

**To:** TMT Observatory Project  
Office of the Chancellor  
University of Hawai'i at Hilo  
200 W. Kawili Street  
Hilo, Hawai'i 96720-4091

Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawai'i 96813

**(Sent via electronic mail and/or U.S. Postal Service Certified-Return Receipt,  
postmarked 7/7/09)**

**DATE:** July 7, 2009

**RE:** The Thirty Meter Telescope Draft Environmental Impact Statement

Aloha Pumehana Chancellor, TMT Board Members and Representatives,  
Please find enclosed comments regarding the TMT Draft Environmental  
Impacts State (DEIS) filed on behalf of Ms. Kealoha Pisciotta, Mauna Kea Anaina  
Hou, Mr. Paul K. Neves, Royal Order of Kamehameha I and Mr. Clarence  
Kukauakahi Ching. We thank you for your time and consideration.

**I. Introduction**

Mauna Kea Anaina Hou (MKAH) represented by Ms. Kealoha Pisciotta,  
The Royal Order of Kamehameha I, Moku O Mamalahoa, Heiau Mamalahoa  
Helu `Elua (ROOK I) represented by Ali'i Aimoku Ali'i Sir Paul K. Neves, and  
individual Hawaiian Practitioner Mr. Clarence Kukauakahi Ching (Ching) are  
dedicated to preserving, protecting and perpetuating Native Hawaiian  
Traditional and Customary practices, including cultural and religious practices  
relating to Mauna Kea.

Mauna Kea Anaina Hou (MKAH), The Royal Order of Kamehameha I (ROOK I), Sierra Club (SC), individual practitioner Clarence Kukauakahi Ching (Ching) and others have been actively involved in legal action for the protection and conservation of Mauna Kea since 1995. We participated in two audits called by the State Legislature, recording 30 years of mismanagement on Mauna Kea at the hands of the State' Board of Land and Natural Resources (BLNR) and University of Hawai'i (UH). The State Auditor, found that Mauna Kea's resources had suffered at the expense of unregulated astronomy development, stating in relevant part,

1. **"[T]he University of Hawai'i's management of the Mauna Kea Science Reserve is inadequate to ensure the protection of natural resources, and that the Department of Land and Natural Resources [DLNR] needs to improve its protection of Mauna Kea's natural resources."** (1998 Audit of Management of Mauna Kea and Mauna Kea Science Reserve, P.15.)

We also participated in two major lawsuits in the US. District Court (Hawai'i), and the Third Circuit (Hilo) relating to the conservation of Mauna Kea. The cases were brought against the University (UH), University's Institute for Astronomy (UHIFA), State of Hawai'i's Board of Land and Natural Resources (BLNR), The University of California (UC), The California Institute of Technology (Caltech), the William M. KECK Foundation (KECK) and The National Aeronautics and Space Administration (NASA).

The NASA Federal Environmental Impact Statement (EIS) compelled by the federal court (OHA v. NASA, Civil No. 02-00227 (SOM/BMK), 2003) determined that the cumulative impact of thirty years of astronomy development had resulted in "substantial, adverse, and significant" impacts on the cultural and natural resources of Mauna Kea." (Please see NASA FEIS, 2005, at p. xxi).

Last year we provided extensive scoping comments relating to the proposed Thirty Meter Telescope Project (TMT). These comments included concern over TMT's compliance with, among other things, relevant state and federal laws, such as the National Environmental Policy Act as amended 1969

(NEPA) the National Historic Preservation Act (NHPA), Section 106 (Consultation with Native Hawaiian Organizations), Hawai'i Revised Statutes 183C (HRS 183C), Hawai'i Administrative Rules 13-5 (HAR 13-5) relating to Conservation, HRS 343 and HAR 11-200 (relating to environmental and cultural preservation), Hawai'i State Constitution Article 12, Section(s) 1, 9 (relating to environmental protection and conservation), Section 7 (relating to certain Hawaiian traditional and customary practices).

In our scoping comments we also formally requested that TMT begin NHPA, Section 106 Consultations. The TMT DEIS fails to address the issues previously raised in our scoping comments, therefore, we incorporate by reference our previously filed scoping comments (October 22, 2008).

