



University of Hawai'i at Hilo

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**Minutes  
Regular Meeting**

Mauna Kea Management Board  
Wednesday, May 19, 2010

‘Imiloa Astronomy Center  
Moana Hoku Hall  
600 ‘Imiloa Place  
Hilo, Hawaii 96720

**Attending**

**MKMB:** Chair Barry Taniguchi, 2<sup>nd</sup> Vice Chair/Secretary Ron Terry, John Cross, Lisa Hadway, Herring Kalua, and Christian Veillet

**BOR:** Dennis Hirota and Eric Martinson

**Kahu Kū Mauna:** Ed Stevens

**OMKM:** Stephanie Nagata and Dawn Pamarang

**Others:** Robert Albarson, Jim Albertini, Laura Aquino, Dean Au, Madeline Balo-Keawe, Sean Bassle-Kukonu, David Byrne, Rob Christensen, Gregory Chun, Nan Chun, Vaughn Cook, Sandra Dawson, Donn delaCruz, Gerald DeMello, Richard Dods, Suzanne Frayser, Paul Gillett, MRC Greenwood, Richard Ha, Katherine Hall, Cory Harden, Inge Heyer, Clyde Higashi, Nelson Ho, Arthur Hoke, Jacqui Hoover, Stewart Hunter, Stew Hussey, Leslie Isemoto, Mark Ishii, Paul Kagawa, Mike Kaleikini, Ka'iu Kimura, Kyle Kinoshita, Ron Koehler, Randy Kurohara, Susan Law, Tim Law, Karina Leasure, Jonathan Lee, Pete Lindsey, George Martin, Tani Matsubara, Jeff Melrose, Jon Miyata, Delbert Nishimoto, Eugene Nishimura, James Nixon, Cynthia Nomura, Alton Nosaka, Derek Oshita, Tom Peek, Koa Rice, Helen Rogers, Skylark Rossetti, Gary Sanders, Ian Sandison, Bill Stormont, Leonard Tanaka, Rose Tseng, Ross Watson II, Josh Williams, Ross Wilson, Greg Wines, Harry Yada, Mason Yamaki, Miles Yoshioka

**I. CALL TO ORDER**

Chair Taniguchi called the meeting of the Mauna Kea Management Board (MKMB) to order at 9:03 a.m.

**II. APPROVAL OF MINUTES**

Upon motion by Herring Kalua and seconded by Ron Terry the minutes of the April 21, 2010 meeting of the MKMB were unanimously approved.

Upon motion by Christian Veillet and seconded by Herring Kalua the minutes of the April 21, 2010 Executive Session were unanimously approved.

**III. INTERIM DIRECTOR'S REPORT**

**A. Mauna Kea Rangers' Meeting**

A meeting was held with the rangers on May 4, 2010, to get feedback from the rangers and to discuss operations concerns. Ranger meetings will be held quarterly. The next meeting is scheduled for September.

## **B. Administrative Rules**

Interim Director Nagata met with attorneys who will assist the Office with legal background on the development of rules, including a review of all administrative rules related to public access. They will also be looking at how to set up administrative procedures for the handling of fines. The plan is to go out into the community with background information, suggested ideas, and options for rules and get feedback before we develop formal rules.

## **C. Thirty-Meter Telescope Final Environmental Impact Statement**

The Thirty-Meter Telescope (TMT) Final Environmental Impact Statement (FEIS) was filed with the Office of Environmental Quality Control (OEQC) and published in the May 8<sup>th</sup> Environmental Bulletin. We are waiting for the governor's final approval.

## **D. Mauna Kea Observatories Support Services**

Mr. Stewart Hunter is the new general manager of Mauna Kea Observatories Support Services (MKSS). Today marks his first day on the job. He will officially assume the duties of general manager on June 1. Mr. Hunter brings a very wide range of talent and experience to the position, and enthusiasm for the job, for the mountain and for the Hawai'i Island community.

Ron Koehler was acknowledged for his 22 years of dedicated service to MKSS. He has been very instrumental in helping the Office establish its ranger program. Over the years he provided OMKM with wise counsel and advice.

