

file

April 26, 1961

Mr. J. E. Luton
Assistant Director for Administration
National Science Foundation
Washington 25, D. C.

Dear Mr. Luton:

The purpose of this letter is to request National Science Foundation approval of the purchase and erection of a 40-foot diameter transit telescope, which we discussed at our meeting of March 7.

The need for this telescope has arisen as a direct result of work at the NRAO with the 85-foot telescope directed towards determining whether certain discrete radio sources vary in intensity. It has been shown that at least one source - Cassiopeia A - does exhibit a slow secular decrease in intensity. We believe that further efforts on this problem can perhaps best be undertaken with a relatively small, very simple instrument, which can be used essentially for this program alone for an extended period of time. Rather better control of interval consistency should be obtainable by this means than is possible with a telescope such as the 85-foot, which is used for a wide variety of programs requiring relatively frequent changes in instrumentation.

Requests for proposals to supply the 40-foot telescope were sent to nine firms. Three firms responded with fixed-price quotations for 40-foot diameter instruments which would meet our specifications. A copy of these specifications is attached. One firm quoted on design only. A summary of the bids is enclosed. All three firms proposed instruments which adequately meet our requirements, and all are essentially "off-the-shelf" items modified slightly to meet our specific requirements. The differences in price arise largely because both the Blaw-Knox and the Philco reflectors have considerably greater surface accuracy than we require. Since this instrument is to be used for a very specific purpose, we do not believe it is necessary to obtain the greater surface accuracy. We, therefore, propose to purchase the Antenna Systems, Inc. telescope.

The cost of the telescope, excluding receivers, control building, and power to the site, is as follows:

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Fabrication (Antenna Systems, Inc.)	fixed price	\$29,850.
Shipping from Cohasset	estimated	1,000.
Foundation (by NRAO or subcontract)	estimated	2,000.
Erection (by NRAO or subcontract)	estimated	4,000.
Contingency		<u>3,150.</u>
Total		\$40,000.

We propose allocating \$40,000 from item C4 - Other Observing Equipment - of the FY 1961 Financial Plan for the 40-foot telescope. After \$40,000 is committed to the 40-foot, approximately \$28,000 will remain. Analysis of expected expenditures and commitments for the remainder of this fiscal year indicates that this amount will be adequate.

We request approval of the 40-foot transit telescope program, as described here, and of purchase of the instrument from Antenna Systems, Inc.

Very sincerely yours,

Encls.

Otto Struve

CC: Geoffrey Keller
L. R. Burchill
D. S. Reeschen
F. Callender
J. Findlay