## II. GENERAL ISSUES

### **Wasting public funds, and burdening the courts and the public**

To be clear, UC and Caltech were parties (along with NASA and KECK) of the Outrigger Telescope(s) Project proposed for Mauna Kea in the 1990s. The Outrigger Telescope(s) project was opposed and eventually challenged in two courts of law (federal and state). We too were involved those lawsuits and the courts found in our favor in both cases.

The federal court ordered NASA *et al*, to comply with the National Environmental Policy Act (NEPA). The state court vacated the Conservation District Use Permit, for construction of the four to six Outrigger Telescope(s) and ordered a Comprehensive Management Plan (CMP) be completed prior to considering any further development on Mauna Kea. The Outrigger Project was not built here in Hawai'i.

There is no question the TMT Project must comply with both state and federal law. The TMT Project currently is complying with neither. Taking the same path the courts previously rejected is unreasonable.

### **Good Science-but at what cost?**

TMT Representatives, (particularly UC and Caltech) your institutions are important academic institutions to the nation and the world. You have achieved great academic success. With greatness, comes great responsibility also. This responsibility, we hope includes caring for the land and its people. We have always supported good science. The TMT will produce good science, but, the real question is at what expense.

Is it good science to destroy the habitat of plant and animal species found nowhere else on earth—including those on brink of extinction? Is it good science to destroy the landscape used in traditional Hawaiian ceremonies that provided the knowledge for our navigators to traverse, more than 10 million square miles of the Pacific, before the birth of Christ? Is it good science to build such a large telescope atop our temple? Is it good science if the rule of law must be ignored to achieve it? Is it good science, to push to built the TMT in Hawai'i, when you have already identified an environmentally preferred site (a site with less impact than Mauna Kea)—in Chile?

This DEIS is *not* representative of your past academic achievements and we pray, not your future academic achievements.

### **III SPECIFIC ISSUES**

**The TMT Draft EIS is filled with inaccuracies, misleading and/or false information and is wholly inadequate**

#### **1. TMT claims no federal funding used for Project**

The TMT DEIS states,

Federal rules, such as the National Environmental Policy Act (NEPA), do not apply to the Project, no Federal agency is involved

in the Project, no Federal Funding is being use for the Project, and the Project does not use Federal Land."

(TMT DEIS at p. 3-105, emphasis added)

A TMT representative publicly asserted the same during public scoping meetings (<http://www.bigislandvideonews.com/maunakea/20081020dawson.htm>). The TMT DEIS statements are false. The TMT project has received substantial federal funding from the National Science Foundation (NSF). NSF Award 0443999 confirms this. The NSF Award also confirms that \$13 million federal tax dollars were awarded to the TMT and Giant Magellan Telescope (GMT), for "(1) *The Design and development phase for a 30-meter diameter segmented-mirror, optical/infrared telescopes, the Thirty Meter Telescope (TMT).*" Further confirmation of federal funding used by TMT is found in the Executive Summary second paragraph (<http://www.noao.edu/dir/spo/GSMT-annual-report08.pdf>).

### Following NEPA

NEPA is the nation's law for protecting the environment.

The NEPA rules state,

NEPA is not to generate paper work, even excellent paper work, but to foster excellent action... The NEPA process is intended to help public officials make decision that are based on the understanding of the environmental consequences, and take actions that protect, restore and enhance the environment." (40 CFR § 1500.1, 1502.1)

The National Science Foundation (NSF) funding of the project, constitutes a significant federal undertaking. Neither NSF as the funding agency nor the TMT as the receiving agency has prepared a federal level environmental review document (i.e. an Environmental Assessment (EA) or Environmental Impact Statement (EIS)) pursuant to the National Environmental Act, as amended 1969, relevant federal rules and regulations, and legal precedent (court made law).

Listing the University of Hawai'i at Hilo (UHH)—a state agency, as the proposing agency on the TMT DEIS does not allow the Project to escape federal

legal requirements, it means either the UHH will be "federalized" for the purpose of fulfilling NEPA and the NHPA, or will cause UHH to be enjoined in any legal challenges brought against this process.