## **IV. KAHU KŪ MAUNA COUNCIL (KKMC)**

Ed Stevens reported the Council is presently working on updating and revising their guidelines, which will be presented to the Board for approval at a later date.

## **V. OLD BUSINESS**

### **A. Thirty-Meter Telescope Project**

#### Chancellor Tseng

Chancellor Rose Tseng gave a short summary of UH's review of the TMT project. She noted that TMT is the first new project to go through the Master Plan process including the design review process which ensures that the project conforms to the Master Plan's guidelines. In addition, TMT is the first project to be guided by the Comprehensive Management Plan and the four recently-approved sub plans.

#### Thirty-Meter Telescope Presentation

Gary Sanders, project manager for the Thirty-Meter Telescope provided a short description of the TMT organization and the science of TMT, including the light gathering capacity of its mirror, and how much faster it will be able to gather light for certain types of studies.

#### Thirty-Meter Telescope Project Overview

Interim Director Nagata presented the TMT project to the Board for consideration in determining whether to recommend approval of this project to the UH Hilo Chancellor. She provided a summary of: 1) the Master Plan's project review process and design guidelines; 2) design of TMT's telescope enclosure and summit support facility; and 3) TMT Final Environmental Impact Statement (FEIS), including impacts and mitigation measures.

#### DLNR Permit/Approval

If MKMB recommends approval, and the BOR grants final approval, a Conservation District Use Application shall be submitted to DLNR seeking a BLNR permit.

#### OMKM'S Recommendations

OMKM proposes that the Board recommends to the Chancellor of UH Hilo that she submit a recommendation to the President and the BOR to approve this project. OMKM's recommendation is based on the following:

- The design of the TMT facility follows the design guidelines described in the 2000 Master Plan.
- TMT listened and incorporated suggestions and recommendations made by the design review committee and MKMB which included the incorporation of the support structure and fixed enclosure into their surroundings to create a more natural look to the site as much as possible.
- TMT is trying to minimize site disturbance by orienting the building's long axis with the existing contours of the site.

- The project will be utilizing existing roads and infrastructure during construction and during operations.
- The facility is located at a lower elevation off the summit proper reducing overall visibility.
- Plans call for using existing roads and infrastructure as much as possible.
- The spherical structure gives the smallest possible building size to enclose the telescope helping to minimize visual impacts.
- The proposed use of a metallic aluminum color for the dome also helps to minimize visual impact.
- The Calotte style dome minimizes the enclosed volume resulting in greater energy efficiency.
- There are no archaeological features on or near the proposed site; there is a 200 foot buffer from the nearest archaeological site.
- The site and surrounding area are not considered good wēkiu bug habitat; impact to wēkiu bug habitat is limited to approximately 0.2 acres of 2,612 acres of total known habitat along the access road leading to the site.
- There are no unique or prime geologic features in the disturbance area.
- TMT has conducted a thorough review of the impacts of construction and operations and will be implementing numerous measures to mitigate those impacts, in particular to the cultural and natural resources.
- The FEIS incorporates measures contained in the CMP and four sub plans.
- TMT is committed to carrying out the decommissioning process described in the Decommissioning Plan.
- Although sublease terms have yet to be negotiated, it is anticipated that TMT will commit to paying rent, (which will be part of their sublease agreement) which will amount to a large portion of OMKM's budget.
- This new payment of sublease rent will be the first from an observatory and is in keeping with the community's belief that the users of Mauna Kea should contribute towards the management of the mountain.

OMKM's reservations:

OMKM's recommendations come with reservations:

- The final path of the access road has not yet been determined.
- How do we hold TMT accountable for the commitments made in their FEIS? BLNR has the authority to set and enforce conditions in its permits. UH does not have the authority to enforce compliance with TMT's stated commitments.
- UH and TMT have yet to negotiate the terms for the sublease. Will the negotiations result in funding that OMKM can use to implement management actions to protect the resources and to address issues related to cumulative impact?

