

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A

The WWKL proposed antenna location will be shortspaced to four authorized facilities: WSNU, Channel 221A, Lock Haven, Pennsylvania; WLGL, Channel 222A, Riverside, Pennsylvania; WJAZ, Channel 219A, Summerville, Pennsylvania; and WPPT, Channel 221A, Mercersburg, Pennsylvania. The detailed spacing information is shown on Exhibit A1. Cumulus proposes to use the provisions of §73.215 of the Commission's rules to address these shortspaced situations.

Exhibit A2 specifically demonstrates that there will be no prohibited overlap between the proposed WWKL and WSNU, WLGL, WJAZ or WPPT. The contours of WSNU and WLGL are based on 6.0 kilowatts effective radiated power at a height above average terrain (HAAT) of 100.0 meters.² The contours of WJAZ and WPPT are based on their respective licensed facilities.³ Attached as Exhibits A3 through A10 are the tabulated distances to the protected and interfering contours, along the pertinent arcs, of the proposed WWKL and WSNU, WLGL,

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- 2) The authorized WSNU facility is operating with less than maximum Class A power and height. Therefore, the center of radiation was raised to bring the height above average terrain to 100 meters and the power increased to 6.0 kilowatts for the §73.215 review. The facilities of WLGL are authorized with maximum equivalent Class A facilities, as such, the center of radiation was lowered to bring the HAAT to 100 meters and the power raised to 6.0 kilowatts for the §73.215 review.
- 3) WJAZ is protected as authorized for a non-commercial station, pursuant to Paragraph 53, Memorandum Opinion and Order, MM Docket #87-121, FCC 91-273, released September 17, 1991. Further, WPPT was authorized pursuant to §73.215 and, therefore, is protected as licensed.

WJAZ or WPPT. Further, attached as Exhibit A11 are the tabulated and protected contours of the proposed facility, in ten degree increments. Again, there is no prohibited overlap between the facilities.

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EXHIBIT A1

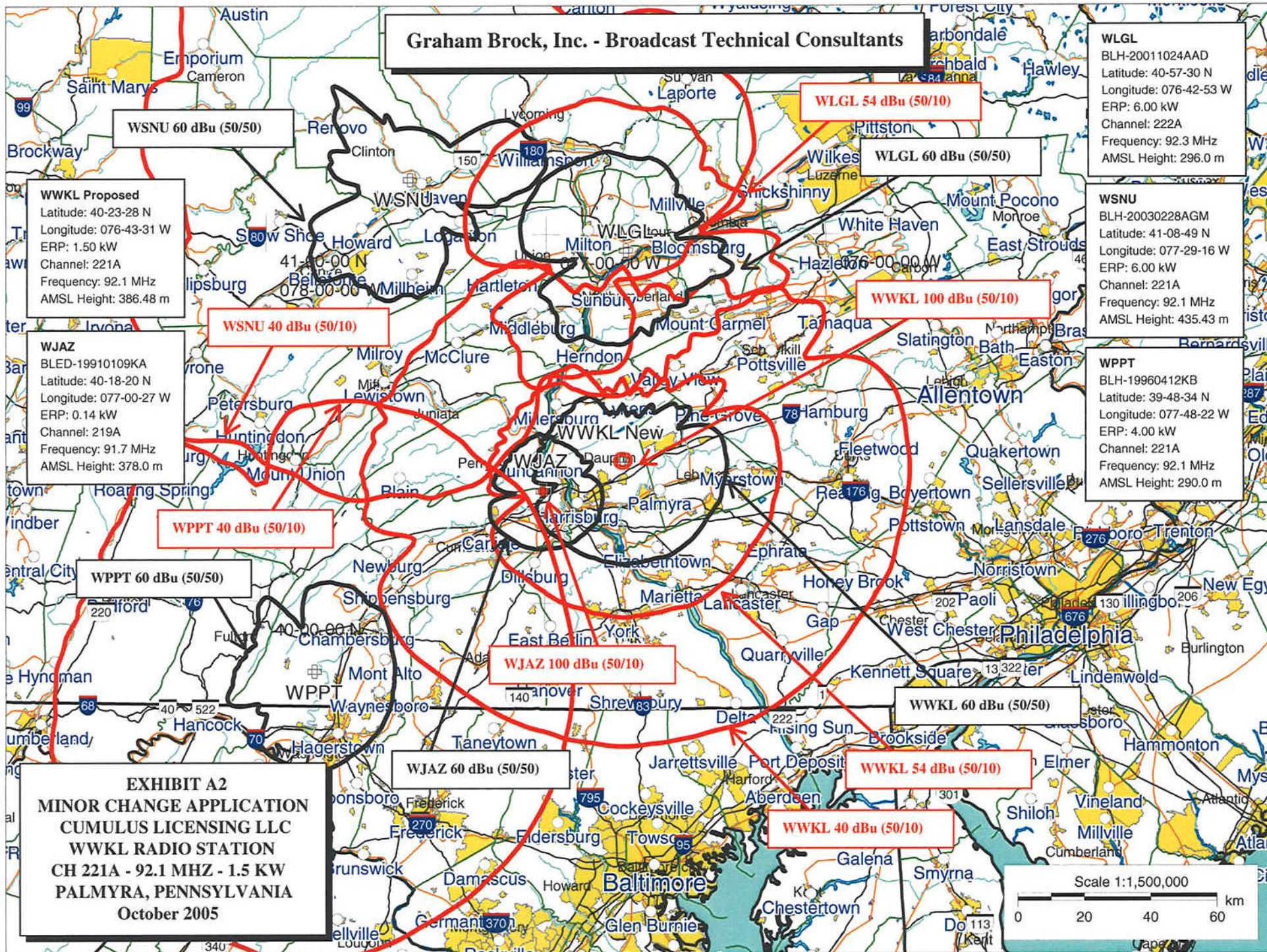
Clearance study for WWKL Palmyra, Pennsylvania
Using proposed site as reference

REFERENCE	CLASS = A	DISPLAY DATES
40 23 28 N.	Current	DATA 10-04-05
76 43 31 W.	Spacings	SEARCH 10-04-05
----- Channel 221 - 92.1 MHz -----		