### **Following NHPA**

The TMT is proposing to use Mauna Kea summit lands, which are eligible for listing on the National Historic Register, yet TMT has not begun Section 106 consultations under the National Historic Preservation Act (NHPA). Again, we made formal requests in our scoping comments calling for NHPA, Section 106 Consultation to begin. The U.S. District Court (Hawai'i) affirmed,

NHPA mandates that a federal agency "shall consult... with any Native Hawaiian organization that attaches religious and cultural significance" to properties eligible for the inclusion on the National Register." (OHA v. NASA, Civil No. 02-00227 (SOM/BMK), 2003, p. 18 of 39)

The State Historic Preservation Office, TMT DEIS review letter dated June 26, 2009, states:

Agencies Involved: Section 2.0 states that the TMT Observatory Corporation is a private non-profit partnership. Your memo dated May 28, 2009 notes that the National Science Foundation released the DEIS, There is no mention of the NSF in the DEIS, and we presume that is the case. If the NSF is involved, this project is subject to review under the National Historic Preservation Act, Section 106 (36 CFR 800).

And,

The DEIS and draft archeological Assessment for Area E (Appendix E) does not address impacts to the Mauna Kea Summit Historic District.

---

TMT representatives appear to understand what federal laws require, yet continue to ignore them. (Please see TMT comments below). The idea that TMT can move forward "independent of anything that happens with the

Comprehensive Management Plan" is erroneous. The TMT may not move forward without a completed and approved CMP.

"The federal government, federal agencies, they make that decision. We don't. And what triggers NEPA (National Environmental Protection Act) is a significant federal action," said Michael Bolte, director of California's Lick Observatory and member of the TMT Board of Directors.

Regarding the Mauna Kea Comprehensive Management Plan, "we are an independent process. The legal opinions are that right now we can go forward completely independent of anything that happens with the Comprehensive Management Plan."

Hawaii Tribune-Herald June 17, 2009, at [http://www.hawaiitribuneherald.com/articles/2009/06/17/local\\_news/local03.txt](http://www.hawaiitribuneherald.com/articles/2009/06/17/local_news/local03.txt)

## 2. State Law

The TMT DEIS states;

Today, there are 11 observatories...

(TMT DEIS, p. P-3)

In 1983, the state set a limit on the size, dimension and number of the *telescopes*. That legal limit has not been changed. There are currently 21 telescopes on Mauna Kea. The TMT DEIS, uses semantics and number games so that the preparers can count the giant twin Keck telescopes as one (because they have a single owner), the Smithsonian Array (which has eight individual six meter telescopes and potential for twelve more placed on 24 individual pads strewn across a half mile in diameter area), and then completely leave the Very Long Baseline Array (VLBA) out of the count.

State law requires (HRS 183C, HAR 13-5) an astronomy facility such as the TMT to obtain a Conservation District Use Permit (CDUP) issued by the Hawai'i Board of Land and Natural Resources (BLNR). A CDUP can only be issued after the completion of Comprehensive Management Plan (CMP). The Third Circuit Court in its recent ruling stated in relevant part,

Hawai'i Administrative Rules (HAR) 13-5 (adopted September 6, 2006), are the rules adopted by the Department of Land and Natural Resources

(DLNR) applicable to "Conservation Districts." The statutory authority cited in these rules is Hawai'i Revised Statutes (HRS) Chapter 183C...

HAR 13-5-24 (c) (4) states, "Identified land use beginning with the letter (D) (*i.e.* such as Astronomy Facilities) require a board permit, and where indicated, a management plan." (Emphasis added for clarity)

(Mauna Kea Anaina Hou *et al.*, Civil No. 4-1-397, 2006, p. 2-3)

**3. TMT DEIS cites to and relies upon documents that do not exist and/or have no force or effect of law**

The TMT DEIS states,

The operation of the Project, in accordance with the CMP and proposed mitigation measures, would not result in a significant adverse impact....the Project would not significantly increase or reduce the existing level of cumulative impacts do to all past and present activities, which in some cases is significant. The potential impact associated with the Access Way Option 3 is considered significant because it would reshape, of "cut" the TCP of Kukahau`ula, the summit cinder cones. Access Way Option 3 would also displace some "good" Wekiu bug habitat, but in compliance with the CMP, should Access Way Option 3 be chosen, a Habitat Restoration Plan would be prepared and implemented to compensate for this potential impact." (Emphasis added for clarity)

TMT DEIS, at p. S-6

**There is no Comprehensive Management Plan**

There are a number of problems with the TMT DEIS statement cited above.