Conditions

OMKM recommends the following conditions:

1. That the TMT and BOR negotiate in good faith to secure substantial funding in the form of sublease rent that shall be applied specifically for management of the mountain.
2. A Conservation District Use Application shall not be filed with DLNR until the FEIS has been accepted by the Governor.

3. TMT and contractors shall adhere to the mitigations measures in the FEIS.
4. TMT and UH should enter into a binding agreement whereby TMT agrees to comply with the mitigation measures described in the FEIS. Failure to comply shall result in an agreed upon penalty.
5. TMT shall hire a monitor during the construction period who shall report directly to OMKM. This person shall monitor and report on oversight and compliance of FEIS mitigation measures.
6. Schedule a meeting with representatives of the contractor(s) and OMKM to review the project process, schedule, and mitigation measures and conditions prior to commencement of any work activities.
7. Provide OMKM with a construction activity schedule including revisions and updates.
8. Notify OMKM when it will commence summit construction activities.
9. Provide OMKM with the names and contact of the contractor, sub contractors, cultural observer and archeologist.
10. In the event that actions must be taken that are beyond what is described in the project and/or schedule, TMT will first notify and consult with OMKM, and if necessary may require consultation with DLNR before proceeding.
11. In the event it is deemed necessary to use off-site fill material, TMT and/or contractor(s) must notify and consult with OMKM. OMKM must approve the method for cleaning the material before it is transported to the project site.
12. Allow OMKM rangers to visit and monitor construction activities.
13. Notify OMKM of completion of the project.

#### Statement by Kahu Kū Mauna Council

Ed Stevens stated the Kahu Kū Mauna Council stands against any construction project that brings substantive impact to the summit of Mauna Kea. As such, they have strong reservations about the TMT project being planned for the North Plateau. After considerable deliberations, they find that their reservations are not sufficient to stand against the project, and they are in agreement that the leaders of the TMT project have demonstrated intentions of responsible tenancy that strives to meet the standards established by the Office of Mauna Kea Management, therefore making their proposal less objectionable to the Council.

As the Hawaiian advisory council to the Office, the Mauna Kea Management Board, and UH Hilo they support the responsible stewardship of Mauna Kea and the policies that lead to a system of best management practice. Kahu Kū Mauna encourages collaboration and the sharing of resources among the tenants, the eventual decommissioning and removal of all observatories, and the complete restoration of the summit of Mauna Kea.

#### Statement by University of Hawaii President M.R.C. Greenwood

President Greenwood thanked OMKM, UH Hilo Chancellor and others for their intense hard work with the Comprehensive Management Plan and sub plans process during this past year, and helping to get to the point where the FEIS for this particular project is now.

President Greenwood announced she received a letter yesterday from Henry Yang, chairman of the TMT Board, committing to ensuring that we have a good sublease and that substantial resources will be committed to the OMKM. President Greenwood stated the University is also committed to a good outcome and one that is supportive of the future of the mountain. She is looking forward to the successful completion of those negotiations which will insure preserving the cultural and extraordinary resources on Mauna Kea.

#### Public Testimonies

Thirteen (13) provided oral testimony supporting the TMT project, five (5) testified against; and one (1) submitted written testimony in support of TMT. (See attached.)

## **B. Executive Session**

Chair Taniguchi asked for a motion to enter into executive session to discuss issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities pursuant to HRS §92-5(a)(4). It was moved by Ron Terry and seconded by Herring Kalua to enter into executive session. Upon unanimous approval, the executive session commenced at 11:35 a.m.

The Board reconvened in public session at 12:10 p.m.

## **C. Approval of Thirty-Meter Telescope Project**

### Action

It was moved by Herring Kalua and seconded by John Cross to recommend approval of the TMT project to the UH Hilo Chancellor including conditions as recommended in the interim director's report.

### Discussion

Dr. Terry stated he read the FEIS, spoke with many, and listened. He knows there is a sincere and dedicated group who believe the TMT is a sacrilege and a severe environmental risk. He respects their opinions and learned tremendously from their comments. However, most of them also believe that OMKM and MKMB have been inappropriately given the responsibility of managing the mountain. These parties intend to litigate and their issues will be dealt with in the appropriate forum.