Call	Channel	Location	Power	Azi	Dist	FCC	Margin
	Lat.	Lng.	Ant		HAAT		
WWKL	LIC 221A	Palmyra	PA	126.1	12.20	115.0	-102.80
	40 19 35	76 36 33	CN	3.300 kW	91 M		
	Cumulus Licensing LLC		BMLH-19900213KA				
* WSNU	LIC 221A	Lock Haven	PA	322.9	105.78	115.0	-9.22
	41 08 49	77 29 16	CX	6.000 kW	70 M		
	Lipez Broadcasting Corporation		BLH-20030228AGM				
* WLGL	LIC 222A	Riverside	PA	0.8	62.99	72.0	-9.01
	40 57 30	76 42 53	CX	0.930 kW	254 M		
	MMP License LLC		BLH-20011024AAD				
* WJAZ	LIC 219A	Summerdale	PA	248.4	25.79	31.0	-5.21
	40 18 20	77 00 27	CN	0.140 kW	210 M		
	Temple University		BLED-19910109KA				
* WPPT	LIC-N 221A	Mercersburg	PA	235.2	112.54	115.0	-2.46
	39 48 34	77 48 22	NCN	4.000 kW	90 M		
	M. Belmont Verstandig, Inc.		BLH-19960412KB				
+ WQFM	LIC-N 221A	Nanticoke	PA	39.2	114.64	115.0	-0.36
	41 11 11	75 51 33	NC	0.660 kW	303 M		
	The Scranton Times, L.P.		BLH-20000106AAW				
WERQFM	LIC-D 222B	Baltimore	MD	177.6	116.93	113.0	3.93
	39 20 20	76 40 02	DCN	37.000 kW	174 M		
	Radio One Licenses, LLC		BLH-19891228KA				
WSJW	LIC 224A	Starview	PA	190.4	35.62	31.0	4.62
	40 04 32	76 48 03	C	0.700 kW	291 M		
	Hall Communications, Inc.		BLH-20040322AFY				
WYTL	LIC-D 219A	Wyomissing	PA	99.5	45.44	31.0	14.44
	40 19 22	76 11 52	DEX	0.320 kW	256 M		
	Four Rivers Community Broad.		BLED-20050517ADV				
WIXQ	LIC 219A	Millersville	PA	144.2	53.81	31.0	22.81
	39 59 53	76 21 20	CN	0.130 kW	21 M		
	Millersville University		BLED-19810731AE				

* Note: This shortage is addressed under \$73.215 of the rules, see Exhibit A.
+ Note: This shortage is less than 0.50 km, thus rounds to zero.

Graham Brock, Inc. - Broadcast Technical Consultants



WLGL
BLH-20011024AAD
Latitude: 40-57-30 N
Longitude: 076-42-53 W
ERP: 6.00 kW
Channel: 222A
Frequency: 92.3 MHz
AMS Height: 296.0 m

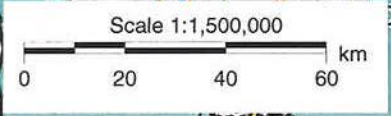
WSNU
BLH-20030228AGM
Latitude: 41-08-49 N
Longitude: 077-29-16 W
ERP: 6.00 kW
Channel: 221A
Frequency: 92.1 MHz
AMS Height: 435.43 m

WPPT
BLH-19960412KB
Latitude: 39-48-34 N
Longitude: 077-48-22 W
ERP: 4.00 kW
Channel: 221A
Frequency: 92.1 MHz
AMS Height: 290.0 m

WWKL Proposed
Latitude: 40-23-28 N
Longitude: 076-43-31 W
ERP: 1.50 kW
Channel: 221A
Frequency: 92.1 MHz
AMS Height: 386.48 m

WJAZ
BLH-19910109KA
Latitude: 40-18-20 N
Longitude: 077-00-27 W
ERP: 0.14 kW
Channel: 219A
Frequency: 91.7 MHz
AMS Height: 378.0 m

EXHIBIT A2
MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
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MINOR CHANGE APPLICATION
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WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A3

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

WSNU - BLH-20030228AGM
Channel = 221A
Max ERP = 6 kW
RCAMSL = 439 M
N. Lat = 41 08 49
W. Lng = 77 29 16

