

ENGINEERING EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
FM STATION WXLK  
ROANOKE, VIRGINIA  
FACILITY ID 9692

October 9, 2003

CH 222C

93KW (MAX-DA)

625 M

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Engineering Statement

The Engineering Exhibit of which this Statement is part, was prepared on behalf of Mel Wheeler, Inc., licensee of FM broadcast station WXLK Roanoke, Virginia. Station WXLK operates on FM channel 222C employing effective radiated power (ERP) of 93 kilowatts with antenna height above average terrain (HAAT) of 625 meters. Station WXLK seeks to modify the directional antenna pattern envelope employed by the station. No other changes are contemplated.

The geographic coordinates for the transmitting location have been changed slightly to comport with the geographic coordinates shown in Tower Registration Number 1028319.

The proposed directional antenna pattern envelope is shown in tabular form in Figure 1 and in graphical form in Figure 2. Through the bearings of 90 degrees clockwise through 240 degrees true, the proposed directional antenna pattern is identical to the pattern on file with the FCC.

The predicted 70 dBu and 60 dBu coverage contours for the proposed operation are shown on Figure 3. Station WXLK will continue to provide a signal level in excess of 70 dBu to all of Roanoke.

Distances to pertinent stations are shown in Figure 4. As will noted, WXLK is currently short-spaced with Class D station WWHS-FM, Class C station WKRR and to

existing and proposed station WYFL. As WWHS-FM operates as a Class D station, further consideration regarding separations is not required. As shown on the allocation map, Figure 5, there is overlap of pertinent contours between WXLK and short-spaced station WKRR. Station WKRR is licensed for operation on channel 222C. The proposed change in directional antenna pattern does not change the existing contour overlap between WXLK and WKRR.

Pertinent contours of existing and proposed WXLK and the existing and proposed operation of short-spaced station WYFL Henderson, NC are also shown on Figure 5. There is no change in the WXLK contours in pertinent directions toward WYFL.

The WXLK directional antenna pattern envelope change does not impact environmental considerations in any way, including potential exposure of humans to radiofrequency radiation.



