

NATIONAL RADIO ASTRONOMY OBSERVATORY

Charlottesville, Virginia

1984 December 7

To: Buck Peery
From: Paul Sebring
Subject: The Station Building - Again!

Rather than be out of style, I decided to put my \$0.02 in on this subject. A messy sketch is appended.

While I recognize that the VLBA Stations will be much more automated than any of the stations I have been associated with in the past, I still feel that many of the features provided in the older stations will be needed.

Note first the addition of a Utility Room. I think the Mechanical Equipment Room on your sketch was much too small. Space is needed for the UPS about as I have shown. It should not be in the Control Room, since there may be some risk of electrical noise from the SCR's that are used. Also, I suggest that we need not only heat and air conditioning, but also provision for raising the humidity in dry areas, such as West Texas. Digital gear that is immune to static sparks is rare. Since water may come from a drilled well of limited capacity, a storage tank of significant volume should also be provided.

I'm aware of our philosophy of sending people out from the Center to take care of failures - and I agree. Nonetheless, field personnel, if they are at all capable, can do a great many things if they have reasonable space to work and things to work with. Morale is also improved. I have therefore provided both mechanical and electronics work areas, separated by the "necessary room". I don't think walls and doors are needed.

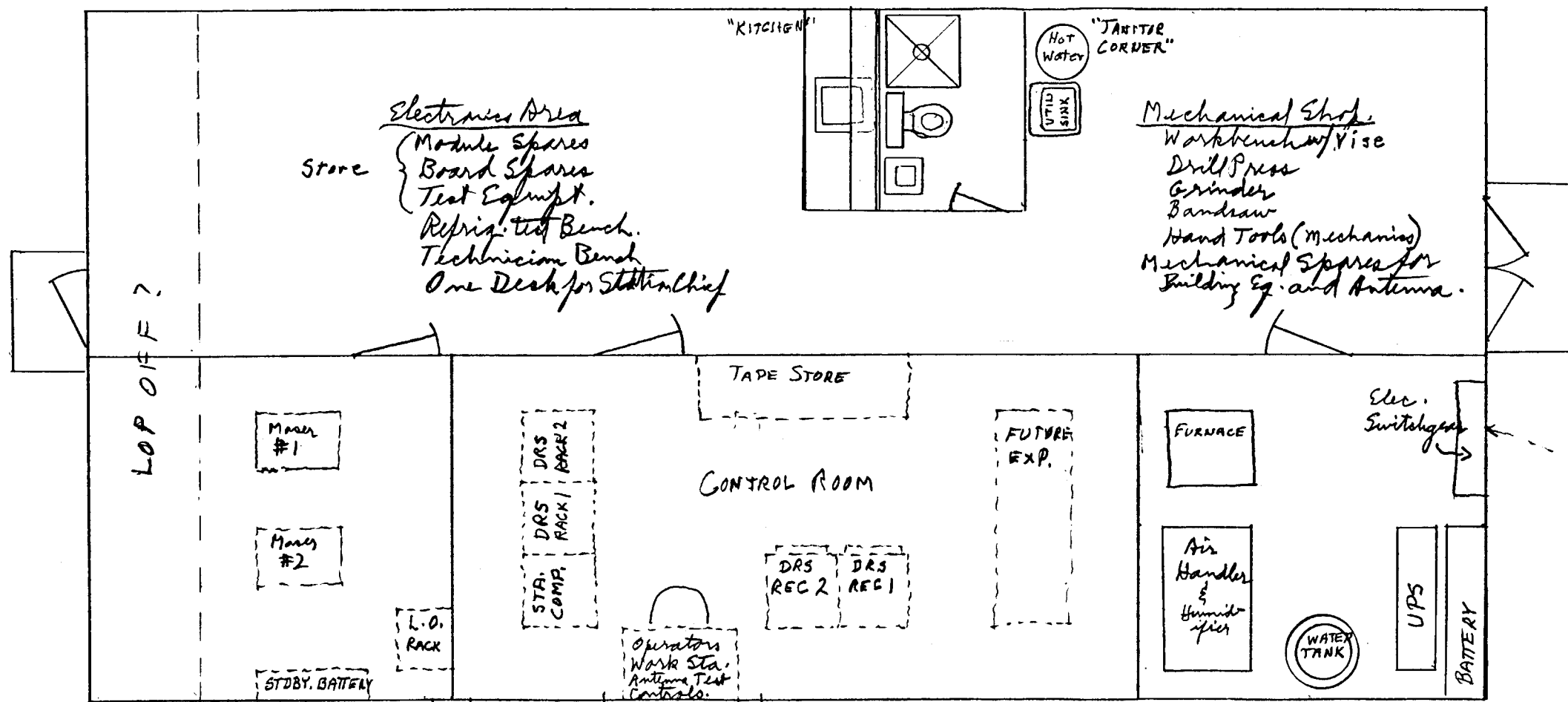
I have confirmed with Haystack that they plan to integrate the IF distribution equipment into the DRS electronics rack, as in Mk III. Thus, the Maser Room need contain only the maser and downstairs LO rack. Dick Thompson asked for space such that a spare maser could be set in place and brought up before removing the primary unit for repair. I think the Maser Room on my sketch is still too large, and that three or four feet could be lopped off the entire building as I have shown it without sacrificing anything.

A cheap and effective means is used at Haystack for controlling the maser environment. Conditioned air at 68-70F is drawn into the maser room from the control room through a fan-coil heater. Input to the heater is controlled via a low-cost zero-crossing cycle-counting SCR device connected to a thermister sensor. The maser room is thus kept a few degrees warmer than the control room, but with an accuracy of a very few tenths of a degree. Doing this should obviate the need for a fancy enclosure such as has been placed around some of the NASA/NGS masers.

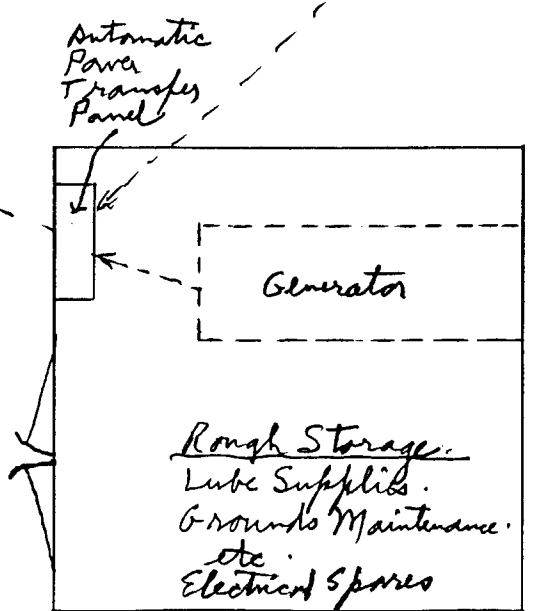
STBLD/pbs
8412072000Z

24' X 49' INSIDE DIM.

Pad for Spare Comp. Compressor



COMMERCIAL 120/208V AC



Metal Bldg on Pad. Unheated, Uninsulated. (~ \$3,000)

500-gal full tank. (Furnace and Generator) (Butane)

1 FT = 0.2 in.

TO ANT.