First, by law the BLNR must prepare and adopt a CMP, because the BLNR, NOT the UH, is the State agency statutorily and constitutionally mandated to oversee all Conservation Districts in Hawai'i. The UH's position has been and continues to be that they, instead of the BLNR can prepare the CMP. This is erroneous. The UH prepared their "Plan" anyways, but it was neither "comprehensive" nor a "management plan." It was incomplete omitting



entire sections and failed to provide a cumulative impact evaluation on the resources by further development - the very issue it was supposed to decide. How many telescopes will be located on the summit and where, and at what cost? Not the plan Judge Hara (Third Circuit) ordered.

#### **UH "Plan" not approved**

Second, while the UH did present their "Plan" to the BLNR, the BLNR agreed it was not comprehensive. The UH "Plan" was NOT approved by the Board of Land and Natural Resources in April, 2009. Environmental and Native Hawaiian groups requested a contested case hearing. When a request is submitted, no decision may be made until the hearing is finished. A judge can not decide a case before the evidence is submitted.

Third, while the state is still determining if they will grant a Contested Case Hearing, even if they do not grant the hearing the UH Plan will be challenged by us directly in to the court, because it has provisions that conflict with the state constitution including those that protect environmental and Native Hawaiian rights.

Four, the TMT DEIS may not rely on a document that does not exist to claim the Project "would not result in adverse impact."

#### **The UH Master Plan 2000**

The TMT DEIS repeatedly cites to and relies on the UH Master Plan 2000 (MP2000). This document was never approved by BLNR and therefore has no force or effect of law. Judge Hara of the Third Circuit court affirmed this, stating in relevant part,

The Board of Regents did adopt a management plan for Mauna Kea in the year 2000. The Regents' management plan was not, however adopted by BLNR. It is clear from the context of the terms of HAR chapter 13-5, that the "management plan" as defined therein as required in order to permit R-3 use is one that must be adopted by the BLNR...The court concludes as a matter of law in construing the requirement of a "management plan" as required by HAR 13-5-24 R-3 that the UH submitted for the project

(NOTE: UH submitted a second plan also) is one that does not meet the requirements of HAR 13-5.

(note added, see Mauna Kea Anaina Hou *et al.*, Civil No. 4-1-397, 2006, p. 4-8)

The Astronomy Precinct, the Office of Mauna Kea Management and other UH functionalities are established in the MP2000, which has no force or effect of law. While the UH may make rules and plans governing themselves (for the observatories), they do not have the constitutional and statutory mandate to oversee the Conservation District land. The UH is only renting the land, and a renter does not direct the landlord. The State is the land lord and holds all these lands (as Ceded and Conservation lands) in trust for the people of Hawai'i (specifically Native Hawaiians and the general public). Furthermore, the UH's lease requires the UH to comply with *all* state law, including the constitution.

The TMT DEIS may not rely on documents to evaluate the environmental impacts that have no force or effect of law.

### **Cumulative Impact**

The TMT DEIS fails to adequately analyze cumulative impact the environmental and cultural resource of Mauna Kea.

First, on page S-6 the TMT DEIS contends, "The Project would not significantly increase or reduce the existing level of cumulative impacts due to all past and present activities, which in some cases is significant." On page 3-193, however, the DEIS states the opposite, "...the impact of past, present and the Project together with other reasonable foreseeable future actions on cultural resources is substantial, adverse and significant." The above statements are contradictory.

Second, the Executive Summary should contain accurate information regarding the cumulative impact the Project will have on the cultural resources, especially since decision makers with time constraints may get through the

summary as opposed to the entire document. Decision maker cannot make informed decisions without all of the necessary information.

Third, while the document acknowledges the Project will have substantial, adverse and significant impacts, it does not adequately describe all the impacts outlined in our scoping comments and cultural impact statement comments. (see below for more details on cultural and environmental impacts not considered in this DEIS).

Lastly, the cumulative impact assessment is not correct. The U.S. District Court (Hawai'i) explains more on Cumulative Impact,

"Cumulative impact" is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from other individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. NASA's cumulative impacts section, which takes up only three pages in the 125-page EA, does not include an appropriate analysis. First, although the EA recognizes that cumulative impacts "refer to the incremental environmental impact of the action when added to other 'past, present, and reasonably foreseeable future actions, regardless of what agency . . . or person undertakes such other actions,'" the cumulative impacts analysis section omits any mention or consideration of the effects of past actions. See EA at 123-25 (citing 40 C.F.R. § 1508.7).

