 process.

Instead, Ex. A-148 and A-148a at S-9, at 1-2 and at 4-5 through 4-7, cited by UH/TMT references a second "no action alternative: not locating the TMT observatory at Maunakea" ("no action alternative"). Significantly nowhere in the "no action alternative" exhibits cited herein above by UH/TMT (FOF 200) can one find direct inclusion of or reference to CSH's (retained by UH, through Parsons Brinkerhoff) recommendation that (TMT) Project proponents strongly consider "no further development."

UH/TMT's reference to "no action alternative" cannot, in fact, replace the recommendations, including the "no further development" recommendation of CSH, in its PD-CIA, and their (UH/TMT) attempt to do so is an obfuscation of the truth.

Furthermore, removal of said CSH's recommendations from the Draft EIS is tantamount to a violation of the affirmative duties and obligations, imposed under the HRS Chapter 343 process, upon the applicant (UH/TMT) and the State of Hawaii (BLNR, OEQC, etc.).

The testimony of James Hayes, who stated that he did not know who would have removed CSH's recommendations, including "no further development" recommendations, made in the Preliminary Draft CIA, from the Draft EIS and later reintroduce said recommendations in the FEIS, belies his admission that he had primary responsibility for the preparation and submission of the DEIS and FEIS for the TMT Project. (Tr. 10/31/16: Vol. 6:106) and is directly contradicted by the testimony of Brian Cruz who testified that he had made contact with Mr. Hayes, shortly following his submission of CSH's PD-CIA and was told by Hayes to remove the recommendations, including "no further development" recommendations from the PD-CIA. Tr. 02/28/17, Vol 42:103:2-10.

Validity of the EIS approval must be considered in light of the evidence produced at the Contested Case Hearing. Subversion, or possible fraud upon the public review and comment period, afforded and protected under HRS Chapter 343 must overcome the self-interested argument of UH/TMT that a time period to challenge approval of an EIS had passed. In this case, removal of CSH's recommendations, including the "no further development" recommendation from the Draft EIS, and later replacement of the "no further development" (and other recommendations) in the Final

EIS, demands a closer examination as to whether the public review and comment period and approval criteria, under the HRS Chapter 343 process. The applicable law, defining the time deadlines to challenge the FEIS, does not contemplate the possibility for subversion of disclosure requirements evident in the submission of the EIS for the TMT Project.

Significantly, when asked if he was aware that the cultural impact assessment in the draft EIS was not the same as the cultural impact assessment provided in the final EIS, Sam Lemmo, administrator of OCCL at the time the CDUP application for the proposed 30-meter telescope was submitted, was unable to provide or recall that level of detail. Tr. 2/27/17, Vol. 41: at 216-217: 25, 1-3;2/27/17, Vol. 42 at 76: 5-24. He did however acknowledge that a recommendation in the cultural impact assessment would have been given "quite a bit" of weight. Id. Vol 42 at 77:12-24.

When asked if any new deficiencies were identified after the OCCL approval of the 2010 CDUA, what steps OCCL would take, Mr. Lemmo stated, "We would ask for things to be refreshed." Tr. 02/28/2017, V. 42 at 33: 11-25; 34: 1

25. With respect to TIO, Articles of Organization have never been submitted by TIO and therefore FOF 206 is unsupported by something that could have easily been provided. FOF 207 has not been supported by any documentation between the two entities indicating such a "transfer" and certainly are unsupported by what financial records were produced in the cross examination of Gary Sanders Ex. B.58, B.59.
26. FOF 210-212 and 237, they are not supported by specific reference to the record.
27. With respect to FOF 230, and the testimony of Lemmo, there appears to be some comprehension of this contested case hearing being some form of "consultation" when in fact it is a quasi judicial proceeding.
28. FOF 247-250, 256, 258- 259, 262 are reliant upon witness direct testimony prepared in 2011 and ostensibly unmodified by any of the "multi faceted" community outreach allegedly undertaken by OMKM over the last five years. They are most certainly not informed by the necessary CMP

revision not undertaken by OMKM in 2014.