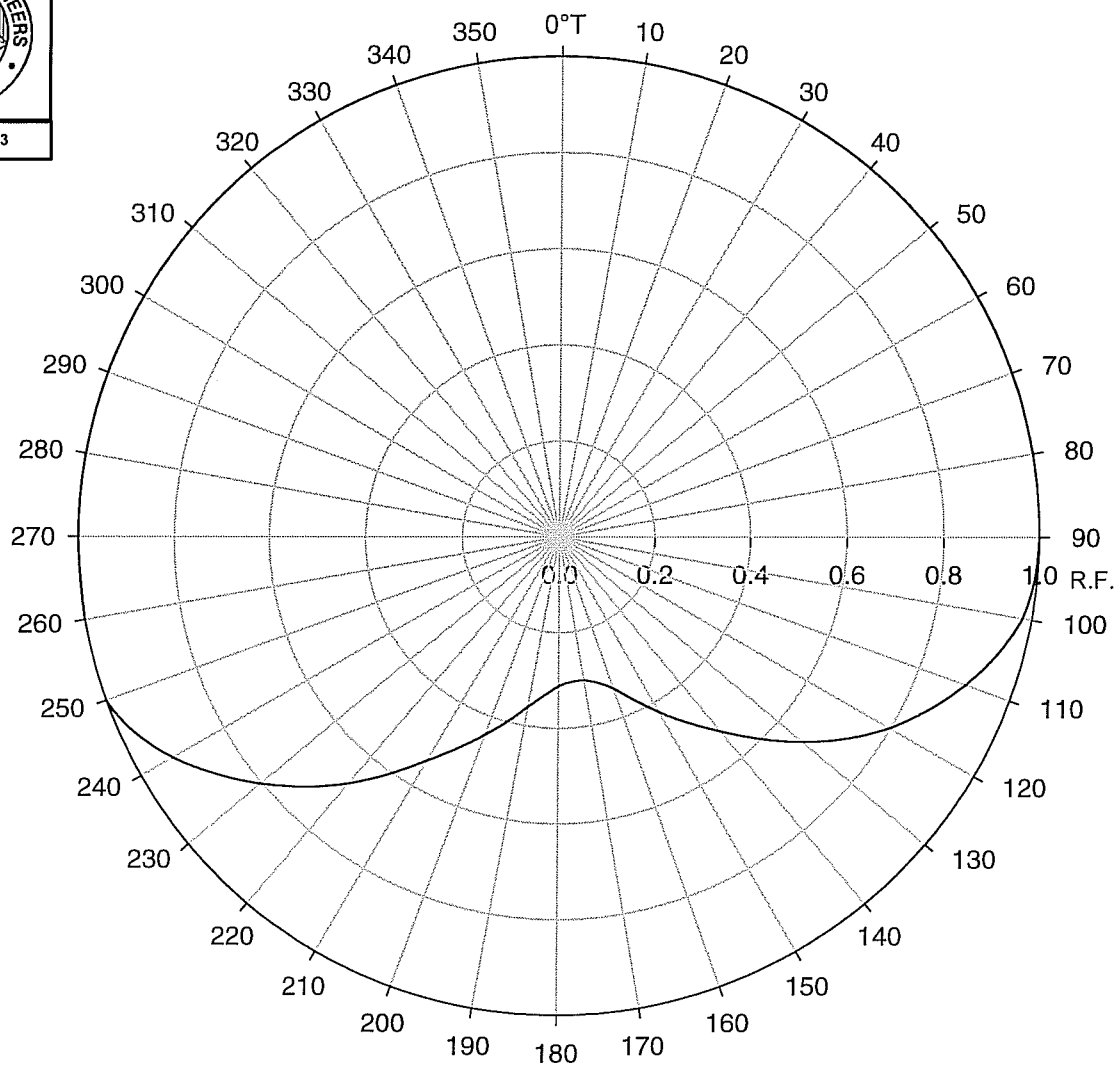
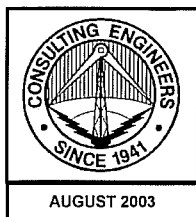
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Proposed Directional Antenna Pattern Envelope