Most of the people he spoke with support the project, with or without reservations. They speak of the benefit to science, education, the local economy, our social richness, and the charitable causes that will be supported. However, many of them still have a number of misgivings.

In considering whether to recommend approval of the TMT, he tried to balance several factors:

- The need to preserve the natural and cultural resources on Mauna Kea.
- The need to continue a vital, cutting-edge astronomy program for the advancement of science, the university, and our students.
- The opportunity to provide income and jobs for our island's businesses and its people.

The impact on the mountain weighs the heaviest for Dr. Terry. His ability to assess impacts is really focused more on natural resources. For cultural resources, he has to rely on someone whose judgment he can trust without a shred of doubt, or he must again try to weigh all the arguments and opinions he hears, which is very difficult. Therefore, his focus is mostly on natural resources.

In general, he finds that TMT listened to the requests of both cultural guardians and those concerned with the scenic impact of the "whiteheads" on the mountain and has focused activity off the summit area. This, of course, leads to causing disturbance in another area of the mountain that was heretofore pristine.

He cautions that although our assessment of the unique biology of the summit is still incomplete, he agrees with the FEIS contention that the area chosen appears to lack significant individual resources such as unique geology, rare species, or potential habitat.

If this project is built – and the Board's approval is simply one of the many steps necessary to make that happen – we will need to redouble our management efforts to preserve the quality and essential character of this resource. This will require money. The UH has repeatedly committed itself to funding our management efforts, and we must be diligent about demanding adequate resources.

An eventual direct source for funding will be lease rents from observatories, which heretofore have been paid mostly in observing time. OMKM and MKMB must be partners at the table for all negotiations on lease rent. Inadequate management of the mountain is not really a TMT problem, nor is it an astronomy problem, but their dollars must be brought to bear in a new paradigm that places the resources first. Eventually, if observatories want to stay, they will be asked to play by the same rules. He understands that Act 132 requires that lease rents must be negotiated in public. He appreciates TMT's letter to Dr. Greenwood stating that they understand their obligation.

He appreciated the report provided by the interim director and for ensuring that the Board was provided with the changes between the pre-final EIS and what was submitted. She has gone above and beyond what normally is

provided to advisory boards. He particularly appreciated the discussion of reservations and recommended conditions. He would like to refine some of these conditions if the Board approves.

Dr. Terry refined some of the conditions recommended by the Office:

First, he suggests that MKMB actually vote on whether to approve the lease terms. Although this vote will have no legal force at least it will provide to the people of the Big Island an expression of whether the Board thinks the lease is fair and provides appropriate protection to the mountain. He recommended adding to Condition 1: *MKMB will have the opportunity to vote on whether to approve the sublease conditions.*

Secondly, a construction monitor is a standard practice in large construction projects. He recommended amending Condition 4: *TMT shall develop, and OMKM shall approve, a mitigation document that is the functional equivalent of a federal Record of Decision (ROD), along with a contractor checklist, to assist in monitoring mitigation.*

And lastly, at the end of Condition 10, add: *OMKM shall provide periodic reports to MKMB on the satisfaction of mitigation conditions along with any modifications or violations.*

Christian Veillet stated that he agreed with most of what was said in public testimony. He does not see clear reasons for or against the TMT project. There are many reasons to be in favor of TMT, but also there are some things that make him uncomfortable. As an astronomer he acknowledges the need for bigger telescopes and is excited about TMT's science, but it could be done somewhere else. As a community member he feels there are a lot of benefits with the TMT project. He is also a spiritual person, and this is where he has most of his issues with Mauna Kea because it is very special to him. In the end, it is a judgment call, so he is supporting the TMT and putting his trust in those behind the TMT project and trust in UH to do things properly. Trust has been an issue for astronomy on this island.

#### Action

Herring Kalua accepted the changes recommended by Dr. Terry. Chair Taniguchi stated the motion now is to recommend to the UH Hilo Chancellor that she submit our recommendation to the president and the Board of Regents to approve this project subject to the conditions recommended by OMKM and modified by Dr. Ron Terry.

