

File No.: BZ- 9713

Call Sign:

KFRE

Date: 8-25-78

1. DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM

DA-2

No. and Type of Elements: Four uniform cross section, guyed, series excited vertical radiators.

Height above Insulators: 300' (103°)

Overall Height: 304'

Spacing and Orientation: 436' (150°) between adjacent elements. Line of towers bears 80° true.

Non-Directional Antenna: None used.

Ground System consists of 240-100' copper radials on surface of ground connected to copper bus. Alternate radials extended to 450' in length except to property line on east and west sides of array and to copper buses midway between towers and normal to line of towers. Radials buried beyond 100'

2. THEORETICAL SPECIFICATIONS WEST #1 W. CENTER #2 E. CENTER #3 EAST #4

Phasing:
Day 0° 126.3° 222.3° 312°
Night 0° 128.8° 227.5° 312°

Field Ratio:
Day 1.0 1.46 3 15 1.0
Night 1.0 3.39 5.51 2.77

3. OPERATING SPECIFICATIONS

Phase Indication*:
Night 179.3° -76.9° 0° 82.5°
Day 173° -73.2° 0° 76.8°

Antenna Base
Current Ratio:
Night 0.267 0.721 1.00 0.467
Day 0.431 0.540 1.00 0.296

Antenna Monitor

Sample Current Ratio:
Night 0.268 0.723 1.00 0.469
Day 0.434 0.543 1.00 0.297

* As indicated by Potomac Instruments AM-19D(210) antenna monitor.

Field measuring equipment shall be available at all times and the field intensity at each of the monitoring points shall be measured at least once every thirty days and an appropriate record kept of all measurements so made.

DESCRIPTION OF AND FIELD INTENSITY AT MONITORING POINTS:

Direction of 0° true North. Proceed west on Avenue 384 from transmitter building approximately 0.35 miles to bridge, thence northwest on Drive 104 past town of Monson to Road 104, thence north approximately 4.5 miles to Avenue 424, thence 0.9 miles east on Avenue 424 approximately 100 feet on the south side of Avenue 424. The field intensity measured at this point should not exceed 88.0 mV/m, NIGHTTIME.

Direction of 55° true North. Proceed east on Avenue 384 from transmitter approximately 2.25 miles to Road 128 thence north 2 miles to Avenue 400, thence east 0.35 miles then 90 feet north from centerline of Avenue 400. The field intensity measured at this point ~~should~~ not exceed 89.0 mV/m, DAYTIME.

Direction of 80° true North. Proceed east on Avenue 384 from transmitter approximately 2.25 miles to Road 128, thence north 0.5 mile along Road 128 to Avenue 388, thence east 0.5 mile to Bowhay ditch, thence north along ditch service road a distance of 684 feet, or until tower lights are in visual alignment. The field intensity measured at this point should not exceed 130.0 mV/m, NIGHTTIME.

Direction of 110° true North. Proceed east on Avenue 384 from transmitter approximately 2.75 miles to Road 132, thence south on Road 132 approximately 0.8 mile. Measure on West side of road. The field intensity measured at this point should not exceed 25.0 mV/m, NIGHTTIME.

Direction of 127° true North. Proceed south on Road 132 from 110° one mile. Measure on west side of road. The field intensity measured at this point should not exceed 13.0 mV/m, NIGHTTIME.

Direction of 137° true North. Proceed south along Road 132 from 127° 0.93 mile. Measure on the west side of the road. The field intensity measured at this point should not exceed 18.5 mV/m, NIGHTTIME.

Direction of 164° true North. Proceed west on Avenue 284 from transmitter approximately 0.25 mile to Road 108, thence south to Avenue 368, thence east slightly less than 1 mile. Measure on north side of road. The field intensity measured at this point should not exceed 268 mV/m, DAYTIME.

Direction of 180° true North. Proceed west on Avenue 384 from transmitter approximately 0.25 mile to Road 108, thence south to Avenue 368, thence east approximately 0.35 mile. Measure on south side of road. The field intensity measured at this point should not exceed 565 mV/m, DAYTIME.