

290 Larkin Street XXXXXXXXXXXX

10
IX

July 27, 1956

Dr. Richard M. Emberson
Associated Universities, Inc.
350 Fifth Avenue
New York City, New York

Dear Dr. Emberson:

I note that it has been some time since you called regarding the possibility of using the air supported principle of support for the large reflectors which you are now planning to build. I have given this problem quite a bit of thought and have concluded that it would not be practical to hold tolerances of plus or minus $1/4''$ on a reflector of this size, using our present techniques. The combination of large size, close tolerances, and the required movement of the unit to a full 90 degree elevation angle, would make it difficult to hold these close tolerances.

However, I believe it would be possible to provide the desired tolerances if the design were modified so as to use intermediate support rings. This would mean that, in addition to the outer ring, an intermediate structure would be required to stabilize the parabolic surface. However, the structural weight of such a unit would be much less than for a conventional reflector and should result in lower cost and reduced power requirements. Our experience to date with this type of unit has been very good and we believe that a close tolerance unit could be built employing the air supported principle.

If you are interested in considering the use of a fabric reflector, we would be pleased to review your requirements in more detail. You may be interested to know that BIRDAIR is now working with Dr. Ewen of Ewen Knight on the development of a test facility for a radio telescope.

Very truly yours,

BIRDAIR Structures, Inc.

Walter W. Bird,
President

WWB/bts