(OHA v. NASA, Civil No. 02-00227 (SOM/BMK), 2003, p. 20-21)

And,

NASA's own contentions regarding the EA's discussion of cumulative effects suggest that NASA misunderstands the nature of the "cumulative impact analysis" required under NEPA. For instance, NASA contends that "[t]he EA presents a clear snapshot of past, present, and future activities," ... The cumulative impact analysis, however, requires more than a "snapshot" or mere description of past activities or existing environmental conditions. Rather, the EA must should analyze the effects of those activities. No such analysis is to be found in the EA. The EA focuses instead on existing conditions only to address the incremental impact of the outrigger telescopes project. See NASA Opp. at 40 (stating that the EA "reviews existing traffic levels, power usage, socioeconomic conditions

and addresses impacts from the Outrigger Telescopes Project in conjunction with these current conditions” and that the EA “reviews the impact of the Outrigger Telescopes on existing viewsapes through comparison to the current landscape”). The EA, however, should take into account more than the incremental change “in comparison to” the current environment, regardless of whether past changes in the environment are attributable to the agency or not. *Id.*, p. 25-26

### **Impacts to Mauna Kea**

Mauna Kea's cultural and religious significance is well documented in oral and written historical archives, as well as in legislative and court records. Stating and/or discussing its significance of Mauna Kea to the Hawaiian people, does not qualify as assessing negative impact, nor does it qualify as mitigation.

Mauna Kea is revered in the same way that other religions revere their churches, temples, synagogues, and mosques. The upper regions of Mauna Kea reside in Wao Akua, the realm of the Akua-Creator. It is considered the Temple of the Supreme Being, and also home of Na Akua (the Divine Deities), Na 'Aumakua (the Divine Ancestors), and the meeting place of Papa (Earth Mother) and Wakea (Sky Father) who are considered the progenitors of the Hawaiian People. Mauna Kea, it is said, is where the Sky and Earth separated to form the Great-Expanse-of-Space and the Heavenly Realms. Mauna Kea in every respect represents the zenith of the Native Hawaiian people's ancestral ties to Creation itself.

Mauna Kea, as a Wahi Kapu, is dedicated to life, peace, and Aloha. Anything that is contrary to these mandates impacts the temple and those who worship there. While the Hawaiian (and Polynesian) people's relationship with Mauna Kea dates back many millennia, the Mauna is used by many people today for spiritual practices and recreational enjoyment. What happens to the land and life forms of Mauna Kea impacts us all.

The Mauna Kea protects all life big and small. When a species becomes extinct, it sets the process of creation unraveling. This impacts our relationship to all living things and our relationships with Akua, Na Akua and Na `Aumakua.

#### **Cultural Impacts not evaluated**

The historic properties that are of importance to Native Hawaiians and possess traditional cultural significance derived from associated cultural practices and beliefs (i.e. Traditional and Cultural Properties) of Mauna Kea include but are not limited to the following:

- 1. The summit region from approximately 6,000 feet elevation to the Kukahau`ula (summit), including burial and burial complexes.**

The TMT DEIS inaccurately evaluated impacts on the ritual landscape and burial complexes of Mauna Kea.

The cluster of pu`u (cinder cones) forming the Summit of Mauna Kea have been identified by the State Historic Preservation Division ("SHPD") of the Department of Land and Natural Resources ("DLNR") as a **Historic Property** and the **summit region of including most of the Mauna Kea Science Reserve has been identified by SHPD as a Historic District**. Both Historic Properties are eligible for listing on the National Historic Register.

Generally a historic district is defined as a historic property that "...possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. The Mauna Kea Summit as a "cultural landscape" has been determined eligible for the National and State Register of Historic Places under multiple criteria including cultural significance to the native Hawaiian People (cf. letter of D. Hibbard to R. Evans, September 12, 1991). As a result, archaeologists with DLNR-SHPD have referred the summit region of Mauna Kea as a "ritual landscape," with all of the individual parts contributing to the integrity of the whole summit region. (pers. comm. P. McCoy and H. McEldowney; Group 70 meetings of September 10, 1998). *Id* Citing McCoy and McEldowney).