Board members voted in favor with no one opposing.

#### **VI. ANNOUNCEMENTS**

There were no announcements.

#### **VII. NEXT MEETING**

The next meeting is tentatively scheduled for Wednesday, June 16, 2010.

#### **VIII. ADJOURNMENT**

There being no further business, Chair Taniguchi adjourned the meeting at 12:30 p.m.

Respectfully submitted:

Signed by Dr. Ron Terry

7/14/10

\_\_\_\_\_  
Dr. Ron Terry, Secretary, MKMB

\_\_\_\_\_  
Date

### Public Testimony

Richard Ha stated his first impression of Henry Yang was this is a person you could do business with on a hand shake and not have to watch your back. Over this period of time, Henry Yang kept his word. TMT has committed to a million dollar education fund for the keiki. If the process is set up right, then we would end up with the best possible result. If that is the case, we need to aloha everybody who participated in the process no matter on what side of the issue. We would not be here today had it not been for their passionate advocacy. On the Big Island, we are doing it differently. Our approach is based on mutual respect, collaboration, and trust. It would not have worked any other way.

Jon Miyata, vice president with HPM Building Supply testified in support of the TMT. The TMT is committed to this island and is a welcomed partner. They are committed to help develop science, technology, engineering, and math proficiencies throughout Hawaii, and many of our students have already benefited from their generosity. TMT will also contribute one million dollars a year to help prepare our children for the challenges ahead and to become productive members of our society. The TMT will also generate many needed jobs. This project is extremely important as this will help to further diversify and grow our economy and will provide our children with the opportunity to utilize their scientific and technical talents without having to leave the island.

Vaughn Cook testified in favor of the TMT project on behalf of the Hawaii Island Chamber of Commerce where he is currently the treasurer and board member. This project will benefit not only business owners and workers, but also bring significant tangible and intangible benefits to our community. Beyond the direct positive economic impact of the TMT project, it will bring renewed excitement to the science and astronomy community locally and around the world. TMT will inspire educational excellence and generate much needed jobs.

Jacqui Hoover, executive director for the Hawaii Island Economic Development Board and also president of the Hawaii Leeward Planning Conference, spoke on behalf of two things. One is The Hawaii Island New Knowledge (THINK) million dollars per annum community benefits program that the TMT Corporation is putting together. Through THINK grants, scholarships, internships, workforce development and other programs committed to our community will be put in place. In addition, TMT has helped support the Akamai summer internship program for community college and university students. TMT Corporation quietly, but effectively, helped three workshops in our community. One on workforce development; another on renewable and efficiency of energy; and the third to bring architects, engineers, and other construction industry individuals together to have a discussion about planning, designing, engineering, and building their headquarters. The second issue is a personal one. TMT comes to us at the right time and the right place. Please allow us to give options to our children beyond agriculture, beyond tourism – both great industries and both honorable ways to make a living, but please allow us to give our children additional options.

Tom Peek, who was an early guide for the Mauna Kea observatories, has watched this land use conflict mushroom since 1988. Giant telescopes like TMT are crucial tools to modern astronomy. But he also believes respect for the island community demands that its beloved mountain deemed by most islanders to be already over industrialized be left alone. Despite the good intentions of some of this board's members, OMKM has long confused its espoused management role with telescope promotion. UH has never really accepted the idea that the mountain's conservation district is over industrialized and that more telescopes will incite additional community conflict as well as damage UH's reputation locally. TMT is the wrong telescope on the wrong mountain at the wrong time built by the wrong people. It is the wrong telescope because it is way too intrusive for an already over industrialized mountain. To propose yet another observatory, especially of monster size like TMT, at this time shows lack of respect for the local community by Cal Tech, UC and now UH. It is the wrong mountain. Mauna Kea is a conservation district and not an enterprise zone for development. It is also the wrong time after decades of broken promises, bad management, disingenuous hearings and well documented environmental and cultural damage. The reason that most people who show up at these OMKM meetings are from the construction industry and the utilities is because the broader public knows that their words have been ignored in the past and will likely be ignored in the future. They also realize that OMKM is as much a promotional arm of UH astronomy as it is a conscientious manager of existing observatories. It is a conflicting concept for this institution. It is the wrong sponsors. Cal Tech and UC have a long record of poisoning astronomy relations on the Big Island. Approving of yet another giant facility will only further antagonize the Big Island community and force litigation, civil disobedience, and a growing unwelcome feeling toward astronomers in general. It is not too late to avoid all of that. UH should drop its TMT ambitions and UC and Cal Tech should take their observatory to their more