Protected
60 dBu

Interfering
40 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
295.0	001.5000	0131.3	023.3	149.7	006.0000	0058.9	085.7	38.3
296.0	001.5000	0131.3	023.3	149.5	006.0000	0051.3	085.5	37.9
297.0	001.5000	0129.8	023.2	149.2	006.0000	0051.3	085.4	38.0
298.0	001.5000	0126.8	023.0	148.9	006.0000	0051.3	085.4	38.0
299.0	001.5000	0123.5	022.7	148.6	006.0000	0051.3	085.4	38.0
300.0	001.5000	0120.1	022.5	148.2	006.0000	0046.0	085.4	37.6
301.0	001.5000	0116.9	022.2	147.9	006.0000	0046.0	085.5	37.6
302.0	001.5000	0114.6	022.0	147.6	006.0000	0046.0	085.5	37.6
303.0	001.5000	0113.8	021.9	147.4	006.0000	0042.9	085.4	37.5
304.0	001.5000	0114.8	022.0	147.2	006.0000	0042.9	085.1	37.5
305.0	001.5000	0116.9	022.2	147.0	006.0000	0042.9	084.8	37.6
306.0	001.5000	0118.5	022.3	146.8	006.0000	0042.9	084.6	37.7
307.0	001.5000	0118.2	022.3	146.5	006.0000	0042.9	084.5	37.7
308.0	001.5000	0116.2	022.2	146.2	006.0000	0041.4	084.5	37.6
309.0	001.5000	0114.0	022.0	145.9	006.0000	0041.4	084.5	37.6
310.0	001.5000	0112.4	021.8	145.7	006.0000	0041.4	084.6	37.6
311.0	001.5000	0111.4	021.7	145.4	006.0000	0041.2	084.6	37.6
312.0	001.5000	0110.5	021.6	145.1	006.0000	0041.2	084.6	37.6
313.0	001.5000	0109.5	021.5	144.9	006.0000	0041.2	084.6	37.6
314.0	001.5000	0108.8	021.5	144.6	006.0000	0041.2	084.6	37.6
315.0	001.5000	0108.6	021.5	144.4	006.0000	0042.1	084.5	37.6
316.0	001.5000	0109.0	021.5	144.1	006.0000	0042.1	084.4	37.7
317.0	001.5000	0110.5	021.6	143.9	006.0000	0042.1	084.2	37.7
318.0	001.5000	0113.0	021.9	143.6	006.0000	0042.1	083.9	37.8
319.0	001.5000	0116.1	022.1	143.4	006.0000	0044.5	083.6	38.0
320.0	001.5000	0118.4	022.3	143.1	006.0000	0044.5	083.4	38.0
321.0	001.5000	0118.8	022.4	142.9	006.0000	0044.5	083.4	38.0
322.0	001.5000	0117.4	022.3	142.6	006.0000	0044.5	083.5	38.0
323.0	001.5000	0115.9	022.1	142.3	006.0000	0047.9	083.6	38.2
324.0	001.5000	0115.5	022.1	142.1	006.0000	0047.9	083.6	38.2
325.0	001.5000	0115.3	022.1	141.8	006.0000	0047.9	083.7	38.2
326.0	001.5000	0114.0	022.0	141.5	006.0000	0047.9	083.8	38.1
327.0	001.5000	0112.3	021.8	141.3	006.0000	0051.9	084.0	38.3
328.0	001.5000	0111.5	021.7	141.0	006.0000	0051.9	084.1	38.3
329.0	001.5000	0111.6	021.8	140.8	006.0000	0051.9	084.2	38.3
330.0	001.5000	0111.9	021.8	140.5	006.0000	0051.9	084.2	38.3
331.0	001.5000	0111.4	021.7	140.3	006.0000	0055.6	084.3	38.4
332.0	001.5000	0110.0	021.6	140.0	006.0000	0055.6	084.5	38.4
333.0	001.5000	0108.0	021.4	139.8	006.0000	0055.6	084.8	38.3
334.0	001.5000	0104.3	021.0	139.6	006.0000	0055.6	085.2	38.2
335.0	001.5000	0099.0	020.5	139.5	006.0000	0058.5	085.8	38.2

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EXHIBIT A4

WSNU - BLH-20030228AGM
Channel = 221A
Max ERP = 6 kW
RCAMSL = 439 M
N. Lat = 41 08 49
W. Lng = 77 29 16

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

Protected
60 dBu

Interfering
40 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
120.0	006.0000	0059.8	022.4	328.5	001.5000	0111.6	085.5	34.8
121.0	006.0000	0063.4	023.0	328.5	001.5000	0111.5	084.8	35.0
122.0	006.0000	0065.5	023.3	328.3	001.5000	0111.5	084.4	35.2
123.0	006.0000	0067.7	023.6	328.2	001.5000	0111.5	083.9	35.3
124.0	006.0000	0071.3	024.2	328.0	001.5000	0111.5	083.2	35.5
125.0	006.0000	0076.2	024.9	328.0	001.5000	0111.5	082.4	35.7
126.0	006.0000	0081.2	025.7	327.9	001.5000	0111.5	081.5	36.0
127.0	006.0000	0085.1	026.2	327.7	001.5000	0111.5	080.9	36.2
128.0	006.0000	0087.9	026.6	327.5	001.5000	0111.5	080.3	36.3
129.0	006.0000	0089.9	026.9	327.2	001.5000	0112.3	079.9	36.5
130.0	006.0000	0091.0	027.1	327.0	001.5000	0112.3	079.6	36.5
131.0	006.0000	0090.8	027.0	326.6	001.5000	0112.3	079.5	36.6
132.0	006.0000	0089.1	026.8	326.3	001.5000	0114.0	079.6	36.6
133.0	006.0000	0085.6	026.3	325.9	001.5000	0114.0	080.0	36.5
134.0	006.0000	0080.4	025.5	325.4	001.5000	0115.3	080.7	36.4
135.0	006.0000	0074.3	024.6	325.0	001.5000	0115.3	081.5	36.2
136.0	006.0000	0068.3	023.7	324.6	001.5000	0115.3	082.3	35.9
137.0	006.0000	0063.6	023.0	324.3	001.5000	0115.5	083.0	35.7
138.0	006.0000	0060.8	022.6	324.0	001.5000	0115.5	083.3	35.6
139.0	006.0000	0058.5	022.2	323.7	001.5000	0115.5	083.7	35.5
140.0	006.0000	0055.6	021.7	323.4	001.5000	0115.9	084.1	35.4
141.0	006.0000	0051.9	021.0	323.2	001.5000	0115.9	084.9	35.2
142.0	006.0000	0047.9	020.1	322.9	001.5000	0115.9	085.7	35.0
143.0	006.0000	0044.5	019.3	322.7	001.5000	0115.9	086.5	34.8
144.0	006.0000	0042.1	018.8	322.5	001.5000	0117.4	087.0	34.7
145.0	006.0000	0041.2	018.6	322.3	001.5000	0117.4	087.3	34.6
146.0	006.0000	0041.4	018.6	322.0	001.5000	0117.4	087.2	34.6
147.0	006.0000	0042.9	019.0	321.8	001.5000	0117.4	086.9	34.7
148.0	006.0000	0046.0	019.7	321.5	001.5000	0117.4	086.2	34.9
149.0	006.0000	0051.3	020.9	321.2	001.5000	0118.8	085.1	35.3
150.0	006.0000	0058.9	022.3	320.8	001.5000	0118.8	083.8	35.7
151.0	006.0000	0066.8	023.5	320.4	001.5000	0118.4	082.7	36.0
152.0	006.0000	0073.6	024.5	319.9	001.5000	0118.4	081.7	36.2
153.0	006.0000	0079.3	025.4	319.5	001.5000	0118.4	081.0	36.4
154.0	006.0000	0084.8	026.2	319.0	001.5000	0116.1	080.4	36.5
155.0	006.0000	0090.8	027.0	318.6	001.5000	0116.1	079.7	36.7
156.0	006.0000	0095.7	027.7	318.1	001.5000	0113.0	079.2	36.7
157.0	006.0000	0097.6	028.0	317.7	001.5000	0113.0	079.1	36.7
158.0	006.0000	0099.8	028.3	317.3	001.5000	0110.5	079.0	36.6
159.0	006.0000	0103.5	028.8	316.8	001.5000	0110.5	078.7	36.7
160.0	006.0000	0107.6	029.3	316.3	001.5000	0109.0	078.4	36.7