The historic district of Mauna Kea incorporates virtually the entire Science Reserve area, and the Natural Area Reserve. The largest of the three traditional and cultural properties, 'Kukahau`ula refers to the cluster of three pu`u that merge and collectively make up the summit of Mauna Kea...The second property, 'Waiiau' refers to the small lake and adjacent pu`u situated southwest of the summit and within the Natural Area Reserve. The third property, 'Lilinoe' refers to a pu`u situated southeast of the summit and within the Science Reserve.

**2. Many of the Pu`u [cinder cones], associated burials and kinolau;**

The TMT DEIS fails to address the cumulative impacts to the kinolau (bodily forms of the deities) such those impact to the image of Poliahu seen from the east side of the island.

**3. View plane (including mauka-makai and makai-mauka view planes)**

The TMT DEIS fails to address the cumulative impacts of the practitioners view planes at the summit looking outward (makai-mauka).

The view plans (view scapes) cannot only be evaluated from sea level looking up. The impacts include the practitioners view planes which are view from t Mauna Kea to the sea, to the other islands and to the night sky.

**4. Mountain landscape in navigational traditions;**

The TMT DEIS, fails to evaluate the cumulative impacts on the ritual landscape including impact son solstice, equinox ceremonies and other ceremonies relating to navigation.

We wish also to state our objections to the TMT DEIS hearing presentations. The TMT hired people to give a presentation suggesting that modern astronomy is nothing more than and extension of what our ancestors accomplished. This is an unreasonable assertion. The two disciplines may not be reasonable compared; it is like comparing apples and oranges. Our ancestors may not have done what Plato did, but what they did accomplish was amazing. It is righteous to give credit where it is due.

The presentation is based on a book written about our past King, whom supported the construction of a small telescope in Honolulu. Unfortunately the book also claims, the King supported it because it would help prove to the Hawaiian people the earth was round. The

Hawaiian people certainly understood the earth was round- traditional knowledge dating back to before the time of Christ. They understood this because they could not have navigated and peopled 10 million square miles of the oceans and tiny islands without having known this.

The Kupuna (ancestors) understood this because they had identified a celestial equator, using knowledge kept in the traditions (and family mo`oleo) of Mauna Kea, which made the TMT presentations even more egregious. What our Kupuna (ancestors) accomplished was important to Polynesia but is also to the world, contributing to the global knowledge base. The Kupuna should be properly credited for this. Mauna Kea is the land of our history and knowledge—and it requires maximum protection.

#### **5. Lake Waiau and adjacent cinder cone;**

The TMT DEIS did not adequately address hydrology, hazardous materials and sewage treatment and their impacts to the lake, and the collection of water, ice and snow collected from Mauna Kea for healing, ritual and other ceremonies.

TMT must consider and evaluate the impacts from the use, storage and handling of hazardous materials, and sewage upon the Mauna Kea aquifer system (water shed lands of Mauna Kea). Mauna Kea is the principle aquifer and water shed for Hawai`i Island.

The waters, ice and snow collected from Mauna Kea are used for Native Hawaiian healing and other ritual and ceremony. There is serious concern also for the protection of the waters of Lake Waiau, and the other Pu`u (cinder cones) that also pool water. The Lake is a Traditional Cultural Property, and is home to deities. Waters are harvested from Lake Waiau, and other pooling waters.

During the NASA EIS process, copies of the over 10,000 Material Safety Data Sheets (MSDS) we received by subpoena in the State CCH. The TMT must consider the impacts of these hazardous materials on the TCP and associated Native Hawaiian practices (i.e. collection of snow, ice and snow) and should also consider the watershed conditions after thirty years of sewage and hazardous material release into the ground of Mauna Kea.

According to the Material Safety Data Sheets ("MSDS") received, the following Observatory/Telescope Facilities were found to use "elemental" mercury. The University Of Hawai`i 88 inch or 2.2 meter Observatory ("UH88") (Exhibit F-64), The Canada-France-Hawaii

Telescope ("CFHT") (Exhibit F-62), The William M. Keck Observatory I and II ("WMKO") (Exhibit F-61), The NASA Infrared Telescope Facility ("IRTF") (Exhibit F-60), and The United Kingdom Infrared Telescope ("UKIRT").

There have been 3 Mercury spills reported at the William M Keck Telescope. August 10, 1995, September 15, 1995, and November 6, 1995. There have been 7 recorded spills from other facilities over the years.

