

National Radio Astronomy Observatory

Socorro, New Mexico

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To: G. Peery

From: Les Temple

Subject: VLBA Site Building and Equipment

The following suggestions and comments are submitted for consideration.

1. Site Power

Antenna power consumption will not be determined until the initial design stage. The servo motors will probably require at least 60 KW with short term power demands of up to 200% and a very low power factor at low currents while sidereal tracking. The air conditioning and heating loads may be as high as 25 KW.

One area of concern is the surges from lightening strikes causing circuit breakers to trip as happens quite often at the VLA. Perhaps station surge protection could be provided.

2. Site Building

I realize that it is preferred that the building not have windows for security reasons, however it would be beneficial if a window was provided for observation of the antenna while operating from the station computer during servo tests or maintenance. Perhaps an unbreakable "lexan" window could be used.

3. Communications

The vertex room and lower equipment room of the antenna should have phone extensions for maintenance purposes. Each site should have at least one pair of voice keyed radios for maintenance at each axis drive and at the focusing feed mount.

4. Weather Station

A weather station for wind speed and temperature is required for connection to the servo system for auto-stowing purposes. An automatic snow accumulation measuring device is highly desirable for the sites that get snow.

5. Safety and Protective Equipment

Each site will need the following equipment and storage space:

- Hard Hats
- Safety Harnesses
- Foul Weather Clothing
- Flashlights
- Hand Lines
- Canvas Buckets

6. Maintenance Equipment

Each site will require the following equipment and storage space:

- Antenna Mechanics Tools
- Lubricants and Equipment
- Spare Parts
- Garden Hose
- Shop Vac
- Broom

7. Facilities

Each site should have:

- Janitors sink for cleaning filters and parts
- Work Bench
- Air Compressor

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