

## Item 6

### Sampling System Measurements - KBZZ

Impedance measurements were made of the antenna monitor sampling system using a Hewlett Packard 8751A network analyzer in a calibrated measurement system. The measurements were made looking into the antenna monitor ends of the sampling lines for two conditions – with and without the sampling lines connected to the sampling transformers at the antenna tuning units.

The sample lines are equal lengths of ½" Heliax type cable.

The following table shows the frequency closest to the carrier frequency where series resonance – zero reactance corresponding with low resistance – was found. As frequencies of resonance occur at odd multiples of 90 degrees electrical length, the sampling line length at the resonant frequency above carrier frequency – which is the closest one to the carrier frequency – was found to be 90 electrical degrees. The electrical length at carrier frequency appearing in the table below was calculated by multiplying 90 degrees by the ratio of the carrier frequency (1270 kHz) to the resonant frequency.

#### Sample Line Measurements - KBZZ

Tower	Sample Line Open Circuited Resonant Frequency (kHz)	Sample Line Electrical Length at 1270 kHz	Measured Impedance at 1270 kHz with Sample Transformer Connected
1	774.3	147.62	48.5 -j0.26
2	774.675	147.55	49.8 -j0.28
3	775.013	147.48	49.4 +j0.99

The sample line lengths meet the requirement that they be equal in length to within 1 electrical degree.