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EXHIBIT A5

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

WLGL - BLH-20011024AAD
Channel = 222A
Max ERP = 6 kW
RCAMSL = 296 M
N. Lat = 40 57 30
W. Lng = 76 42 53

Protected
60 dBu

Interfering
54 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
320.0	001.5000	0118.4	022.3	198.4	006.0000	0104.1	048.3	52.5
321.0	001.5000	0118.8	022.4	198.2	006.0000	0104.1	048.0	52.7
322.0	001.5000	0117.4	022.3	197.8	006.0000	0104.1	047.7	52.8
323.0	001.5000	0115.9	022.1	197.4	006.0000	0104.6	047.5	52.9
324.0	001.5000	0115.5	022.1	197.1	006.0000	0104.6	047.2	53.0
325.0	001.5000	0115.3	022.1	196.8	006.0000	0104.6	046.9	53.1
326.0	001.5000	0114.0	022.0	196.4	006.0000	0104.9	046.7	53.2
327.0	001.5000	0112.3	021.8	195.9	006.0000	0104.9	046.5	53.3
328.0	001.5000	0111.5	021.7	195.6	006.0000	0104.9	046.3	53.4
329.0	001.5000	0111.6	021.8	195.2	006.0000	0104.8	046.0	53.5
330.0	001.5000	0111.9	021.8	194.9	006.0000	0104.8	045.7	53.6
331.0	001.5000	0111.4	021.7	194.6	006.0000	0104.8	045.4	53.7
332.0	001.5000	0110.0	021.6	194.1	006.0000	0104.6	045.3	53.7
333.0	001.5000	0108.0	021.4	193.6	006.0000	0104.6	045.2	53.8
334.0	001.5000	0104.3	021.0	192.9	006.0000	0104.2	045.2	53.7
335.0	001.5000	0099.0	020.5	192.1	006.0000	0103.8	045.4	53.6
336.0	001.5000	0093.4	019.9	191.3	006.0000	0103.0	045.7	53.5
337.0	001.5000	0087.9	019.2	190.5	006.0000	0103.0	046.0	53.3
338.0	001.5000	0081.7	018.5	189.7	006.0000	0102.3	046.5	53.1
339.0	001.5000	0074.8	017.6	188.8	006.0000	0101.7	047.1	52.8
340.0	001.5000	0067.9	016.8	188.0	006.0000	0100.9	047.7	52.5
341.0	001.5000	0062.0	016.0	187.2	006.0000	0100.7	048.3	52.3
342.0	001.5000	0056.2	015.2	186.6	006.0000	0100.7	048.8	52.1
343.0	001.5000	0051.4	014.5	186.0	006.0000	0101.2	049.4	51.9
344.0	001.5000	0048.9	014.1	185.5	006.0000	0101.2	049.6	51.8
345.0	001.5000	0049.4	014.2	185.3	006.0000	0101.4	049.5	51.9
346.0	001.5000	0051.2	014.5	185.1	006.0000	0101.4	049.1	52.0
347.0	001.5000	0052.4	014.7	184.9	006.0000	0101.4	048.9	52.1
348.0	001.5000	0052.6	014.7	184.6	006.0000	0101.4	048.8	52.2
349.0	001.5000	0051.3	014.5	184.3	006.0000	0101.2	048.9	52.1
350.0	001.5000	0049.2	014.2	183.9	006.0000	0101.2	049.1	52.0
351.0	001.5000	0048.4	014.1	183.6	006.0000	0101.2	049.2	52.0
352.0	001.5000	0047.4	013.9	183.3	006.0000	0100.6	049.3	51.9
353.0	001.5000	0047.9	014.0	183.0	006.0000	0100.6	049.2	52.0
354.0	001.5000	0049.5	014.2	182.8	006.0000	0100.6	048.9	52.1
355.0	001.5000	0053.0	014.7	182.6	006.0000	0100.6	048.4	52.3
356.0	001.5000	0055.9	015.2	182.3	006.0000	0099.8	047.9	52.4
357.0	001.5000	0058.5	015.5	182.1	006.0000	0099.8	047.5	52.5
358.0	001.5000	0061.0	015.9	181.8	006.0000	0099.8	047.2	52.6
359.0	001.5000	0063.5	016.2	181.4	006.0000	0099.0	046.8	52.7

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October 2005

EXHIBIT A6

WLGL - BLH-20011024AAD
Channel = 222A
Max ERP = 6 kW
RCAMSL = 296 M
N. Lat = 40 57 30
W. Lng = 76 42 53