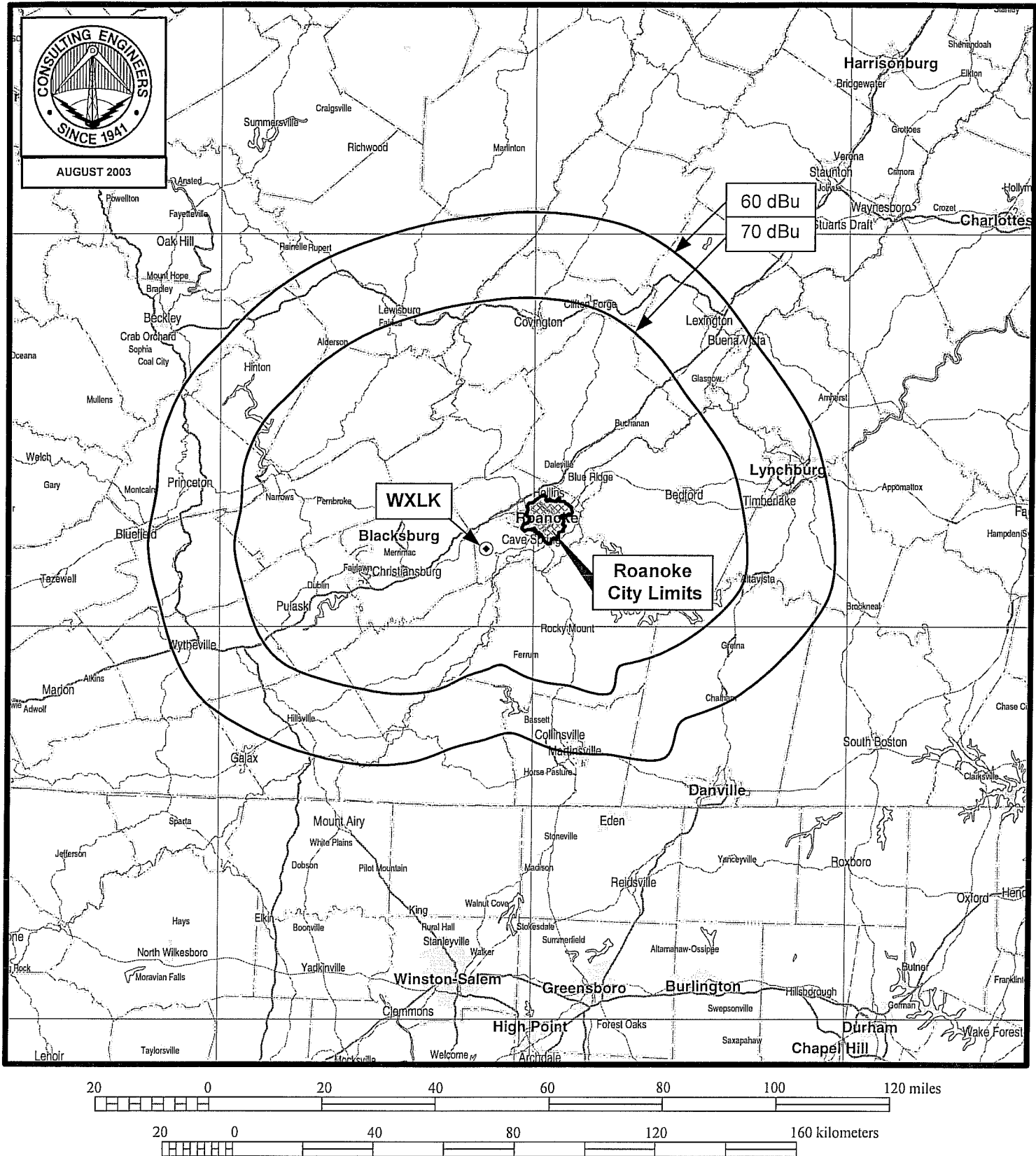
<u>Azimuth</u> <u>(deg. True)</u>	<u>Relative</u> <u>Field</u>	<u>Azimuth</u> <u>(deg. True)</u>	<u>Relative</u> <u>Field</u>
0	1.000	180	0.312
10	1.000	190	0.360
20	1.000	200	0.440
30	1.000	210	0.540
40	1.000	220	0.673
50	1.000	230	0.803
60	1.000	240	0.923
70	1.000	250	1.000
80	1.000	260	1.000
90	0.998	270	1.000
100	0.979	280	1.000
110	0.902	290	1.000
120	0.798	300	1.000
130	0.666	310	1.000
140	0.530	320	1.000
150	0.422	330	1.000
160	0.337	340	1.000
170	0.304	350	1.000



## RELATIVE FIELD PATTERN ENVELOPE

FM STATION WXLK  
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## PREDICTED COVERAGE CONTOURS

FM STATION WXLK  
ROANOKE, VIRGINIA  
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**Figure 4**  
**Sheet 1 of 2**

