CALIFORNIA INSTITUTE OF TECHNOLOGY
CALTECH OPTICAL OBSERVATORIES 11-17
PASADENA CALIFORNIA 91125-1700
12/22/15

To Whom it May Concern,

The California Institute of Technology (Caltech) and its operating facility Palomar Observatory on Palomar Mountain CA (the "Obervatory"), hereby submit to the Federal Communications Commission this letter to petition for the denial of Venture Technology Group LLC's application to have a 15 kW TV transmission facility sited on Palomar Mountain near the Observatory (File No. BDCCDTL-20141205CJW). This petition is motivated by our concern that electromagnetic radiation from the proposed transmission facility would compromise the operation of the sensitive electronic detectors and components used in astronomical research conducted at the Observatory.

Palomar Observatory is owned by Caltech, and is an iconic facility that has been in continuous operation on Palomar Mountain since 1936. Palomar remains an active center for world-renowned astronomical research in Southern California. Astronomers from all over the nation and the world come to Palomar to conduct scientific experiments and observations. See the Observatory Website, at http://www.astro.caltech.edu/palomar/about/. The National Science Foundation has recently partnered with Caltech, committing $10 million to bring a major new international research initiative to Palomar starting in 2017.

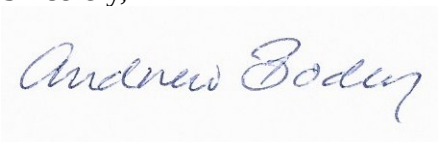
Since the 1980s, astronomical observations made at the Observatory have used sensitive electronic detectors and supporting electronics. These detectors and electronics are susceptible to noise from ambient electromagnetic fields such as those generated by radio and television transmission facilities. As has occurred at other astronomical observatories in Southern California (such as Mt. Wilson Observatory near Los Angeles), radiation from non-directional transmitters compromises the operation of such devices.

The transmitter applied for by Venture would be in close proximity to the Observatory (approximately 3.5 miles), and the resulting 490 MHz/60-cm wavelength radiation would readily couple into our facilities and camera electronics. While the signal target is the San Diego area, the proposed emission pattern would still radiate significant power at the Observatory. Based on the past experience of other Observatories in similar circumstances, we know it is likely that radiation produced by the proposed transmitter will impair performance of the astronomical instrumentation essential to the Observatory's research.

Palomar Observatory, Caltech, and the many astronomers from across the nation and world who use the Observatory in their active research programs, many of whom

received NSF and other federal funding, would likely suffer irreparable harm if the proposed transmission facility is sited near the Observatory facility. In the interests of preserving the Observatory's research mission, we urge you to deny the application for the proposed transmission facility.

Sincerely,



Andrew Boden
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