environmentally acceptable sight in Chile where it can do its important science without antagonizing the people of Hawaii.

Stew Hussey, member of the Hawaii Island Chamber Board of Directors, president-elect of the Rotary Club of Hilo, and owner of an appraisal company strongly endorses the efforts of the Board and University to go forward with the project. He is impressed with the conflict resolution which has been clearly evident and the unique cooperation between very diverse perspectives of scientific, cultural, and religious concerns. He compliments the Board and the University for a job well done and strongly supports the TMT efforts.

Cory Harden, speaking as an individual, stated the mountain experience she could have had is gone. The top of the mountain is gone to telescopes. She is glad to see some movement toward more protection of the mountain, discussions of fair market rent, decommissioning, many measures taken to minimize impacts, and the education fund. She supports astronomy, but does not see how astronomy is allowed to take over this unique mountain of Mauna Kea. She has attended the Board meetings for years now and has seen many presentations, but it is always about telescopes. She has not heard about people coming in doing their chants for Mauna Kea describing the legends, the background, or the significance. Ms. Harden made a few comments on the EIS. TMT says no federal EIS is required even if federal funds are used later for civilian or military use. TMT says the Board of Land and Natural Resources denied the request for a contested case hearing on the management plan since requestors did not establish a property interest in the CMP. TMT did not do a side-by-side comparison of the Chile and Hawaii sites. We are hearing mostly about UH, but we are not hearing about the other major players - University of California and Cal Tech. On many impacts the TMT says since there is already a lot of impacts we are only going to add a little bit, so that is not so bad. The Decommissioning Plan was not available until after the draft EIS was finished so the public did not have a chance to comment. We are losing too much on Mauna Kea. We are giving up too much for what we gained. TMT should go to Chile and the Department of Land and Natural Resources, not UH, should be writing the plan.

Jim Albertini, taro farmer and lifelong peace activist, stated there is more here than monetary concerns and protecting resources. What is important and the primary concern is that of the spiritual, sacredness of life and the earth itself. Throughout this TMT process, the only place the word sacred and spiritual had been mentioned that it impacts is on the Board today. He quoted, "Additional degrading impacts spiritual and sacred quality - cumulative impacts." This whole TMT process has been the most fast tracked for approval even more so than one of the military projects. He is here today in the support of the spiritual, of the native Hawaiian concerns for the sacredness of the mountain. With all due respect to Kahu Kū Mauna, it is time to go beyond reservations. It is time to draw a line in the lava, put the spiritual before monetary concerns. Do not approve this project.

Inge Heyer, chair of the Mauna Kea Observatories Outreach Committee (MKOOC), stated the TMT team has been an integral part of this committee's effort. Even before Mauna Kea was chosen as their site, TMT was engaged in local outreach efforts supporting MKOOC's activities and running many of their own. TMT has stepped up to help projects that are vital to foster science education and science literacy in our schools and community to survive. TMT has made it clear that education, mentoring, and internships are their top priorities. Their actions have shown beyond a doubt that they mean it. Once TMT is operational the education outreach community will benefit from sharing TMT's discoveries. Visualization of TMT's discoveries will greatly add to the student and community understanding of how our universe works. She looks forward to working with the TMT staff on their many educational community efforts in the future.