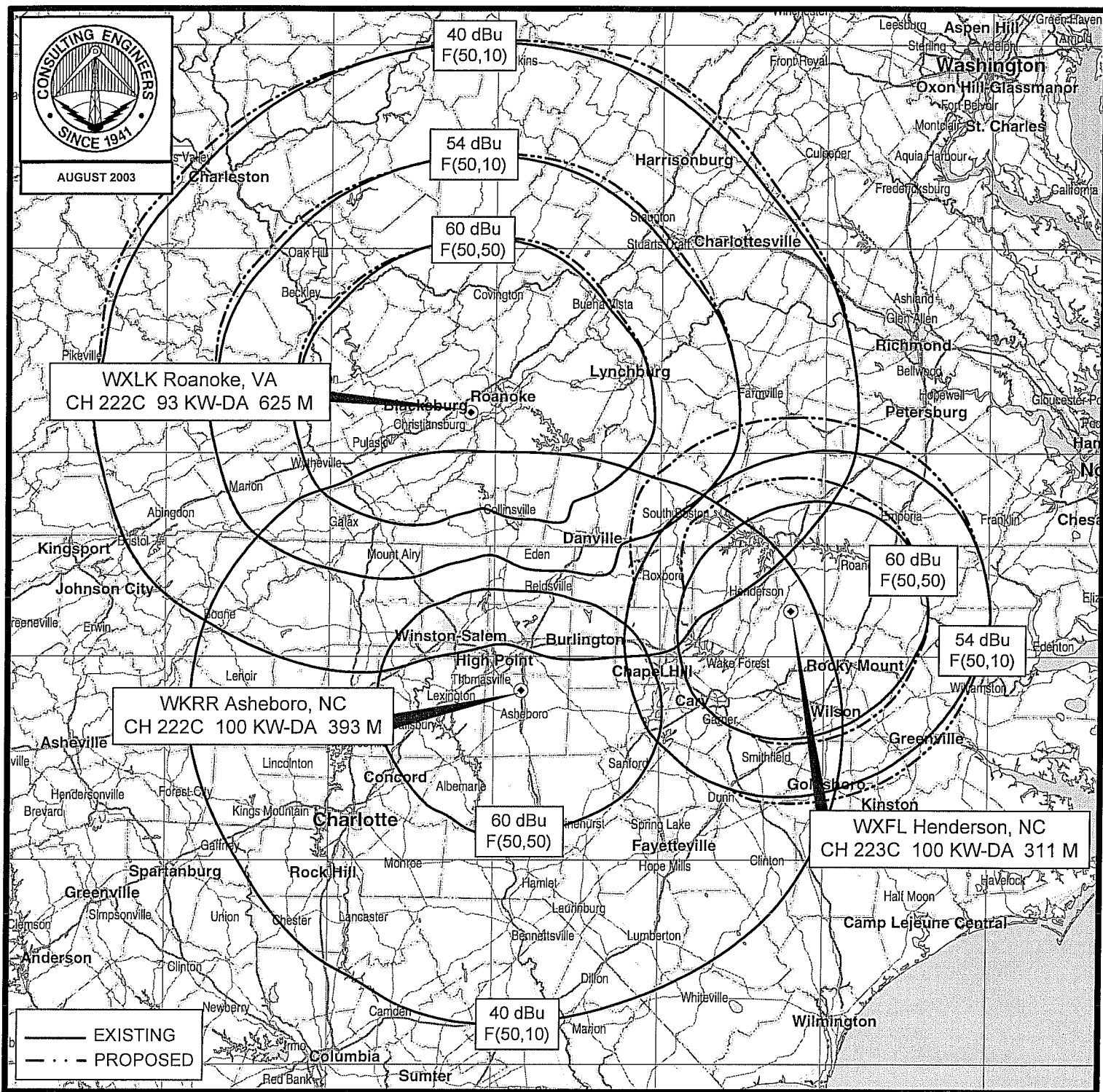
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Tabulation of Distances to Pertinent Stations  
37-11-56 N 80-09-01 W

