

DRAFT Tower Specifications:

- 1) Height 160 ft (49m)
- 2) Survival wind speed, no ice 110 mph
- 3) FAA obstruction lighting Red only, placement TBD
- 4) Electrical power 120 VAC available at top of tower
 - a) three circuits, installed in metal conduit, each with independent cutoffs at base of tower:
 1. User equipment box and utility power, approx 300 W
 2. Heat lamp, approx 500 W
 3. FAA obstruction lighting, approx 400 W
 - b) the three circuits may share a conduit
 - c) a weatherproof junction box with receptacles and heat lamp will be supplied by owner and installed by contractor at top of tower.
- 5) Communication conduit and/or cable Supplied by owner, installed by contractor
- 6) Lateral peak-to-peak movement <0.4 inch (10 mm) at top of tower, at normal wind speed measured at 30 feet elevation. Deflection measuring system to be agreed upon.
 - Normal wind speed 20 mph (9 m/s)
- 7) User equipment, heat lamp and power junction box will be mounted at top of tower
 - Load < 40 lbs
 - Vertical surface area < 2 sq ft in any projection
- 8) Lightning protection Three lightning rods with (??) separate bare copper conductors (AWG?) running to base of tower and connected to grounding system (rods supplied by owner).
- 9) Fabrication and installation shall be in accordance with ANSI / EIA-222-F and NEC.
- 10) Rescue equipment (?) Hoist (?)

Quote should include cost of the following deliverables:

- 1) Design drawings and calculations in accordance with specifications.
- 2) Foundation and anchor designs
- 3) All tower and guying materials in accordance with specifications
- 4) Base plate and guying connecting hardware
- 5) Top mounting plate
- 6) Electrical grounding kits for tower base and guy anchors
- 7) OSHA approved climbing ladder and fall protection equipment
- 8) Fabrication of foundations for tower and guy anchors including grounding system
- 9) Installation of tower at VLA site with guy alignment as shown in drawing # ??

- 10) Fencing around tower and guy anchors
- 11) Field inspection and sign-off by manufacturers representative (?)

NRAO will supply:

- 1) Soil tests at tower site
- 2) Any necessary permits or exemptions
- 3) Notify FAA and USAF of tower height, location and radiated rf emission.
- 4) Electrical power (120 VAC) and communication cable to base of tower.