

12 METER ANTENNA PROJECT

Projected Manpower Requirements
Back-Up Structure Assembly

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I Basic Assumptions

It is presently planned to subcontract the fabrication of the 12 meter back-up structure such that completion of fabrication will allow start of assembly in Green Bank approximately the end of January 1982. Consideration was given to fabrication of the back-up structure at Green Bank but the additional manpower requirement during the period mid-October 1981 to last of January 1982 as well as lack of automatic burning equipment makes it advisable to procure this structure from an outside vendor rather than requesting Green Bank to perform the fabrication. Green Bank will however be requested to fabricate the temporary base support for the assembly of the back-up structure.

II Back-Up Structure

The back-up structure should arrive in Green Bank in January 1982 and assembly is scheduled to start the last of January. Referring to the structure as shown in Memo 54 (since more complete drawings are not yet available) it is anticipated that shipment will arrive in Green Bank consisting of 4 main pieces for the central hub, 8 main ribs, 8 intermediate radials, 24 circumferential trusses, an apex assembly, 4 feed legs and with the rest of the members as loose members. It is anticipated that the maximum weight of an individual sub-assembly will be approximately 2000 lbs. (hub members) with radial trusses weighing approximately 800 lbs. The back-up structure will be assembled on a previously installed frame which simulates the elevation shaft supports and elevation wheel support points.

Assembly of the hub structure on the temporary frame will require the use of a fork lift and possibly the motorized cherry-picker (if it still exists). Sub assembly of four of the octants of the outer portion will be made on the ground prior to assembly to the hub structure. The remaining four octants will be completed by assembly of the trusses and bracing members directly into the back-up structure. It is estimated that this assembly will require 5 men, of the antenna mechanic/rigger type for a time period of 4 weeks. It may be advisable to either work some evening hours or Saturday hours during this period to assure completion during the allotted time frame.

II (Con't)

During the assembly of the back-up structure it will be necessary to check alignment and dimensional fit-up of the structure using leveling equipment, and tapes. This could best be performed by technical people and if possible I would like to utilize someone from G. Perry's group in Green Bank for this. This of course must not be allowed to interfere with the preparation of the measuring jig and template for the surface panel installation. I can be and plan on being in Green Bank for some of this assembly but we should remember that we have in Duane Madron an experienced antenna erection superintendent at Green Bank.

Manpower Summary

5 mechanics - full time essentially
1 assembly supervisor - part time but available continuously
1 technical - part time for dimensional checks

III Back-Up Structure Support

This frame, to simulate the elevation shaft and elevation wheel support points, will be designed by our design group in either the latter stages of the design period or most probably in the period early September to mid-October to allow material procurement and fabrication prior to January 1982.

Estimated fabrication man hours is 360 men hours.