

OFFICE OF MAUNA KEA MANAGEMENT

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Mauna Kea Management Board
Regular Meeting
Tuesday, February 6, 2001
Building 393, Room #1
Hawai'i Community College
1175 Manono Street
Hilo, Hawai'i 96720

Minutes of Regular Meeting

Members Present: Arthur Hoke, Chair; Robert Pacheco, Vice Chair; Barry Taniguchi, 2nd Vice Chair/Secretary; Heather Cole; Dr. James Kennedy; Barbara Robertson; Harry Yada.

Interim OMKM Staff Present: Walter Heen, Director; Moses Haia, Resource Specialist; and Arnold Hiura, Communication/Community Outreach.

Others Present: Ed Stevens, Kahu Ku Mauna; Greg Brenner, Keck Outrigger/Environment; Fred Chaffee, Keck Outrigger; Paul Swanson, Keck Outrigger; Dawna Keala, OHA – Honolulu; Ululani Sherlock, OHA – East Hawai'i; Tom McCulloch, Advisory Council on Historic Preservation; Bob McLaren, IfA; Rick Howard, NASA Headquarters; Deborah Ward, Environmental Committee; Jim Kelley, Keck Outrigger; Kenneth Kumor, NASA Headquarters; Kepa Maly, Cultural Consultant; David Byrne, Mauna Kea Visitor Information Station; Robert Meierdierks; Ron Koehler, MKSS.

I. CALL TO ORDER

Chair Hoke called the Mauna Kea Management Board (MKMB) Meeting to order on February 6, 2001 at 9:31 am.

II. APPROVAL OF MINUTES

It was moved by Ms. Cole and seconded by Dr. Kennedy that the minutes from the January 11, 2001 MKMB Meeting be accepted as circulated. The motion was carried unanimously.

III. OLD BUSINESS

A. Committee Reports
Budget and Kahu Ku Mauna – no reports

Astronomy Education – Dr. Kennedy reported the committee met on January 11, 2001 to discuss organizational issues and to identify and invite people from the education community to join us to give us input. The committee plans a meeting later this month with this larger group.

Environment – Mr. Pacheco reported they are planning a facilitative meeting/workshop on February 24, 2001 to deliberate issues and to establish timetables to get things going. Ms. Cole also reported the committee wanted clarification of the relationship between the committee, the Office of Mauna Kea Management (OMKM) and the MKMB, and whether the committee should be operating under any specific rules. The committee also wondered what authority the committee had, and if none, how much influence would the committee have on decisions that would ultimately be made by the OMKM or the MKMB. These concerns and questions have been brought to the attention of the OMKM Staff and steps are being taken to ensure that all questions and concerns are clearly answered.

Hawaiian Culture – Ms. Robertson reported the committee met on January 23, 2001 for the first time. Views were presented by members and concerns voiced about our responsibility as a Hawaiian Culture to Mauna Kea. The committee attempted to define our responsibilities and to determine possible issues we would face while working on this committee. There were questions and concerns regarding the sacredness of the mountain and the need for more research to be performed of the practices that are occurring on the mountain.

Public Safety – Mr. Yada reported they held a meeting and established a general direction for the committee. Mr. Haia is currently drafting proposed rules and regulations. They also discussed the composition of the committee. John Giffen of DLNR has agreed to serve on the committee and one member of the Kahu Ku Mauna Council will be asked to serve, possibly Reynolds Kamakawiwoole.

IV. NEW BUSINESS

A. NASA / KECK: Informational presentation of the proposed outrigger project.

Introduction of various people involved in this project:

Rick Howard – Sr. Program Executive at the Office of Space Science for NASA in Washington DC; Paul Swanson – Project Manager; Jim Kelley – Deputy Project Manager; Fred Chaffey – Director, Keck Observatories; Greg Brenner – Pacific Analytics, Environmental Consultant with NASA and JPL; Kenneth Kumor – NASA Environmental Planning Coordinator and Federal Preservation Officer; Tom McCulloch – Advisory Council on Historic Preservation; Kepa Maly – Research/Cultural Resources Consultant; and Bob McLaren – Institute for Astronomy.

Mr. Howard began the informational presentation of the proposed outrigger project by explaining how this project fits into NASA's long-term strategic plan.

NASA's Office of Space Science has a long-term goal of trying to answer the very fundamental question, "Are we alone?" NASA is planning a series of missions over the next 10-20 years to try to answer that question. The missions are planned to look for and identify earth-like planets around other stars, to see if they are habitable, and to see if there is life on them. One conceptual space mission presently being planned for launch in 2012 is called the "Terrestrial Planet Finder". This mission consists of 4 separate spacecraft or telescopes, each 4 meters in diameter operating at cryogenic (very cold) temperatures, linked together in space by light beams going between them to act as an interferometer. This interferometer would make the first detection of earth-like planets by measuring the atmosphere of these planets and by looking for traces of gases such as methane, hydrogen and oxygen, signatures that there might be life there. Mr. Howard admitted that we know so little about the solar systems around other stars, and we need to gain more

information about what is out there. This is the reason NASA embarked on building the interferometer on Mauna Kea.