Call Id	City St	File Status	Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	(km) 207
960328 81316	RUSTBURG VA	APP C	BPED 19960328MD	219 A 91.7	1.150 228	N	37-17-07 079-05-26	N	83.8	94.52 -0.48	95.0 Short
950628 76902	LYNCHBURG VA	APP C	BPED 19950628MA	219 C3 91.7	2.200 203	N	37-28-07 079-00-27	N	73.1	105.61 9.61	96.0 Close
WVPB 71689	BECKLEY WV	LIC C	BLER 19840615CB	219 B 91.7	10.500 280	N	37-53-46 080-59-21	N	316.6	107.16 2.16	105.0 Close
WVTR 70340	MARION VA	LIC C	BLER 19911030KA	220 C2 91.9	4.500 454	Y	36-44-52 081-18-15	N	244.3	114.29 9.29	105.0 Close
WWHS-F 25905	HAMPDEN-SYD VA	LIC C	BLER 19971027KD	221 D 92.1	0.010 66	N	37-14-23 078-27-48	N	87.7	149.80 -11.20	161.0 Short
WDIC-F 16905	CLINCHCO VA	RSV C		221 C3 92.1	0.000		37-21-48 082-21-56		276.0	197.31 21.31	176.0 Clear
WVWC 71674	BUCKHANNON WV	LIC C	BLER 19810908AF	221 D 92.1	0.013 -21	N	38-59-24 080-13-10	N	358.3	198.90 37.90	161.0 Clear
WDIC-F 16905	CLINCHCO VA	LIC C	BLH 19920212KE	221 A 92.1	2.500 154	N	37-08-42 082-23-22	N	268.9	198.96 33.96	165.0 Clear
WDIC-F 16905	CLINCHCO VA	APP C	BPH 20010502AAN	221 C3 92.1	12.000 154	Y	37-08-42 082-23-22	Y	268.9	198.96 22.96	176.0 Clear
WDIC-F 16905	CLINCHCO VA	APP C	BPH 20010502AAN	221 C3 92.1	12.000 154	Y	37-08-42 082-23-22	Y	268.9	198.96 22.96	176.0 Clear
WMNC-F 13832	MORGANTON NC	LIC C	BMLH 19900123KC	221 A 92.1	6.000 100	N	35-45-09 081-43-19	N	221.6	213.54 48.54	165.0 Clear
WCDX 60473	MECHANICSVI VA	LIC C	BLH 19960117KA	221 B1 92.1	4.500 235	N	37-36-52 077-30-56	Y	78.0	237.79 44.79	193.0 Clear



**Figure 4**  
**Sheet 2 of 2**

WXLK	ROANOKE	BLH	222 C	93.000	Y	37-11-56	N	270.0	0.05	290.0
9692	VA LIC C	19860723KC	92.3	625	13709	080-09-03			-289.95	Short
WKRR	ASHEBORO	BLH	222 C	100.000	Y	35-49-59	N	169.4	154.19	290.0
16892	NC LIC C	19851227KB	92.3	393	13673	079-50-02			-135.81	Short
WZAQ	LOUISA	BLH	222 A	4.500	N	38-10-33	N	297.2	243.93	226.0
38568	KY LIC C	19910530KA	92.3	115		082-37-39			17.93	Clear
WWHC	OAKLAND	BMLH	222 A	1.400	N	39-26-41	N	12.1	255.15	226.0
49936	MD LIC C	19910318KH	92.3	210		079-31-42			29.15	Clear
WZAC-F	DANVILLE	BLH	223 A	0.610	N	38-05-01	N	304.5	175.97	165.0
53501	WV LIC C	19891018KE	92.5	212		081-48-17			10.97	Close
WYFL	HENDERSON	BLH	223 C	100.000	Y	36-13-23	N	121.4	205.01	241.0
5100	NC LIC C	19870918KB	92.5	311	13798	078-12-07			-35.99	Short
WYFL	HENDERSON	BPH	223 C0	100.000	Y	36-13-23	N	121.4	205.01	220.0
5100	NC CP C	20011015AAF	92.5	311	44326	078-12-07			-14.99	Short
WPMW	MULLENS	BLH	224 A	1.650	N	37-35-39	N	292.1	118.79	95.0
60598	WV LIC C	19860428KC	92.7	135		081-23-49			23.79	Clear
WCWV	SUMMERSVILL	BLH	225 B	11.000	N	38-21-37	N	341.5	136.13	105.0
54368	WV LIC C	19830328AL	92.9	274		080-38-49			31.13	Clear
WKCJ	LEWISBURG	BLH	276 B1	3.300	Y	37-47-54	Y	334.3	73.96	31.0
59675	WV LIC C	20000626AFN	103.1	273	16008	080-30-56			42.96	Clear



## ALLOCATION STUDY

FM STATION WXLK  
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du Treil, Lundin & Rackley, Inc. Sarasota, Florida