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

Protected
60 dBu

Interfering
54 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
160.0	006.0000	0068.9	023.8	012.5	001.5000	0052.5	041.6	43.8
161.0	006.0000	0073.5	024.5	012.5	001.5000	0052.5	040.8	44.1
162.0	006.0000	0079.4	025.4	012.6	001.5000	0052.2	039.8	44.4
163.0	006.0000	0084.6	026.2	012.6	001.5000	0052.2	038.9	44.8
164.0	006.0000	0086.4	026.4	012.2	001.5000	0052.5	038.5	45.0
165.0	006.0000	0084.0	026.1	011.4	001.5000	0051.9	038.6	44.9
166.0	006.0000	0080.0	025.5	010.4	001.5000	0051.3	038.9	44.6
167.0	006.0000	0076.3	024.9	009.5	001.5000	0050.4	039.2	44.4
168.0	006.0000	0072.8	024.4	008.6	001.5000	0050.4	039.6	44.2
169.0	006.0000	0069.8	024.0	007.8	001.5000	0047.9	039.9	43.7
170.0	006.0000	0069.2	023.9	007.2	001.5000	0044.9	039.8	43.2
171.0	006.0000	0072.0	024.3	006.8	001.5000	0044.9	039.3	43.4
172.0	006.0000	0075.7	024.8	006.4	001.5000	0043.8	038.6	43.5
173.0	006.0000	0078.4	025.2	005.9	001.5000	0043.8	038.1	43.6
174.0	006.0000	0081.2	025.7	005.4	001.5000	0046.4	037.6	44.3
175.0	006.0000	0084.1	026.1	004.9	001.5000	0046.4	037.1	44.5
176.0	006.0000	0086.7	026.4	004.3	001.5000	0049.2	036.7	45.1
177.0	006.0000	0089.4	026.8	003.6	001.5000	0049.2	036.3	45.3
178.0	006.0000	0092.8	027.3	002.9	001.5000	0052.8	035.7	46.1
179.0	006.0000	0094.8	027.6	002.2	001.5000	0057.3	035.4	46.9
180.0	006.0000	0096.9	027.9	001.4	001.5000	0062.1	035.1	47.6
181.0	006.0000	0099.0	028.2	000.7	001.5000	0062.1	034.8	47.8
182.0	006.0000	0099.8	028.3	359.8	001.5000	0066.0	034.7	48.3
183.0	006.0000	0100.6	028.4	359.0	001.5000	0063.5	034.7	48.0
184.0	006.0000	0101.2	028.5	358.2	001.5000	0061.0	034.6	47.7
185.0	006.0000	0101.4	028.5	357.4	001.5000	0058.5	034.7	47.4
186.0	006.0000	0101.2	028.5	356.6	001.5000	0058.5	034.8	47.3
187.0	006.0000	0100.7	028.4	355.8	001.5000	0055.9	034.9	46.9
188.0	006.0000	0100.9	028.4	355.0	001.5000	0053.0	035.0	46.4
189.0	006.0000	0101.7	028.5	354.2	001.5000	0049.5	035.0	45.9
190.0	006.0000	0102.3	028.6	353.4	001.5000	0047.9	035.1	45.6
191.0	006.0000	0103.0	028.7	352.6	001.5000	0047.9	035.1	45.5
192.0	006.0000	0103.8	028.8	351.7	001.5000	0047.4	035.2	45.4
193.0	006.0000	0104.2	028.9	350.9	001.5000	0048.4	035.3	45.5
194.0	006.0000	0104.6	028.9	350.2	001.5000	0049.2	035.5	45.6
195.0	006.0000	0104.8	028.9	349.4	001.5000	0051.3	035.7	45.9
196.0	006.0000	0104.9	028.9	348.7	001.5000	0051.3	035.9	45.8
197.0	006.0000	0104.6	028.9	348.0	001.5000	0052.6	036.1	45.9
198.0	006.0000	0104.1	028.8	347.4	001.5000	0052.4	036.5	45.8
199.0	006.0000	0103.6	028.8	346.8	001.5000	0052.4	036.8	45.6
200.0	006.0000	0104.0	028.8	346.1	001.5000	0051.2	037.0	45.3

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A7

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

WJAZ - BLED-19910109KA
Channel = 219A
Max ERP = 0.14 kW
RCAMSL = 378 M
N. Lat = 40 18 20
W. Lng = 77 00 27

Protected
60 dBu

Interfering
100 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
225.0	001.5000	0243.4	031.0	170.6	000.1400	0242.7	012.6	65.7
226.0	001.5000	0245.0	031.1	172.5	000.1400	0241.8	012.2	66.2
227.0	001.5000	0246.1	031.2	174.3	000.1400	0238.8	011.8	66.7
228.0	001.5000	0246.6	031.2	176.0	000.1400	0238.0	011.4	67.3
229.0	001.5000	0246.4	031.2	177.7	000.1400	0240.8	011.0	68.1
230.0	001.5000	0245.7	031.2	179.3	000.1400	0242.8	010.5	68.9
231.0	001.5000	0244.5	031.1	181.0	000.1400	0245.3	010.1	69.8
232.0	001.5000	0243.1	031.0	182.6	000.1400	0244.7	009.6	70.6
233.0	001.5000	0241.6	030.9	184.3	000.1400	0244.7	009.1	71.5
234.0	001.5000	0240.1	030.8	186.2	000.1400	0244.6	008.7	72.3
235.0	001.5000	0238.7	030.8	188.2	000.1400	0244.4	008.2	73.1
236.0	001.5000	0237.2	030.7	190.4	000.1400	0243.6	007.8	74.0
237.0	001.5000	0235.3	030.5	192.6	000.1400	0243.5	007.3	74.9
238.0	001.5000	0232.8	030.4	194.8	000.1400	0244.0	006.8	76.0
239.0	001.5000	0229.6	030.2	197.0	000.1400	0244.4	006.3	77.2
240.0	001.5000	0225.7	029.9	199.1	000.1400	0244.5	005.8	78.5
241.0	001.5000	0220.7	029.6	200.9	000.1400	0244.3	005.2	80.0
242.0	001.5000	0213.6	029.1	201.9	000.1400	0243.9	004.5	81.8
243.0	001.5000	0203.1	028.4	200.5	000.1400	0244.3	003.6	84.7
244.0	001.5000	0187.8	027.3	193.0	000.1400	0243.5	002.6	88.8
245.0	001.5000	0167.9	026.0	164.9	000.1400	0247.2	001.6	93.7
246.0	001.5000	0145.7	024.4	104.8	000.1400	0260.4	001.7	92.8
247.0	001.5000	0125.5	022.9	079.2	000.1400	0213.1	003.0	86.6
248.0	001.5000	0111.8	021.8	070.5	000.1400	0148.0	004.0	80.4
249.0	001.5000	0107.0	021.3	065.4	000.1400	0180.5	004.5	80.2
250.0	001.5000	0112.1	021.8	059.7	000.1400	0226.2	004.1	82.8
251.0	001.5000	0123.8	022.8	049.6	000.1400	0186.8	003.2	84.9
252.0	001.5000	0138.9	023.9	030.4	000.1400	0191.6	002.4	88.5
253.0	001.5000	0154.0	025.0	000.9	000.1400	0220.3	002.2	90.3
254.0	001.5000	0166.7	025.9	337.9	000.1400	0187.4	002.5	88.0
255.0	001.5000	0177.3	026.7	325.8	000.1400	0174.4	003.1	84.9
256.0	001.5000	0184.9	027.2	321.3	000.1400	0171.0	003.8	82.4
257.0	001.5000	0188.1	027.4	321.5	000.1400	0172.6	004.3	80.6
258.0	001.5000	0187.3	027.3	324.6	000.1400	0174.1	004.7	79.4
259.0	001.5000	0182.8	027.0	329.8	000.1400	0181.6	005.0	78.6
260.0	001.5000	0176.6	026.6	335.5	000.1400	0184.7	005.4	77.8
261.0	001.5000	0175.9	026.6	337.2	000.1400	0186.3	005.8	76.6
262.0	001.5000	0173.3	026.4	339.7	000.1400	0189.1	006.2	75.6
263.0	001.5000	0173.8	026.4	340.4	000.1400	0189.1	006.7	74.4
264.0	001.5000	0177.4	026.7	339.3	000.1400	0187.6	007.2	73.1
265.0	001.5000	0177.7	026.7	340.1	000.1400	0189.1	007.6	72.2