Mr. Howard stated NASA obtained a permit two years ago to establish temporary optics sheds to allow them to test an interferometer on a small scale before actually creating one using the two Keck telescopes. Final tests are now being conducted and when completed in the next week or two, the two Keck telescopes will be joined as their first working interferometer.

Both the Keck telescopes and the proposed outriggers have been a joint project of NASA's Jet Propulsion Lab and CARA. The two Keck telescopes together will allow NASA to start looking for planets as large as Jupiter that are warm, which are referred to as "hot Jupiters" around other star systems. The interferometer will also enable us to explore the type of dust that surrounds these stars where the planets are imbedded. We need to discover how much dust is or may be there. Scientists do not know whether or not our solar system is typical or whether or not it's worse than what is typical. This plays a very big factor in how the mission is designed. The two Keck telescopes alone will start to solve this problem.

The four outriggers will add increased capability by creating an imaging interferometer that provides 15 different combinations of baselines to make images of materials around stars and to look for gaps where planets have swept out the dust thereby indicating there must be a planet there. They would also work independently of the two Keck telescopes almost year round, and will do a systematic study and search of stars that may have planetary systems around them.

OMKM Director Heen asked Mr. Howard if the application was for four or six outriggers? Mr. Howard replied the application would be for six but at present, there is funding for only the first four. NASA will wait to see the imaging capabilities of the first four outriggers combined with the two Keck telescopes before deciding to fund the last two outriggers. Adding the last two outriggers almost doubles the number of pixels in making maps and is predicted to be very beneficial. Given the amount of land available on the summit, adding more than two does not add much because it starts duplicating existing baselines and orientations that already exists with the first six. Mr. Howard assured the Board that six outriggers would be the most NASA would ever consider doing.

Mr. Howard stated that NASA produced a draft Environmental Assessment (EA) and comments are due by February 23, 2001. Attached to the EA are three mitigation plans: 1) an on-site plan – slope stability, trash, dust control, being careful where you walk; 2) the Wekiu bug mitigation plan – discusses the predicted affected areas, a 3 to 1 restoration area compensation plan, and a monitoring plan that would begin immediately after establishing the restoration area and continue for 18 months after the completion of the outrigger project installation; and 3) off-site mitigation – discusses the conceptual framework for mitigating cultural and historic impact caused by this project.

Regarding the off-site mitigation plan, NASA met with members of the Burial Council, OHA, and the Royal Order of Kamehameha last year and it was strongly recommended that NASA needed to do something for the betterment of the Native Hawaiian children. One proposal is an educational component. Mr. Howard ensured that the focus is not just astronomy education and they are interested in emphasizing historical/cultural awareness to both native and non-native children. Mr. Howard feels that it is important to educate Native Hawaiians to help them get better jobs in science and technology but also make the rest of the population aware of the

cultural significance of the mountain. The different Native Hawaiian Groups have agreed to start this process within the Hawaiian community.

Mr. Pacheco asked Mr. Howard where the funding for the proposed off-site cultural mitigation plan would come from. The proposed off-site cultural mitigation plan will not take any money from existing cultural mitigation programs. The funding will come from allotments directly to the Keck project and the director of the program will apply those funds to this program.

Chair Hoke asked Mr. Howard if this project could be done anywhere else in the world besides on Mauna Kea. Mr. Howard answered that they had looked at a number of alternative sites with existing facilities that the outriggers could work with and came up with a few criteria for the ideal site:

- at least one large telescope – 8 meters or larger;
- enough available land to lay out outriggers at reasonable baseline lengths; and
- uniform atmosphere such as that of Mauna Kea.

NASA determined that using the other sites would be jeopardizing the potential of science. Mauna Kea is the best location in the interest of science for this project based on the above criteria. Mr. Howard shared that the European Southern Observatory is doing a similar interferometer project in Chile. They have four 8 m telescopes that will be linked together to form an interferometer and plan to add outriggers to some of those as well. This location is in the Southern Hemisphere and since one cannot see the entire sky from any one place on the earth, this site compliments the Mauna Kea site very nicely.

Chair Hoke expressed concern stating that all the criteria NASA has used to evaluate these alternative sites has been what is in the best interest of science. Has anyone looked at the cultural and environmental impacts of those possible alternative sites? Mr. Kumor answered studies show that at higher altitudes there are more wildlife/flora/fauna issues. Species tend to be clinging to life more tenuously than lower altitude sites. Mr. Kumor also stated that the US is more protective of their culture than other nations that have telescopes within their borders. Other countries would welcome development like this as long as it can provide economic benefit to their country. The US is one of the few countries where cultural and environmental resources are taken into account in siting major facilities. Federal agencies go by the rules of the host country. Within the US, all sites NASA has looked at have had environmental concerns. Several happened to be on Indian Tribal lands and many of those sites have the same cultural / environmental issues as we do in Hawaii. Most of them were comprised of cultural resources and endangered species.