Dean Au, Hawaii resident on the Big Island for 15 years. Hawaii Carpenters Union Local 745 strongly supports the Thirty Meter Telescope for obvious reasons. TMT will get many of our local workers back to work from construction jobs to building maintenance positions. With over 7,000 members, they are the largest construction union in the state. We currently have 40% of our members out of work. They recognize that TMT is trying to work with everybody and many issues affected by this project. And at the same time, their goal is to build the biggest telescope in the world. Along the way, TMT has built many positive relationships with Hawaii residents. Through science, technology, and education all Hawaii residents will benefit. Hawaii Carpenters Union has a motto which is: Building a better Hawaii. They have faith that TMT is building a better Hawaii. They encourage you to vote in favor of TMT.

Nelson Ho stated the Mauna Kea Management Board is acting like the classic fox guarding the hen house. This body, this meeting, and this decision continue the same old practices that have generated the controversy on

Mauna Kea. Some argue that what Sierra Club complains about is old history. His point to this meeting, your prior meeting, and the DLNR meeting in March as current examples of the bad land use practices that generated this 35 year history of bad policy and land use mismanagement that are unfortunately alive and well. As with the previous attempts by the University of California and Cal Tech to build the Keck sixth outrigger telescopes, they thru the TMT Corporation are again asking the University of Hawaii System to sponsor their telescope, defend their defective logic in the EIS, and pay for the cost of defending their proposal with Hawaii tax payer dollars. The TMT will do irreparable damage to Mauna Kea. If built, the TMT proposal will add to the significant adverse and substantial impacts to the cultural and natural resources of Mauna Kea. The TMT proposal would permanently alter an undeveloped portion of the northern plateau of the summit. The TMT proposal would unleash a whole new era of summit development including even larger telescopes of 50 or 100 meters in size. The TMT approval would set up a paradigm where piecemeal cultural and natural resources protection happens only when development continues. This is a form of extortion. UC and Cal Tech hope to break the 1968 science reserve lease. These alterations of the lease will set a dangerous precedent for the mountain. We may never receive the restoration of a pristine summit. The TMT project, as reflected in the their final EIS which this Board hastily approved after a few days of reviewing, significantly erodes the value of environmental review by diminishing the criteria for assessing the significance of adverse impacts and their potential for halting or fundamentally altering a proposal. TMT's attempts to substitute a community benefits package for payment of fair market lease rents as required by law significantly harms community efforts to address long standing lease rent inequities in the use of conservation lands. Can you break the mold of advisory bodies with no legal powers, with no statutory responsibility for the conservation district? We shall see.

Gregory Chun, director of the Hawaii Island Economic Development Board, testified in support of the TMT project. TMT has demonstrated a different approach to how they want to do business here. He had the opportunity to work on the THINK Fund and their business motto is one that has been much more integrated looking at science, environment, culture, education, community and economics and asking themselves the question of how do we leverage our presence here in all of those areas to benefit the island?" They have not taken the approach of one of their benefits merely trying to mitigate or offset an adverse impact. Another point is we need to move the conversation from astronomy to one of our relationship to the mountain. It has never been about astronomy or any other use of the mountain. It has really been about our relationship to the mountain. That is why we have all of these systems and processes in place to ensure that we manage our relationship to the mountain properly. TMT has demonstrated its commitment to maintain a respectful and responsible relationship to Mauna Kea as evidenced by its compliance to that regulatory process, its willingness to modify its plans, consider other costly options, and in its work with the community. They have demonstrated that they are here to establish a different relationship with people and place. The third point is when considering these projects the conversation has to move from considering environmental footprints to our relational footprint. Who we are and how we conduct ourselves is just as important, if not more important than what we do and what we achieve. A relational footprint is what the community remembers. He is sure TMT has not been perfect, but TMT has demonstrated an integrated holistic sensitive approach to implementing its project. That is a different way of wanting to do business here. He would propose to the board, if we are not ready to accept the project with the demonstrated commitment of working collaboratively in the community, like TMT has, then when will we ever be?