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A8

WJAZ - BLED-19910109KA
Channel = 219A
Max ERP = 0.14 kW
RCAMSL = 378 M
N. Lat = 40 18 20
W. Lng = 77 00 27

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

Protected
60 dBu

Interfering
100 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
055.0	000.1400	0179.8	015.1	265.8	001.5000	0178.4	011.7	74.8
056.0	000.1400	0191.9	015.5	265.8	001.5000	0178.4	011.1	75.6
057.0	000.1400	0205.3	016.1	266.0	001.5000	0178.4	010.5	76.7
058.0	000.1400	0216.6	016.6	265.8	001.5000	0178.4	009.9	77.6
059.0	000.1400	0223.6	016.8	265.1	001.5000	0177.7	009.6	78.3
060.0	000.1400	0226.2	016.9	263.7	001.5000	0177.4	009.3	78.6
061.0	000.1400	0224.2	016.9	261.8	001.5000	0173.3	009.3	78.5
062.0	000.1400	0218.0	016.6	259.6	001.5000	0176.6	009.4	78.4
063.0	000.1400	0208.5	016.2	257.3	001.5000	0188.1	009.7	78.4
064.0	000.1400	0196.0	015.7	255.1	001.5000	0177.3	010.2	77.1
065.0	000.1400	0180.5	015.1	253.1	001.5000	0154.0	010.8	74.8
066.0	000.1400	0164.0	014.3	251.3	001.5000	0123.8	011.5	71.7
067.0	000.1400	0149.0	013.6	249.9	001.5000	0112.1	012.2	69.7
068.0	000.1400	0140.0	013.1	248.7	001.5000	0107.0	012.6	68.7
069.0	000.1400	0140.6	013.2	247.7	001.5000	0111.8	012.6	69.1
070.0	000.1400	0148.0	013.5	246.5	001.5000	0125.5	012.2	70.6
071.0	000.1400	0159.2	014.1	245.2	001.5000	0167.9	011.7	74.1
072.0	000.1400	0170.0	014.6	243.6	001.5000	0187.8	011.2	75.9
073.0	000.1400	0178.8	015.0	241.9	001.5000	0213.6	010.9	77.5
074.0	000.1400	0186.2	015.3	240.2	001.5000	0225.7	010.7	78.4
075.0	000.1400	0192.0	015.5	238.5	001.5000	0232.8	010.5	78.9
076.0	000.1400	0196.7	015.7	236.7	001.5000	0235.3	010.4	79.2
077.0	000.1400	0201.6	015.9	234.9	001.5000	0238.7	010.3	79.5
078.0	000.1400	0207.2	016.2	233.0	001.5000	0241.6	010.2	79.8
079.0	000.1400	0213.1	016.4	230.9	001.5000	0244.5	010.1	80.0
080.0	000.1400	0218.8	016.7	228.8	001.5000	0246.4	010.1	80.2
081.0	000.1400	0223.5	016.8	226.8	001.5000	0246.1	010.0	80.2
082.0	000.1400	0227.8	017.0	224.9	001.5000	0243.4	010.1	80.0
083.0	000.1400	0231.3	017.1	223.1	001.5000	0239.8	010.2	79.8
084.0	000.1400	0234.7	017.3	221.3	001.5000	0236.6	010.3	79.5
085.0	000.1400	0238.5	017.4	219.6	001.5000	0235.5	010.4	79.3
086.0	000.1400	0242.1	017.6	217.9	001.5000	0235.0	010.5	79.0
087.0	000.1400	0245.1	017.7	216.3	001.5000	0234.9	010.7	78.8
088.0	000.1400	0246.7	017.7	215.1	001.5000	0235.1	010.9	78.4
089.0	000.1400	0247.7	017.8	213.9	001.5000	0235.4	011.1	78.1
090.0	000.1400	0248.8	017.8	212.9	001.5000	0235.5	011.3	77.7
091.0	000.1400	0250.0	017.9	211.9	001.5000	0235.6	011.6	77.3
092.0	000.1400	0251.1	017.9	210.9	001.5000	0236.1	011.8	76.9
093.0	000.1400	0252.1	017.9	210.1	001.5000	0237.3	012.1	76.6
094.0	000.1400	0252.9	018.0	209.3	001.5000	0238.4	012.3	76.2
095.0	000.1400	0253.8	018.0	208.6	001.5000	0238.4	012.6	75.8

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A9

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

WPPT - BLH-19960412KB
Channel = 221A
Max ERP = 4 kW
RCAMSL = 290 M
N. Lat = 39 48 34
W. Lng = 77 48 22