Mr. Pacheco wondered what the impact would be if this outrigger project is not approved. Mr. Chaffee stated that disapproval of this outrigger project would negatively affect Keck's strategic plan. With this project in mind, Keck is planning to increase their staff by 20% over the next 5-10 years. Mr. Chaffee added that disapproval would also be detrimental to astronomy as an industry in Hawaii. It would send the message that astronomy is not welcomed in Hawaii and would not give future generations the chance to work in the field.

Mr. Stevens indicated that he disagrees with the preliminary finding of "no significant impact" in the EA for the outrigger project site. The plateau that Keck sits on is referred to as a previously disturbed site but the outriggers are located within 10 feet of the edge of that plateau. Since it is so close to the edge, he felt that the sites should be treated as previously undisturbed sites. He felt

this project should comply with the Historic Preservation Plan and since there is major excavation of cinder, the excavation should be supervised and monitored in case any historic treasures are found.

Mr. Kumor stated the determination of “no significant impact” was a preliminary finding. NASA issued a draft EA and after receiving comments on the draft EA, NASA is prepared to issue an EIS if a finding of significant impact is made. Regarding Mr. Stevens’ excavation concerns, NASA intends to involve OHA and the Burial Council in the review process of any excavation plans prepared for the project. Mr. Kumor added that prior to any digging, an archaeologist would assess the area. SHPD and other Native Hawaiian groups suggested that a cultural monitor be on site at all times to ensure that procedures are performed in an appropriate manner, including orientation for workers before they start to work on the mountain. A video could be produced emphasizing the cultural significance of the mountain. Covering aspects such as slope stability, dust control, Wekiu bugs, etc. the video would be shown to every worker involved with the project.

Mr. Howard asked for clarification of the role of MKMB and OMKM in the process of development on Mauna Kea. Dr. Kennedy explained that each project passes through MKMB and OMKM twice in the process outlined by the Master Plan.

The first time is to determine whether the project is a major or minor one. Director Heen indicated that all applicants should come to MKMB after working through issues involving all the constituents and satisfying all criteria of those constituents. When all aspects of the applicants’ plan have been approved by the appropriate agencies, the plan should be presented to MKMB and OMKM to ask for a determination of “major” or “minor”. MKMB gives its recommendation to OMKM but OMKM can change the recommendation. OMKM then makes its recommendation to the UHH Chancellor, who then makes a recommendation to the UH President. The UH President approves or disapproves the recommendation. Different procedures are followed based on the determination of major or minor.

After the President approves the recommendation of major or minor, the project goes through a stringent review process before final approval to proceed is granted. Again, MKMB and OMKM participate in this review but either the President (minor) or Board of Regents (major) gives final approval.

Mr. Kumor asked who should be the party submitting the request for major/minor determination, NASA or CARA? Director Heen suggested that both parties should be submitting the request jointly in writing. In addition to the request, Director Heen asked for an Executive summary and a letter stating that it is the applicants’ recommendation that this be considered a major project.

Mr. Howard informed the Board that the draft EA has been issued and upon the receipt of comments, they would determine whether an assessment of “no significant impact” could be made or whether they will issue a notice of intent to prepare an EIS. Mr. Howard added that they plan on submitting the CDUA application to DLNR in about 2 weeks for the outrigger project.

Ms. Cole asked Mr. Howard how long it would take to complete the construction of the 4 proposed outriggers. Mr. Howard said it would be about 12-18 months.

It was suggested by Chair Hoke that the OMKM and the MKMB be kept informed of the progress and time frame that the applicant is working with at all times.

Director Heen asked how and when OMKM and MKMB would be informed of the status of working with the Burial Council, OHA and other various constituents regarding the off-site mitigation plans. Mr. Howard offered to keep OMKM and MKMB informed by supplying minutes from the meetings and providing status reports along the way. Mr. Howard also stated that NASA would inform OMKM and MKMB before they make the determination of “no significant impact” or submission of a notice of intent to prepare an EIS.

Mr. Yada suggested that NASA keep close correspondence with the Board’s various corresponding committees such as the Environment, Hawaiian Culture, and Education committees. This would establish strong cohesion and avoid cross-purposes.

Mr. Pacheco indicated that he would like to see an orientation program developed for anyone that works and visits the mountain.

Mr. Yada asked if the request to determine whether the project is major or minor comes before or after the CDUA approval process. Director Heen said that the determination of major/minor does not have to come after the CDUA process. This determination gets the process started but the Design Review Process cannot begin until after the CDUA is approved and the permit is granted by DLNR.

V. ANNOUNCEMENTS

Community member Deborah Ward started to voice concerns regarding the draft EA submitted by NASA but it was determined that this meeting was not the proper venue for considering these concerns and that the NASA representatives would better address these concerns at a later time.

VI. DATE OF NEXT MEETING

The next MKMB meeting is scheduled for Tuesday, February 27, 2001 at 9:30 am in Building 393 on the Hawaii Community College Campus.

VII. ADJOURNMENT

The MKMB meeting was adjourned by Chair Hoke at 11:27 am.

Respectfully submitted:

Signed by Barry K. Taniguchi

Barry K. Taniguchi, Secretary, MKMB

3/13/01

Date