The Hazardous materials listed below were found to be stored and used at the Observatories/Telescope Facilities they include but are not limited to, the following:

Hydrochloric-Acid (Note: not listed in JCMT Exhibit F-66)

Potassium Hydroxide

Hydraulic, Motor, and Lubricating Oils

Pesticides

Insecticides

Calcium Carbonate

Sulfuric Acid

Diesel, Jet Fuel, and Unleaded Gasoline

Ethylene Glycol

Kerosene

Methyl Ethel Keytone

Toluene

Paints, Thinners and Solvents

Rust Treatments and Inhibitors

Carbon Disulfide

Elemental Mercury (Note: used or stored in amounts beyond that contained in a household thermometer.

Carbon disulfide is currently listed in WMKO MSDS.

Five Telescopes indicated that they stored and used elemental mercury in the amount beyond that stored in a thermometer.

#### **6. Numerous Trail systems.**

The TME DEIS did not adequately address the cumulative impact on the trail systems of the Mauna Kea, still used today.

#### **7. Snow, ice and water as kinolau -- bodily forms of the deities**

The TMT DEIS did not adequately address the cumulative impacts on the bodily forms of deities (water, ice, snow etc.) with sewage, and or toxic spills.



## 8. Wekiu Bug and other rare, threatened and endangered species

The TMT did not adequately address the cumulative Impacts on the rare, threatened and endangered species of Mauna Kea. As stated previously Mauna Kea represents life, peace and Aloha. The life forms of Mauna Kea are to be protected. The Wekiu bug mitigation measures offered in the TMT DEIS (i.e. destroying habitat, and creating artificial habitat, hoping the bugs will survive) is untested and not based in science. It is equivalent to the Center for Disease Control providing untested vaccines, so that if the vaccine does not work and people die, they will know it does not work.

## 9. Cultural and Socio-economic impacts

The TMT DEIS does not adequately evaluate the social impacts that disproportionately impact Native Hawaiian health, safety and welfare.

There are over 93 Astronomical Observatories and Observatory complexes around the world in which to do world class astronomy. Mauna Kea is already considered a world premier site for astronomy work, and houses the largest and most advanced observatories in the world. However, **TMT must consider that Mauna Kea represents the only place on earth where the special and unique Native Hawaiian ritual and ceremonies are conducted.** TMT must consider the impacts to the Native Hawaiian Communities cultural and religious practices. The TMT must also consider the socio-economic impacts this project will have on the Hawaiian Community. Health reports establish that there are approximately 6000 pure blooded Hawaiian people left in the world today, and their projected survival is only to 2044. Health statistic also indicate approximately 54% of native Hawaiian people (those with 50% or more blood), make less than \$9000 dollars per year.

## Mitigating Impacts to the Environment— not a ballot question

We wish the recorded to reflect, that giving scholarships (or establishing a pipeline program) do not mitigate the impacts on the landscape, environmental and cultural resources of Mauna Kea. NEPA is about protecting the environment. Giving to underprivileged communities is a good thing, but the gifts should not have strings attached. We were shocked to see young adults and children at the EIS hearings (in the news paper) wearing buttons, tee-shirts and holding signs that read, "YES TO THE EIS". The environmental review process is for establishing impact to the environment; collecting and recording comments—it is **not a ballot question**. You should support the children, not use to further your own political agenda— this is not pono.

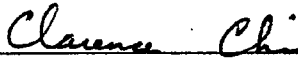
In Aloha we remain,

DATED: July 7, 2009

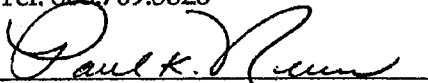
TMT Draft EIS Comments,  
Submitted via electronic mail and U.S. Postal Service Certified-Return Receipt,  
Post marked July 7, 2009



Kealoha Piscioffa, President  
Mauna Kea Anaina Hou  
P.O. Box 5864  
Hilo, Hawai'i 96720  
Tel: 808.968.7660



Clarence Kukauakahi Ching  
64-823 Mamalahoa Hwy  
Kamuela, Hawai'i 96743  
Tel: 808.769.3828



Paul K. Neves, Ali'i Aimoku  
The Royal Order of Kamehameha I, Moku O Mamalahoa, Heiau Mamalahoa  
Helu `Elua  
381 Nahale-a Avenue  
Hilo, Hawai'i 96720  
Tel: 808. 935.9656