Protected
60 dBu

Interfering
40 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
215.0	001.5000	0235.1	030.5	061.7	004.0000	0097.8	084.6	38.7
216.0	001.5000	0234.9	030.5	061.4	004.0000	0099.0	084.4	38.8
217.0	001.5000	0234.9	030.5	061.1	004.0000	0099.0	084.2	38.9
218.0	001.5000	0235.0	030.5	060.8	004.0000	0099.0	084.0	38.9
219.0	001.5000	0235.1	030.5	060.4	004.0000	0100.3	083.7	39.1
220.0	001.5000	0235.5	030.5	060.1	004.0000	0100.3	083.5	39.1
221.0	001.5000	0236.6	030.6	059.8	004.0000	0100.3	083.3	39.2
222.0	001.5000	0238.1	030.7	059.4	004.0000	0101.5	083.0	39.3
223.0	001.5000	0239.8	030.8	059.1	004.0000	0101.5	082.8	39.4
224.0	001.5000	0241.6	030.9	058.8	004.0000	0101.5	082.5	39.5
225.0	001.5000	0243.4	031.0	058.4	004.0000	0102.6	082.3	39.6
226.0	001.5000	0245.0	031.1	058.1	004.0000	0102.6	082.0	39.7
227.0	001.5000	0246.1	031.2	057.7	004.0000	0102.6	081.9	39.7
228.0	001.5000	0246.6	031.2	057.3	004.0000	0103.7	081.7	39.8
229.0	001.5000	0246.4	031.2	056.9	004.0000	0103.7	081.7	39.8
230.0	001.5000	0245.7	031.2	056.6	004.0000	0103.7	081.6	39.8
231.0	001.5000	0244.5	031.1	056.2	004.0000	0104.7	081.6	39.9
232.0	001.5000	0243.1	031.0	055.8	004.0000	0104.7	081.7	39.9
233.0	001.5000	0241.6	030.9	055.4	004.0000	0106.0	081.7	39.9
234.0	001.5000	0240.1	030.8	055.0	004.0000	0106.0	081.8	39.9
235.0	001.5000	0238.7	030.8	054.7	004.0000	0106.0	081.9	39.9
236.0	001.5000	0237.2	030.7	054.3	004.0000	0107.5	082.0	39.9
237.0	001.5000	0235.3	030.5	053.9	004.0000	0107.5	082.1	39.9
238.0	001.5000	0232.8	030.4	053.5	004.0000	0107.5	082.3	39.8
239.0	001.5000	0229.6	030.2	053.2	004.0000	0108.9	082.6	39.8
240.0	001.5000	0225.7	029.9	052.8	004.0000	0108.9	082.9	39.7
241.0	001.5000	0220.7	029.6	052.5	004.0000	0108.9	083.3	39.6
242.0	001.5000	0213.6	029.1	052.2	004.0000	0110.3	083.8	39.5
243.0	001.5000	0203.1	028.4	052.0	004.0000	0110.3	084.6	39.3
244.0	001.5000	0187.8	027.3	051.8	004.0000	0110.3	085.7	39.0
245.0	001.5000	0167.9	026.0	051.7	004.0000	0110.3	087.1	38.6
246.0	001.5000	0145.7	024.4	051.6	004.0000	0110.3	088.7	38.1
247.0	001.5000	0125.5	022.9	051.6	004.0000	0110.3	090.3	37.7
248.0	001.5000	0111.8	021.8	051.5	004.0000	0110.3	091.5	37.4
249.0	001.5000	0107.0	021.3	051.4	004.0000	0111.6	092.0	37.3
250.0	001.5000	0112.1	021.8	051.1	004.0000	0111.6	091.7	37.4
251.0	001.5000	0123.8	022.8	050.7	004.0000	0111.6	090.9	37.6
252.0	001.5000	0138.9	023.9	050.2	004.0000	0113.0	090.0	37.9
253.0	001.5000	0154.0	025.0	049.6	004.0000	0113.0	089.1	38.2
254.0	001.5000	0166.7	025.9	049.1	004.0000	0114.1	088.4	38.4
255.0	001.5000	0177.3	026.7	048.7	004.0000	0114.1	088.0	38.5

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A10

WPPT - BLH-19960412KB
Channel = 221A
Max ERP = 4 kW
RCAMSL = 290 M
N. Lat = 39 48 34
W. Lng = 77 48 22

WWKL - Proposed
Channel = 221A
Max ERP = 1.5 kW
RCAMSL = 386.48 M
N. Lat = 40 23 28
W. Lng = 76 43 31

