

Interoffice

NATIONAL RADIO ASTRONOMY OBSERVATORY  
TUCSON, ARIZONA

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To: J. W. Findley

12-M MEMO NO. 13

From: J. M. Payne

Subject: The 36' Telescope

Here are a few random facts and thoughts about the 36' .

I have discussed the thermal stability of the pedestal of the telescope with Bobby Ulich. Some years ago he performed a series of tests with a Talyvel inclinometer placed at different points on the structure. Bobby makes the following points:

- 1) The C. G. of the antenna does not lie on the axis. As a result the top of the pedestal tilts as the antenna rotates. (This may result from the pedestal stiffness being different above the door.)
- 2) The case of the elevation encoder rotates with elevation angle. The relationship between the elevation angle and the rotation of the case is linear but the slope is different at different temperatures.
- 3) For various reasons, Bobby believes that the mount and the reflector contribute equally to the pointing error budget at the present time.
- 4) From the evidence available, I believe the surface of the 36' may have degraded significantly over the past 7 years. The first Cassegrain receiver was mounted on the telescope in 1974 and since that time, the reflector has been walked on regularly.

Do we do anything about the above (1 thru 3)? Apparently Bobby did communicate all this to Lee King.

cc: H. Hvatum