

## The SETI League, Inc.

a nonprofit educational and scientific corporation Searching for Extra-Terrestrial Intelligence

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Dear Dr. Marvel,

This letter constitutes the final report in connection with a Small Research Grant in the amount of \$5000, dated 16 June 2000 and received by me on 17 August 2000.

I am pleased to be able to report that the proposed Lunar Reflective Beacon for Radio Astronomy Calibration was constructed over the past year, licensed by the Federal Communications Commission on 17 January 2001, was first activated on 4 March 2001, and was successfully received by colleagues at the Arecibo Radio Observatory in Puerto Rico on 9 March 2001. Although significant upgrading is contemplated, the beacon has been illuminating the Moon with microwave calibration signals at least ten hours per day for the past six weeks.

Labor and materials costs for the beacon significantly exceeded the \$5000 grant amount, with additional costs being covered out of SETI League unrestricted operating funds. Enclosed are receipts for expenditures totaling \$8200. However, the use of second-hand equipment and prudent shopping on *eBay* held our total project costs to a small fraction of what is typically spent by our colleagues on facilities of similar scope and complexity.

Enclosed with this report, in addition to the above-referenced receipts, are an article in *Space News* announcing our AAS grant, the FCC station license; a press release announcing the beacon's commissioning; a spectrogram showing the First Light signal as detected at Arecibo; photographs of the equipment rack and the beacon antennas; and a photo of SETI Institute astronomer Dr. Seth Shostak being presented with a certificate confirming first reception, at the California Academy of Sciences on 18 March 2001.

On behalf of The SETI League, Inc., I thank the American Astronomical Association for its generous Small Equipment Grant, without which this important research facility might never have been built.

Sincerely,

H. Paul Shuch, Ph.D. Executive Director 17 April 2001