29. With respect to FOF 263-273, the scientific value of Mauna Kea to TIO (a Delaware limited liability corporation) and its multinational investor members does not and has never been a beneficiary of those lands conveyed to the State of Hawaii at the time of its admission into the United States of America under Sec. 5(f) of the Hawaii Admissions Act.. See Feb. 21, 1974 memorandum from L. Landgraf to T. Tagawa, B.17m.
30. With respect to FOF 274, astronomy is not an activity contemplated in Sec. 5(f) of the Hawaii Admissions Act as being worthy of support from the public lands trust.
31. With respect to FOF 284 to 296, the scientific cooperating agreement should have provided for UH viewing time as well as ownership of intellectual property emanating from said viewing time. That agreement is not in evidence. Consideration by this Hearing Officer of purported “indirect” educational opportunities ostensibly afforded students by TIO’s grants/lease rent is speculative and based on anecdotal information.
32. FOF 299 fails to consider that the cultural resources of the Mauna Kea UH managed lands constitute the human resources of that environment. To argue that the Community Benefits Package somehow reduces the substantial adverse impacts of the TMT project to both natural and cultural resources flies in the face of well established principles of mitigation measures as understood in land use decision making.
33. Similarly, FOF 301-303 fail to provide a basis whereby the Hearing Officer can consider that the substantial and adverse impacts of the proposed TMT project have been mitigated.
34. With respect to where the scrapped superstructure of the TMT was to go upon decommissioning, Gary Sanders acknowledged there were no plans other than to remove the 1429 cubic yards of material hauled up the mountain by hauling it back down the mountain 50 years hence and ostensibly shipping it off island. Tr. 1/3/2107, V. 20 at 161:9-25; 162:1-25; 163:1-17.
35. Sanders acknowledged that there were no plans to recycle any of the

superstructure of the TMT at the time of decommissioning and, in fact, the components of the superstructure were not considered in the context of recycling. Id.

36. KAHEA disputes FOF 327 as it misstates and attempts to mischaracterize the sworn testimony of Dr. Kahakalau. Though a traditional Hawaiian cultural practitioner (Lono and Pele practitioners), Dr. Kahakalau's belief, that the summit region of Mauna Kea is the wao akua or realm of the gods, dictate no buildings or people, except for traditional Hawaiian cultural (spiritual/religious) practitioners should be on the mauna. Tr. 01/9/17 at 34:9-24; at 38:20-25; and at 39:1-20.

Dr. Kahakalau clarifies her written testimony (Tr. 01/9/17 at 40:4-23), on TMT's proposed Cultural and Natural Training Program as follows: "You know, we've been trying to create a Hawaiian-focused programs based on a pedagogy of aloha ... and that's not just the aloha for self and for others, but also aloha for the environment and for the spiritual world. And in order to teach that, it takes time. You cannot have a one-hour professional development workshop for staff, and then expect them to understand aloha 'aina. I mean that's just ludicrous. That's like me going to Japan and having a one-hour anything on whatever and being expected to know how to behave, because I know nothing about Japan."

UH/TMT's proposed statement omits the proper context in order to create a (mis)perception of bias. Factually, Dr. Kahakalau's testimony is in response to cross-examination question as to whether kupuna had built hale in the wao akua as well as burial on Mauna Kea. Dr. Kahakalau reaffirms in her testimony that on top of Mauna Kea is no place for the TMT or any other observatories, "it's that there is no place for TMT up in the wao akua, any wao akua, in this case its Mauna Kea." Tr. 01/9/17 at 195: 8-17. Affirmation her traditional cultural belief in the realm of the god (wao akua), such that neither she or family conducts traditional, cultural Hawaiian practices on top of Mauna Kea is relevant testimony that must be considered as part of the BLNR and UH's affirmative duty and obligation to protect the traditional customary practices of the native Hawaiian community and UH/TMT's fulfillment of the required criteria for approval of the CDUA for the proposed TMT.

