

Mr. Burchill

May 14, 1956

MEMO TO: Lloyd V. Berkner
FROM: Charles F. Dunbar
SUBJECT: Radio Astronomy Project

The purpose of this memorandum is to provide a record of our meeting on May 7, 1956. The following persons were present:

National Science Foundation: C. E. Sunderlin, Deputy Director
W. J. Hoff, General Counsel

Associated Universities, Inc.: L. V. Berkner
L. R. Burchill
R. M. Emberson
C. F. Dunbar

Sunderlin said NSF recognizes that the time has come for three basic decisions with respect to the National Radio Astronomy Facility. The points to be settled are as follows:

1. Acquisition of a site;
2. Selection of an operating contractor;
3. Selection of a director.

These points were considered at a meeting of a committee of the NSF Board on April 29, 1956 at Duke University. (This committee appears to be the Board's Committee on Mathematical, Physical and Engineering Sciences, which is made up of the following: Joseph C. Morris, Chairman, William V. Houston, Vice-Chairman, Roger Adams, Robert P. Barnes, Paul M. Gross, Donald H. McLaughlin, Andrey A. Potter, Earl P. Stevenson). In the opinion of the Board, the National Radio Astronomy Facility must be "national" in the sense that any institution interested in radio astronomy must be able to participate in the organization for management. "Participation" means that any such institution may become a member of the body having ultimate responsibility for the facility. At the Committee meeting the consensus was that the new institution must be national in character and so open-ended in membership. Annual membership fees should be required. Actual fiscal and managerial responsibility should be vested in a group (trustees or directors) to be elected by a body representing the membership as a whole.

Hoff pointed out that the specific views of the Committee apparently were meant to reflect those of the Board as a whole, as embodied in the minutes of a meeting of the Board at which it was formally resolved that the National Radio Astronomy Facility should be national in scope and representative of radio astronomy throughout the country. The Board

May 14, 1956

considers that to uphold the principles underlying the National Science Foundation, requirements of this sort must be made.

Berkner pointed out that the present time there are current three operating philosophies for the conduct of scientific research. These can be described as follows:

1. Laboratories directly managed by the Government, illustrated by the National Bureau of Standards and the Naval Research Laboratory;

2. Laboratories managed by educational institutions, as auxiliary to those institutions;

3. Private institutions organized purely for research purposes. Illustrations are Carnegie Institution of Washington, Mellon Institute, and AUI.

The essential characteristic of the third type is that there is no such thing as membership. Scientific ability of a particular individual is the sole test for participation in the work of the institution, and not his affiliation with a member institution. None of the AEC's national laboratories has ever adopted the membership principle. The distinction, in Berkner's judgment, is fundamental. What NSF appears to be proposing is a sort of super-university rather than the individual ability test employed by AUI at Brookhaven.

Hoff expressed the view that the NSF Board did not mean to have institutional membership give an unfettered right to use the facilities of the institution. The object was to give the member institutions prestige and a voice in the selection of the governing body. NSF, by some kind of basic charter, would control the conditions of membership and the right to access. NSF would also retain title to the physical plant and have the right to review performance.

The NSF Board envisages some kind of body made up of representatives of all institutional members, which in a general way would be analogous to the stockholders of a business corporation. This body would elect a Board of between seven and eleven Directors made up of both scientists and administrators. This Board would have full managerial powers, and could either operate directly or through a contract with some other institution, for example with AUI.

Berkner cited the experience of Oak Ridge Institution of Nuclear Studies with Argonne National Laboratory. The organization of ORINS is generally similar to what Hoff described, and has worked reasonably satisfactorily on a regional basis. However, ORINS is not engaged in managing research, except on a very limited basis. The experience of Argonne with a large membership body has been most unfortunate, and it has been necessary, with the passage of time, to limit this body, which represents a large number of universities, to a purely advisory role. The experience of Argonne vividly illustrates the undesirability of separating operating authority and operating responsibility. It is completely unsound to try to have any intermediate level of responsibility

May 14, 1956

between NSF and the actual operator. NSF cannot abdicate its ultimate responsibility, and if an intermediate level is introduced, one of two results must follow: the operator will fall into the habit of bypassing the intermediate level and dealing directly with the NSF, or NSF will find itself in the position of being unable to pin responsibility for operations on anyone.

In response to questions, Berkner said that the operating organization should have a corporate staff of some sort representing its governing body. This staff would be separate and distinct from the line employees charged with actual operations. AUI has always had a separate corporate organization, and Berkner believes that MURA also proposes to have one. The operating organization also should have independent capital.

Sunderlin asked whether AUI would function as the management organization under the plan he had described. In other words, AUI would be responsible to a Board of Directors elected by a large group of university representatives. This Board of Directors in turn would be responsible to the National Science Foundation.

Berkner again pointed out the disadvantages. The plan creates an institution with authority but no responsibility. This can only result in obscuring responsibility for the success of the NSRA facility. There is no reasonable likelihood of obtaining substantial financial assistance from the member universities, although admittedly an annual membership fee might have some favorable effect on Congress. Finally, there would always be the risk of the member universities insisting that particular individuals be permitted to work at the facility or that particular projects be undertaken without regard to the judgment of the Director. His conclusion was that AUI would not be prepared to undertake the operation of the facility under these circumstances.

Sunderlin then asked whether AUI would act as agent of or contractor with NSF during the construction phase only.

Berkner pointed out the great importance of having the operating institution in full control during the construction phase. Many commitments, both personal and mechanical, have to be made during this period, and decisions by a builder might well be entirely unsatisfactory to the ultimate operator. Furthermore, acquisition of the site will involve local relations that should be the province of the operator. Berkner concluded that AUI would not be prepared to act simply as a construction contractor.

Berkner then suggested that the membership body might be organized along the lines of the Brookhaven National Laboratory Conference of Colleges and Universities, which met at Brookhaven at the invitation of the Laboratory about two years ago. The purpose of this Conference was to provide interested institutions with information about Brookhaven's program, to seek advice from these institutions about Brookhaven's methods of handling visiting scientists, and to give an opportunity for consultation on specific technical topics. The Conference apparently served a useful purpose, and will almost certainly be convened again.

May 14, 1956

Annual meetings appeared to be unnecessary, and there was no particularly strong sentiment for the creation of any formal machinery.

Hoff suggested the possibility of such a body selecting the operating contractor, on the recommendation and with the concurrence of NSF.

Berkner pointed out that from the point of view of NSF it would be preferable to leave with NSF the responsibility for appointment, and to give the advisory group the right to make recommendations to NSF, instead of the other way round. NSF should not undertake to create an organization of this kind. Instead, NSF could announce that on or after a named date an operator for the National Radio Astronomy Facility would be selected. Before that date, a conference of all institutions interested could be convened to consider the selection of an operator and to make recommendations to NSF. This would give an opportunity for any special group to organize and submit a proposal before the selection date announced by NSF. It would also give an opportunity for the conference to organize itself formally into a body which would always be free to give advice to NSF and would always be available for consultation. Berkner said the conference should be open to all interested persons, both individuals and institutions.

Sunderlin then asked for how long a term AUI thought the operating contract should be written. Berkner suggested three to five years with provision for extension, and said that AUI would expect any contract it had to contain a save harmless clause.

Sunderlin said the Committee of the NSF Board felt strongly that NSF should retain title to the facility. Berkner expressed complete agreement.

Emerson described briefly what he had learned of the Public Land Corporation of the State of West Virginia. This body has power to acquire property for state or federal use. He suggested that there should be a conference at the earliest possible date between representatives of NSF, the State of West Virginia, and the operating contractor.