Protected
60 dBu

Interfering
40 dBu

30 Second terrain database

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
030.0	004.0000	0112.9	027.3	242.6	001.5000	0203.1	088.4	37.8
031.0	004.0000	0112.6	027.3	242.3	001.5000	0213.6	088.2	38.2
032.0	004.0000	0111.4	027.1	242.0	001.5000	0213.6	088.1	38.3
033.0	004.0000	0109.3	026.9	241.7	001.5000	0213.6	088.0	38.3
034.0	004.0000	0107.0	026.7	241.3	001.5000	0220.7	088.0	38.5
035.0	004.0000	0105.1	026.4	241.0	001.5000	0220.7	088.0	38.5
036.0	004.0000	0104.0	026.3	240.7	001.5000	0220.7	088.0	38.6
037.0	004.0000	0103.7	026.3	240.4	001.5000	0225.7	087.8	38.8
038.0	004.0000	0104.1	026.3	240.2	001.5000	0225.7	087.6	38.9
039.0	004.0000	0105.1	026.4	239.9	001.5000	0225.7	087.3	38.9
040.0	004.0000	0106.4	026.6	239.6	001.5000	0225.7	087.0	39.0
041.0	004.0000	0107.6	026.7	239.4	001.5000	0229.6	086.7	39.3
042.0	004.0000	0108.8	026.9	239.1	001.5000	0229.6	086.5	39.4
043.0	004.0000	0110.0	027.0	238.8	001.5000	0229.6	086.2	39.4
044.0	004.0000	0111.3	027.1	238.6	001.5000	0229.6	086.0	39.5
045.0	004.0000	0112.5	027.3	238.3	001.5000	0232.8	085.7	39.7
046.0	004.0000	0113.5	027.4	238.0	001.5000	0232.8	085.5	39.8
047.0	004.0000	0114.3	027.5	237.7	001.5000	0232.8	085.3	39.8
048.0	004.0000	0114.6	027.5	237.3	001.5000	0235.3	085.2	39.9
049.0	004.0000	0114.1	027.4	237.0	001.5000	0235.3	085.2	39.9
050.0	004.0000	0113.0	027.3	236.7	001.5000	0235.3	085.3	39.9
051.0	004.0000	0111.6	027.2	236.4	001.5000	0237.2	085.4	40.0
052.0	004.0000	0110.3	027.0	236.0	001.5000	0237.2	085.5	39.9
053.0	004.0000	0108.9	026.9	235.7	001.5000	0237.2	085.6	39.9
054.0	004.0000	0107.5	026.7	235.4	001.5000	0238.7	085.8	39.9
055.0	004.0000	0106.0	026.6	235.1	001.5000	0238.7	085.9	39.8
056.0	004.0000	0104.7	026.4	234.8	001.5000	0238.7	086.1	39.8
057.0	004.0000	0103.7	026.3	234.5	001.5000	0240.1	086.2	39.8
058.0	004.0000	0102.6	026.2	234.2	001.5000	0240.1	086.4	39.7
059.0	004.0000	0101.5	026.0	233.9	001.5000	0240.1	086.5	39.7
060.0	004.0000	0100.3	025.9	233.6	001.5000	0240.1	086.7	39.6
061.0	004.0000	0099.0	025.7	233.3	001.5000	0241.6	086.9	39.6
062.0	004.0000	0097.8	025.6	233.0	001.5000	0241.6	087.2	39.5
063.0	004.0000	0096.6	025.4	232.8	001.5000	0241.6	087.4	39.5
064.0	004.0000	0095.5	025.3	232.5	001.5000	0241.6	087.6	39.4
065.0	004.0000	0094.4	025.1	232.3	001.5000	0243.1	087.8	39.4
066.0	004.0000	0093.3	025.0	232.0	001.5000	0243.1	088.1	39.3
067.0	004.0000	0092.5	024.9	231.7	001.5000	0243.1	088.3	39.2
068.0	004.0000	0091.6	024.8	231.5	001.5000	0244.5	088.5	39.2
069.0	004.0000	0090.6	024.7	231.2	001.5000	0244.5	088.8	39.1
070.0	004.0000	0089.3	024.5	231.0	001.5000	0244.5	089.1	39.0

MINOR CHANGE APPLICATION
CUMULUS LICENSING LLC
WWKL (FM) RADIO STATION
CH 221A - 92.1 MHZ - 1.5 KW
PALMYRA, PENNSYLVANIA
October 2005

EXHIBIT A11

Predicted contour:

N. Lat. = 40 23 28 - Tabulated Protected and Interfering Contour Data
W. Lng. = 76 43 31 - WWKL Radio Station - Palmyra, Pennsylvania

HAAT and Distance to Contour - FCC Method - 30 Arc Second terrain database

Azi.	HAAT	ERP kW	dBk	Field	60-F5	40-F1	54-F1	100-F1
000	66.0	1.5000	1.76	1.000	16.51	58.02	24.45	1.62
010	51.3	1.5000	1.76	1.000	14.48	53.36	21.65	1.61
020	46.8	1.5000	1.76	1.000	13.81	51.37	20.59	1.61
030	81.4	1.5000	1.76	1.000	18.47	61.72	27.13	1.73
040	108.3	1.5000	1.76	1.000	21.43	67.24	31.72	1.90
050	150.3	1.5000	1.76	1.000	24.78	74.23	37.25	2.07
060	87.9	1.5000	1.76	1.000	19.24	63.15	28.27	1.77
070	203.2	1.5000	1.76	1.000	28.36	81.34	42.81	2.26
080	237.9	1.5000	1.76	1.000	30.70	85.33	46.42	2.35
090	247.6	1.5000	1.76	1.000	31.30	86.31	47.28	2.36
100	247.9	1.5000	1.76	1.000	31.31	86.34	47.31	2.36
110	252.4	1.5000	1.76	1.000	31.59	86.79	47.70	2.36
120	246.0	1.5000	1.76	1.000	31.20	86.15	47.14	2.36
130	247.3	1.5000	1.76	1.000	31.28	86.28	47.26	2.36
140	256.1	1.5000	1.76	1.000	31.81	87.15	48.01	2.36
150	259.5	1.5000	1.76	1.000	32.02	87.48	48.30	2.37
160	251.1	1.5000	1.76	1.000	31.51	86.66	47.59	2.36
170	247.8	1.5000	1.76	1.000	31.31	86.33	47.30	2.36
180	251.6	1.5000	1.76	1.000	31.54	86.71	47.63	2.36
190	246.1	1.5000	1.76	1.000	31.20	86.16	47.15	2.36
200	242.0	1.5000	1.76	1.000	30.96	85.76	46.80	2.35
210	237.3	1.5000	1.76	1.000	30.67	85.27	46.36	2.35
220	235.5	1.5000	1.76	1.000	30.55	85.08	46.19	2.35
230	245.7	1.5000	1.76	1.000	31.18	86.12	47.11	2.36
240	225.7	1.5000	1.76	1.000	29.90	84.00	45.22	2.33
250	112.1	1.5000	1.76	1.000	21.80	67.94	32.33	1.91
260	176.6	1.5000	1.76	1.000	26.62	77.96	40.07	2.18
270	172.3	1.5000	1.76	1.000	26.33	77.38	39.63	2.16
280	138.0	1.5000	1.76	1.000	23.86	72.29	35.79	2.02
290	134.7	1.5000	1.76	1.000	23.60	71.75	35.37	2.00
300	120.1	1.5000	1.76	1.000	22.48	69.33	33.50	1.95
310	112.4	1.5000	1.76	1.000	21.82	67.99	32.38	1.92
320	118.4	1.5000	1.76	1.000	22.34	69.04	33.27	1.94
330	111.9	1.5000	1.76	1.000	21.77	67.89	32.29	1.91
340	67.9	1.5000	1.76	1.000	16.77	58.52	24.79	1.64
350	49.2	1.5000	1.76	1.000	14.17	52.47	21.16	1.61

AMSL= 386.48 M