37. With respect to FOF 328, again UHH/TIO misstates and manipulates the testimony of Dr. Kahakalau to in an unsuccessful attempt to discredit her testimony. Dr. Kahakalau, the first person in the world to obtain a Ph.D in indigenous education, concentrated her work in developing a Hawaiian focused education. For that reason her following testimony directly addresses UH/TMT's claim and provides the proper context for her relevant and well to be considered testimony:

"When we're talking about indigenous education, malama 'aina, to take care of the land, aloha 'aina, love the land, are foremost values that are an intricate part of Hawaiian education. And if we do things like constructing the TMT on Mauna Kea, that clearly violates the value of aloha 'aina and malama 'aina, then it's not representing education from a Hawaiian perspective" Tr. 01/9/17 at 32:2-9.

"I am recognized as an international expert on indigenous education ... The fact is that this is a value, and this is a pedagogical foundations that is shared around the world among indigenous people and even nonindigenous people are coming to the understanding, that we need to, as part of our educational process, teach the children ... the values that are going to help this whole humanity to continue to live on this planet. And in order to do that, we have to teach them environmental love, ... relations, ... pili or closeness to the environment, and make them realize that they are part of the environment." Tr. 01/9/17 at 32:11-25. "That is an inherent kuleana of everybody. And so for me, it's really a very important part of being a Hawaiian educator, is to teach the values of aloha 'aina and malama 'aina." Tr. 33:2-5.

"... our ideal graduate is culturally grounded with a functional na'au gage that's calibrated based on Hawaiian values ... As an educated Hawaiian, he or she need to be able to perpetuate their native culture and traditions into the future ... they should have skills to function in the western world, but ... the discernment to choose when to express them. And when it comes to taking care of the environment, that is a non-negotiable ... Malama 'aina is non-negotiable when it comes to education." Tr. 33:7-24.

"And so as an educator, I really want to make this clear that just because someone claims it is for education, does not mean it's pono, at least not

based on the way that we think. So for us, it can only be education if it follows our values system. And building a TMT on Mauna Kea does not follow our value system particularly the value of aloha 'aina and malama 'aina." Tr. 33:25; 34:1-8.

- 38 With respect to FOF 331, there is no clear, approved or appropriately funded Decommissioning Plan.
39. With respect to FOF 336, there has been no EIS conducted for the Decommissioning options. Mr. Sanders admits that removing underground improvements creates more disturbance than leaving them in place: "That discussion happened because it was realized that sometimes going below ground to remove manmade things that are put into the ground requires excavation and causes disturbance that's more than leaving it in place. And so that's a decision that has to be made at that time." 01/4/2017, V. 21 at 61: 13-19.
40. With respect to FOF 338, no funds (for decommissioning) have been offered into evidence. Financial statements show that the TIO only has assets totaling \$10 million, and the \$129 million cash contributions is not accounted for. When asked about TIO's financial statements for 2013 and 2014 (Ex. B.49) and the \$129 million cash contribution from the partners, Mr. Sanders stated that the payments have been provided to TIO and are kept in a bank account under the name "TIO." Tr. 01/3/2017, V. 20 at 171: 13-17.
41. With respect to FOF 340, UH has not submitted the five-year major evaluation update of the Comprehensive Master Plan (CMP) as required by the CMP. Tr. 2/27/17, V.41 at 236:13-19, 242:12-16.
42. With respect to FOF 375, once again, it is a mischaracterization of the facts. A Decommissioning Plan left to the future is not a Decommissioning Plan. There is no clear Decommissioning Plan at this time. Mr. Sanders stated that there are different options for the Decommissioning Plan will be "discussed at that time." There are a number of options listed in the Decommissioning Plan, the sub-plan and those will be discussed at that time." 01/4/2017, V. 21 at 60: 12-21. Because there are only "options", no EIS has been conducted for the

Decommissioning options. Mr. Sanders admits that removing underground improvements creates more disturbance than leaving them in place: “That discussion happened because it was realized that sometimes going below ground to remove manmade things that are put into the ground requires excavation and causes disturbance that’s more than leaving it in place. And so that’s a decision that has to be made at that time.” 01/4/2017, V. 21 at 61: 13-19

43. In response to FOF 382, Professor Fujikane's testimony is affirmed by NASA's Final Environmental Impact Statement for the Outrigger Telescopes project on Mauna Kea stated unequivocally in 2005, “From a cumulative perspective, the impact of the past, present, and reasonably foreseeable future activities on cultural and biological resources is substantial, adverse and significant” (Exhibit B13d: FEIS for the Outrigger Telescope Project, p. 4-124).

