

PREFACE

The Board adopts the hearing officer's recommended findings of fact, conclusions of law, and decision and order, with modifications, including additional conditions. The Board commends the hearing officer's thorough, comprehensive and well-considered report, prepared after 44 days of hearings. The Board's modifications are consistent with the hearing officer's factual findings and legal conclusions. Along with minor corrections, the changes mostly give further explanations for some aspects of the decision.

Because of the length of this document, the Board thought it would be useful to the parties and public to give a brief summary. This Preface cannot describe fully how the Board considered various factors. It is not intended to replace or supplement the findings of fact, conclusions of law, and decision and order, and they prevail in case of any perceived conflict between them and this Preface.

The TMT is a very large structure, 180 feet tall, proposed near the top of a culturally important and magnificently beautiful mountain. This project is not, however, on an untouched landscape. Mauna Kea now hosts twelve observatories, including six that are between 100 and 151 feet tall. The first large telescope on Mauna Kea was completed forty-seven years ago.

The TMT will not pollute groundwater, will not damage any historic sites, will not harm rare plants or animals, will not release toxic materials, and will not otherwise harm the environment. It will not significantly change the appearance of the summit of Mauna Kea from populated areas on Hawai'i Island.

The TMT site and its vicinity were not used for traditional and customary native Hawaiian practices conducted elsewhere on Mauna Kea, such as depositing *piko*, quarrying rock for adzes, pilgrimages, collecting water from Lake Waiau, or burials. The site is not on the summit ridge, which is more visible, and, according to most evidence presented, more culturally important than the plateau 500 feet lower where TMT will be built.

Some groups perform ceremonies near the summit. The evidence shows that these ceremonies began after the summit access road and first telescopes were built, but, in any case, the TMT will not interfere with them.

Individuals testified that seeing the TMT will disturb them when they are doing ceremonies or other spiritual practices. The TMT cannot be seen from the actual summit or from many other places on the summit ridge. Where it would be visible, other large telescopes are already in view. It will not block views from the summit ridge of the rising sun, setting sun, or Haleakalā.

Some native Hawaiians expressed that Mauna Kea is so sacred that the very idea of a large structure is offensive. But there are already twelve observatories on Mauna Kea, some of them almost as large as the TMT. They will remain even if the TMT is not built. No credible evidence was presented that the TMT would somehow be worse from a spiritual or cultural point of view than the other large observatories. Each observatory received a permit after a process allowing public participation and judicial review, over a period spanning three decades.

To the extent that the belief that Mauna Kea is too sacred to allow large structures is a religious one, under the federal and state constitutions a group's religious beliefs cannot be given veto power over the use of public land.

Other witnesses, including some native Hawaiians, embrace a different way of thinking and feeling about the TMT: as a project that honors Mauna Kea rather than injures it. After a worldwide search, scientists found that Mauna Kea is the best site on earth for the most advanced telescope ever built. Mauna Kea will forever be known throughout the world as the site of profound discoveries about the universe. These witnesses see TMT and the other telescopes, not as objects spoiling the landscape, but as portals to discovery placed in this site made ideal for them.

To these witnesses, respect for Mauna Kea can be reconciled with modern astronomy. When ancient Hawaiians found a resource valuable to them – the densest rock in Hawai'i – near the summit of Mauna Kea, they made use of it, quarrying hundreds of acres. Ancient Hawaiians intensely studied the stars in ways consistent with their technology. Traditional Hawaiian navigation depended upon knowledge of the stars.

King David Kalākaua enthusiastically supported astronomy in Hawai'i. He wrote: "It will afford me unfeigned satisfaction if my kingdom can add its quota toward the successful accomplishment of the most important astronomical observation of the present century..."

TMT will contribute \$1 million a year toward education, and has signed a sublease agreement committing \$300,000/yr. at first, increasing to \$1 million/yr., for conservation on Mauna Kea. No existing observatory makes any such contributions.

Astronomy directly supports about 1,000 jobs in Hawai'i. TMT will employ about 140 people. The decision contains 43 special conditions to ensure that the project lives up to its environmental commitments, that the educational fund will help the underserved members of the community, that TMT will train and hire local workers, and that the native Hawaiian cultural presence at Hale Pōhaku will be enhanced.

Astronomers discovered that the earth goes around the sun; that we live in one of more than 100 billion galaxies; that our universe expanded from a single point 13.7 billion years ago. These discoveries shape how we see our place in the universe. Other telescopes on Mauna Kea have already contributed to human knowledge. TMT, if built, will do the same.

One native Hawaiian story about the origin of Mauna Kea is that Wakea, "Sky Father", and Papa, "Earth Mother", created a child, Hawai'i Island. Mauna Kea is the highest summit of the island, this union of heaven and earth. Today, Mauna Kea is the best place on earth to study the heavens.