Kyle Kinoshita provided testimony on behalf of his employer W. M. Keck Observatory. They are in support of the Thirty Meter Telescope project coming to Mauna Kea. As an engineer and senior manager at Keck for over 15 years he is aware of the many global scale scientific and technological benefits that a 30 meter class ground base telescope will bring to the Big Island, to the State of Hawaii, and to the United States of America. The TMT is a continuation of the scientific and technical aspirations that many of the existing telescopes on Mauna Kea have strived for. On the technological side, the TMT builds on advances pioneered at Keck Observatory such as the segmented mirror technology pointed out in the earlier presentation. The TMT will also benefit from the unique atmospheric conditions above Mauna Kea. Keck and TMT area already engaged in a number of collaborative and synergistic projects.

Eugene Nishimura, with the Japanese Chamber of Commerce Industry of Hawaii, urged the Board to give positive consideration to TMT's project application. TMT has made unprecedented efforts, outreach, and commitment to our island community for over two years now. TMT has listened and has recognized early on that meaningful ongoing investments in the education of the island's children will be paying huge dividends to our island community for many years to come.

Paul Kagawa shared that we need to look at the original laws set aside for all of us – not just the Native Hawaiian, but non-native too. He proceeded to read a few things from the Hawaiian Homes Commissioner – “Hawaiian Homes Commission Act 1920”. He was raised off cultivation, kalo, fish, opihi, and anything they could get from the resources of their lands. He enjoys astronomy, but we cannot eat stars. We have to cultivate our lands. Education is important, but the other outline is we also are important. He feels the community think Hawaiians hate everybody else because of it. He has been evicted off Hawaiian Homes lands while you guys are trying to put up another telescope on that mountain. All he is saying is to look at the law that gave you the right to be a State of Hawaii. We like that mountain just as much as you, but we cannot say anything because you guys do not come to see my parents, my family, or any of the Native Hawaiian. He really suggests that you look at this 1920 Act. That is who we are.

Koa Rice, subcontracted through Hawaii Island Economic Development Board and working for TMT continuing community outreach into public, private and charter schools testified TMT has shown so much support and interest in our culture and the importance as well as the necessity of education of our students. For the children to hear of Kalakaua and his interest in astronomy, science, and technology and to spark their interest is the greatest joy for me. To be part of this is an honor. We are here today and we are looking to the future of our people and generations to come. We need to take care of the land and the people and believe we can work together toward a common goal.

Leslie Isemoto, first vice president of the Hawaii Island Contractors Association, wholly supports the TMT project and encourages the Board to recommend approval of the project. Even though we as a construction industry would truly benefit from a project like this, the overall economic impact that it would provide to our entire island, state and world would be of great importance to us.

Pete Lindsey, field representative for the Hawaii Construction Laborers’ Union Local 368, testified on behalf of its members in strong support of the TMT final environmental impact statement. TMT has listened to the Big Island community wanting to know our concerns. They made several presentations to the Big Island Labor Alliance and there were good discussions. He has been very happy with the amount of outreach they have made to the Big Island community. The TMT will provide much needed construction jobs and will help to continue to develop the Big Island’s important astronomy sector. With the approval of the Mauna Kea Comprehensive Management Plan, a major step was taken towards ensuring that our Mauna Kea will be protected and properly managed. We humbly ask that the Mauna Kea Management Board approve the Thirty Meter Telescope final environment impact statement.

Written testimony submitted by Art Kimura, educational specialist with the Hawaii Space Grant Consortium. Mr. Kimura felt that TMT would serve as a catalyst for the community, in particular students ,to value the nature of science, of how scientists work and how it takes a team to not only design, build and operate a telescope, but to responsibly address the needs of care for the environment and respecting the unique cultural asset. The Thirty Meter Telescope is the first telescope project to proactively commit substantial annual funding to provide the opportunity for schools and other entities to propose and execute educational projects that have outcomes to address the need for an educated work force so that these students can compete for available employment opportunities. Born and raised on the Big Island, his most vivid memories of his youth were the journeys he and his friends took to the summit of Mauna Kea. There were no roads to the summit, merely a trail to follow, and the summit was without evidence of human impact. Hiking from Hale Pohaku, starting out at 4 a.m. they would reach the summit at mid morning. It was like being in another world. Mauna Kea is a special place, provided that there is respect and responsible care, it can provide a window on the universe and spark new voyages of imagination of our youth and community.