And reaffirmed in the FEIS for the TMT which concludes, “From a cumulative perspective, the impact of past and present actions on cultural, archaeological, and historic resources is substantial, significant, and adverse; these impacts would continue to be substantial, significant, and adverse with the consideration of the Project and other reasonably foreseeable future actions” (TMT FEIS, p. S-8)

Accordingly, UHH/TIO fails to prove that Prof. Fujikane's testimony is contradictory when she states that Mauna Kea is overbuilt and that the TMT Project will be built in a pristine area precisely because TMT/TIO fails to address cumulative impacts on Mauna Kea (Tr. 1/9/17 at 224:1-3). Cumulative, as the NASA EIS has concluded, the current observatories on Mauna Kea already have a cumulative adverse, substantial and significant impact.

44. With respect to FOF 412, the TMT Management Plan cannot be updated because the OMKM has failed to update the CMP as required.
45. With respect to FOF 415 and 416, the failure of the CDUA to fail to meet any one of the eight criteria set forth in HAR Sec. 13-5-30(c) will necessitate denial of the application.

46. With respect to FOF 430, as set forth herein above, Mr. Hayes provides neither qualified or credible testimony. Additionally, When asked if there is currently a facility on Hawai‘I Island that could reprocess that kind of effluent collected from the silver recovering of the plates, Mr. Sanders replied, “I don’t know the answer.” Tr. 01/3/2017, V. 20 at 231: 4-10

The company who will dispose of the materials has not yet been selected. Tr. 01/3/2017, V. 20 at 76: 13.

Mr. Sanders does not know if other observatories truck their hazardous materials off, including the wastewater from the mirror stripping process. Tr. 01/3/2017, V. 20 at 76: 21.

47. With respect to FOF 435, the CDUA fails to consider whether the impacts to existing natural and cultural resources in the region and community are adverse and substantial.
48. Exhibit A122 was not prepared until 2013 and was not submitted to the OCCL at the time of the 2010 CDUA.
49. With respect to FOF 439, the Outrigger FEIS (Ex. B.03ap) advanced no further development as a result of the substantial and adverse impact on the MKSR posed by that project, taken in the context of the existing 22 structures in the MKSR and their operation beyond 2033. (Ex. B.03ap at 4-118 and 119). See also Hayes WDT at 5 and B.13d.
50. The CDUA proposes a conditional use to end in 2033 amidst leases for 22 structures in the MKSR all to end by 2033, at which point TMT will be most assuredly the only substantial and adverse use ongoing in the MKSR in 2034. This Hearing Officer and the BLNR must consider the existing state of affairs in applying HAR Sec. 13-5-30(c) to the application.
51. With respect to FOF 453, 454 and 464 the criteria for issuance of a conditional use permit is not limited to adverse impacts to “recognized historic traditional and cultural practices” or “historic features”, as advanced by the UH/TIO. In fact, those are not the definitions of natural and cultural resources required to be evaluated under the Mauna Kea CMP.

52. With respect to FOF 458, those proposed mitigation measures accepted in the approval of the FEIS were done in the vacuum of the recommendations posed by the preparer of the cultural impact assessment, which were summarily removed from the draft EIS circulated for comment.
53. With respect to FOF 467-480, the studies relied upon by witness Smith date from 1982 and 2009. They do not consider the 2011 Botanical Baseline Survey and its acknowledgment of the unique assemblages of flora found in the Northern Plateau and on its unique and pristine pahoehoe substrate congenial to such growth. B.64

While the applicant claims that there is a low diversity and cover of plants in Area E, according to witness Eric Hansen, who performed the actual field work for the 2011 OMKM Botanical Baseline Study (B.64), unique assemblages of botanical communities exist at the proposed TMT site (Area E), though they are not apparent at a distance. B.10a at 1, Tr. 01/19/2017, V. 27 at 147: 7-14, 151: 24-25, 152:1, 155: 10-18, 156: 4-16, 157: 9-17, 183: 7-13. These distinct assemblages of botanical species found at Area E were not found in other areas at the same or similar elevations of Mauna Kea. B.10a at 2, Tr. 01/19/2017, V. 27 at 147: 15-17, 194: 4-6.

54. Again, the UH/TIO advances a “site only” evaluation of adverse impacts and not the regional analysis required under HAR Sec. 13-5-30(c)(4).
55. Not having engaged in a regional analysis of the adverse impacts of the construction of TMT on the northern plateau, proposed mitigation measures are of necessity insufficient.
56. With respect to FOF 472-473, Despite the applicant’s claim that “there are no unique plants within the proposed project site,” *Cystopteris douglasii*, a fern endemic to Mauna Kea, was found in Area E and is designated as a species of concern by the US Department of Fish and Wildlife. Ex. A001 at page 3-6; Tr. 01/19/2017, V. 27 at 179: 16-18 Species of Concern are those species about which regulatory agencies have some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act. Ex. A005, (TMT FEIS), p. 3-65 Furthermore, a species

endemic to Mauna Kea, *Pseudephebe pubescens* (Ex.B.19d, p. 8.) was indeed found at the TMT site according to UHH witness Smith. Tr. Vol. 29 12/01/2016 at 192: 11-25, 193:1-11

57. With respect to FOF 476, The Douglas' bladderfern designation as a Species of Concern by US Fish and Wildlife is significant and should be given weight as it indicates species about which regulatory agencies have some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act. Ex. A005, (TMT FEIS), p. 3-65

58. With respect to FOF 480, it does not dispute the fact that the project will require excavation. The fact that it will require excavation cannot escape the conclusion put forth in the Preliminary Report of Lichens of UHH Management Lands on Mauna Kea (Appendix D-3 of Ex B.64 the 2011 OMKM Botanical Baseline Survey) which states that "The long-term stability of the lichen and moss communities is dependent on minimizing disturbance in the area. The colonization rate of species is extremely low." B.64 App D3 at p APP-D18 and APP-D19.

Eric Hansen testified that recolonization after such a disturbance would be very slow if at all possible. Tr. 01/19/2017, V. 27 at 159: 22-25, 160: 1-3. Development of the TMT will further permanent damage to biological resources in the summit area, batch plant areas, roads and associated areas that has already occurred due to astronomy development as described in Ex B.64 Appendix D1 at p APP-8. The same section goes on to say, that after nearly 50 years of astronomy on Mauna Kea, "No new lichens or mosses have become established in the area as a consequence of the construction..." Ex B.64 Appendix D1 at p APP-8.

59. With respect to FOF 505, witness Nees began his work in Hawaii in 2005, some 11 years ago. He agreed with many of the findings of Dr. McCoy in his 2013 study (Ex. A122) and admitted that he had all but the first paragraph of his WDT was written by another person and not himself. Tr. 12/5/16, Vol 12 at 10:12-14.

60. Ex. A122 was not considered by the UH/TIO as it was not written until 2013.

61. With respect to FOF 506 and 516, Rechtman's post 2013 reports and fieldwork were done after the submission of the instant CDUA and were not considered by the OCCL in its 2010 recommendation. Furthermore, Mr. Rechtman acknowledged that his reports and fieldwork were limited to the project site and did not consider the regional and community impacts of the proposed TMT. Tr. 12/20/16, Vol. 19 at XXXX
62. With respect to FOF 519, the view that "people's activities on Mauna Kea occur at the top" flies in the face of the conclusions made in Ex. A122 at 7-34, 7-37, 7-3.9, 7-45 and Fig 7.6 at 7-46. This FOF propounded by UH/TIO displays a consummate ignorance on the part of UH/TIO of the meaning of Mauna Kea, its relationship to the community and the region, and the applicant's affirmative duties under HAR Sec. 13-5-30(c)(4).
63. FOF 528 belies the fact that under the CMP (Ex. A09), cultural resources include what is termed a "find spot". Having been adopted by the BLNR in 2009, it behooves the applicant some 8 years later to address adverse impacts of its proposed use within the context of A09 at 5-1 to 5-24.
64. It is notable to consider that the so called "lithic artifacts" that Mr. Nees collected for Dr. McCoy in his conclusions as shown on Fig 7.6 at 7-46 of Ex. A122 are not what the UH considers "historic properties" deserving of evaluation. With respect to FOF 551-558, the limitation of UH's evaluation of impacts to just those considered historic properties is inconsistent with the CMP and the criteria under HAR Sec. 13-5-30(c)(4) as they relate to cultural resources.
65. With respect to FOF 542, it ignores the requirements imposed on its evaluation by HAR Sec. 13-5-80(c)(4) in considering adverse impacts within the region and community of Mauna Kea on the cultural resources found within and about the Northern Plateau and the clear mandate of Ex. A.09 as to just what constitutes said cultural resources.
66. With respect to FOF 610, Petitioners and Intervenors have consistently and over time maintained that the proposed TMT project will substantially and adversely impact the cultural and natural resources of the site itself, the Northern Plateau, the MKSR, the UH managed lands, the Island of Hawaii

and the Native Hawaiian community on the island, in the State, and throughout the world.

67. With respect to FOF 614, 646 and 647, UHH and TIO falsely attribute the term “wasteland” to Malo in reference to Mauna Kea. The term was used by Malo's translator, Nathaniel Emerson in his own footnote #6 where Emerson refers to the "waste places of the earth," but that is not in Malo's text, which reads, "o ka wao maukele e liilii hou iho ai na laau, ua kapa ia aku ia he wao akua, ma ia poai kahi makai mai o ka wao akua e ulu ana ke amaumau, he wao kanaka kahi inoa, he mau kahi inoa oia poia, kahi a na kanaka e mahiai ai." Compare Ex. A-130 at 38 with 'ōlelo Hawai'i text in *Ka Moolelo Hawaii*, ed. Malcolm Naea Chun, 12. Malo is referring to the differences between places where vegetation grows because of the akua and places where vegetation must be cultivated by people.

68. With respect to FOF 680, UHH/TIO provides a misleading and incomplete citation. Prof. Fujikane does cite Emma Ahuena Davison Taylor's (1866-1937) account of Kūkahau'ula, Poli'ahu and Mo'oinanea entitled “The Betrothal of the Pink God and the Snow Goddess, The Pink Snow is Always Seen Upon Mauna Kea,” was published in July 1931 in *Paradise of the Pacific*. In this mo'olelo, Ahuena describes the domain of Poli'ahu as stretching from the summit to the fern belt: “[Kūkahau'ula] watched her every day as she played with the kini-akua (fairies) amidst the silversword (hina-hina) near the pool, and, sometimes further down near the fern belt” (Exhibit B.13p: Ahuena, “The Betrothal”). Ex. B.13a (Fujikane WDT) at 10.

In that same mo'olelo, Kūkahau'ula is watching Poli'ahu in the “uplands” that would include the northern plateau: “Poli'ahu was coming slowly down the mountainside almost to where plant life grew.” The “uplands” are further referenced in Mo'oinanea's final chant,

Ku-kahau-ula and Poliahu, Oh! These two were betrothed in the Chilling Frost In the cold region of Mauna Kea; They are the residents of the uplands [emphasis mine], The children of the thicket of wild-woods The thicket that radiates their love From the summit of Mauna Kea. (Exhibit B.13p: Ahuena, “The Betrothal”). Ex. B.13a (Fujikane WDT) at 10.

As this mo‘olelo illustrates, Poli‘ahu, her sisters and Kūkahau‘ula, like the cultural practitioners who honor them, were not limited in their traversal of the mountains to the three TCPs of Pu‘u Kūkahau‘ula, Pu‘u Lilinoe and Waiau or to their viewplanes. Ex. B.13a (Fujikane WDT) at 10.

69. FOF 619 ignores the mandate of HAR Sec. 13-5-30 (c)(4) with respect to cultural resources as well as A09. Furthermore, that adverse impacts on cultural practices have been evaluated by the UH is not supported by the evidence
70. FOF 668 provides an opinion from one who is not a cultural practitioner but one who lived much of his adult life without Hawaii. His testimony can only be considered in the context of one who is not knowledgeable in Hawaiian custom and practice.
71. With respect to FOF 686, it was the testimony of witness Sanders that the site of the TMT was selected in 2009, before the approval of the CMP and many of the studies relied upon UH were conducted. Tr. 1/3/2017, Vol. 20 at 52:18-19.
72. With respect to FOF 759, Prof. Fujikane also testified that the group Huaka‘I I Nā ‘Āina Mauna, led by Ching, has also walked across the Northern Plateau, including the proposed site of the TMT. The CDUA relies only on officially recorded trails, but the group walks on paths described in the traditional Hawaiian cultural practice of ka‘apuni māka‘ika‘I, the practice of following paths in mo‘olelo that are not listed as official State of Hawai‘I trails, and insodoing, were able to locate the body of a hiker who had not been found in 7 years. Tr. 1/9/17, Vol. 23 at 246: 16-24. The mo‘olelo of Emma Ahuena Davison Taylor’s (1866-1937) account of Kūkahau‘ula, Poli‘ahu and Mo‘oinanea entitled “The Betrothal of the Pink God and the Snow Goddess, The Pink Snow is Always Seen Upon Mauna Kea,” was published in July 1931 in Paradise of the Pacific, and provides an account of the akua traversing the “uplands” of Mauna Kea, which would include the entirety of the Northern Plateau.Ex. B.13a (Fujikane WDT) at 10.
73. With respect to FOF 763, it is not necessary that a significant adverse impact be shown “to any protected historical traditional practice” and

displays again a consummate miscomprehension by UH/TIO as to just what constitutes a cultural resource for purposes of the HAR Sec. 13-5-30(c)(4) analysis. Furthermore, the FOF misunderstands the “core issues” set forth in MO No. 19.

CONCLUSIONS OF LAW

1. Conclusion of Law 83 misstates the law. Article XII Sec. 7 of the Hawaii State Constitution protects “all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupuaa tenants who are descendants of native Hawaiians who inhabited the Hawaiian islands prior to 1778.” These are not rights held by native Hawaiians per se and they are not “native Hawaiian rights based on customary and traditional practices” as argued by UH/TIO. Again, not being able to articulate these rights has tremendous impact on the evaluations, assessments, and mitigation measures put forward by UH/TIO.
2. Except for a restatement of the applicable articles under the Hawai'i State Constitution, Hawai'i State Statute and related administrative rules, KAHEA disputes the interpretation and conclusions offered by UHH/TIO and instead adopts and incorporates by reference, as though fully set forth herein, the proposed Conclusions of Law filed by the Flores-Case Ohana, the Temple of Lono, Ms. Debra Ward, Ms. Kealoha Pisciotta and the Mauna Kea Anaina Hou, Mr. Clarence Kukuakahi Ching as well as the remaining petitioners and intervenors not identified as UHH, TMT/TIO and PUEOI.

PROPOSED ORDER

Based upon the entire record, pursuant to HRS §91-9, the Hearing Officer recommends that BLNR order the CDUA in this proceeding be denied.

Dated: Kailua, Hawai'i, June 13, 2017.



Yuklin Aluli
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Co-counsel for Petitioner KAHEA:
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a domestic non-profit Corporation

BOARD OF LAND AND NATURAL RESOURCES
STATE OF HAWAII

Contested Case Hearing Re
Conservation District Use
Application (CDUA) HA-3568
for the Thirty Meter Telescope
at the Mauna Kea Science
Reserve, Ka'ohe, Hāmākua,
Hawai'i, TMK (3) 4-4-015:009

BLNR Contested Case HA-16-002

Document title: [NAME]'S PROPOSED FINDINGS
OF FACT, CONCLUSIONS OF LAW, AND
DECISION ORDER; CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the above referenced documents were served upon the following parties by the means indicated below:

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