

TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR FM CONSTRUCTION PERMIT
FCC FILE NO. BPH-20031112AIA
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an amendment to the pending application for construction permit to modify the licensed facilities of FM station WLZT at Ashville, Ohio (BPH-20031112AIA). Currently, WLZT is authorized to operate on channel 227B (93.3 MHz) with a directional antenna maximum effective radiated power (ERP) of 33 kilowatts and an antenna radiation center height above average terrain (HAAT) of 182 meters. The pending application proposes to change transmitter site and operate with a nondirectional ERP of 33 kW and an HAAT to 179 meters. By means of this instant amendment it is proposed to reduce the proposed ERP from 33 kW to 32 kW and to increase the HAAT to 184 meters. No other changes are proposed. Therefore, the instant application is considered a "minor" change in facilities in accordance with Section 73.3573(a)(1). Processing pursuant to Section 73.215 is also requested as detailed below.

Response to Paragraph 14 - Community Coverage

Figure 1 is a map which demonstrates that WLZT's proposed operation complies with the provisions of Section 73.315. Specifically, it has been determined that the proposed 70 dBu contour will encompass 100% of the area within the Ashville city limits.

Response to Paragraph 16

Figure 2 is a separation study from WLZT's proposed antenna location for the channel 227B operation. As shown, the proposed antenna location complies with the minimum distance separation requirements of Section 73.207 for Class B operation on channel 227 towards all existing, authorized and proposed stations and allotments with the exception of: (1) WNCD on channel 227B at Youngstown, Ohio; and (2) WAKW on

channel 227B at Cincinnati, Ohio. Each short-spacing is addressed below.

The proposed WLZT operation is short-spaced by 2.28 kilometers to WNCD on channel 227B at Youngstown, Ohio (BLH-19831024AC). It is proposed to utilize the contour protection provisions of Section 73.215 with respect to the short-spacing with WNCD. Figure 3 is a map which depicts the protected and interfering contours for WLZT's proposed operation and for WNCD. As indicated on Figure 3, the proposed WLZT operation is not involved in contour overlap prohibited by Section 73.215. Therefore, the proposed WLZT facilities comply with the provisions of Section 73.215 with respect to the short-spacing with WNCD.¹

The proposed WLZT operation is short-spaced by 86.43 km to WAKW on channel 227B at Cincinnati, Ohio. This is a "grandfathered" short-spacing pursuant to Section 73.213(a). Therefore, the total area and population subject to co-channel interference for the current and proposed WLZT operations has been determined based on the provisions of Section 73.213(a)(1).

Specifically, the interference areas were determined using the desired-to-undesired (D/U) signal strength ratio method as required by the FCC. The D/U method involves a determination of the interference area within each station's desired (protected) field strength contour. The interference area is developed based on overlap of protected and interfering contours using the pertinent D/U ratio. The points of intersection of overlapping contours are located and a line is drawn through all intersecting points. For co-channel Class B stations the desired field strength is the 54 dBu contour and the D/U ratio is 20 decibels (dB). For the instant application, protected and interfering contours locations were determined based on each station's facilities and at 1 dB intervals using a 3-second terrain database and 72 equally spaced radials (5° increments). The land area within each interference area was determined based on mapping

¹ The distance between WLZT's proposed transmitter location and WNCD's transmitter location (238.72 km) complies with the minimum distance separation requirement of Section 73.215(e) (211 km).

software using a Spherical method. The population within each interference area was determined using the 2000 Census and the Block Centroid Method.²

Figure 4 depicts the interference caused to WAKW from the licensed and proposed WLZT operations. Figure 5 depicts the interference received from WAKW by the licensed and proposed WLZT operations. The following tabulates the land area and population (2000 Census) within each interference areas depicted on Figures 4 and 5.

WLZT Operation	Interference to WAKW (See Figure 4)	Interference From WAKW (See Figure 5)	Total Interference
License	2,342 km ² ; 255,472 pop.	2,912 km ² ; 74,726 pop.	5,254 km ² ; 330,198 pop.
Proposed	2,220 km ² ; 253,655 pop.	2,165 km ² ; 75,376 pop.	4,385 km ² ; 329,031 pop.
<i>Net Reduction</i>			<i>869 km²; 1,167 pop.</i>

As indicated, the "total" interference population and area decreases. In addition, the interference population and area caused to WAKW is also decreased. Therefore, the proposal is believed to comply with Section 73.213(a)(2).

Figure 6 depicts the areas that will lose interference free service based on the proposed WLZT operation. Also shown are other AM/FM (aural) services available to these areas.³ As indicated on Figure 6, there are at least 5 aural services available to the "new" WAKW and WLZT interference areas. Therefore, the proposed operation complies with the provisions of Section 73.213(a)(2) as the areas that will lose interference free service are considered to have adequate aural service remaining. Figure 7 tabulates the AM/FM stations providing aural service to the areas losing interference free service depicted on Figure 6.

² The Census Bureau has verified that the block centroid retrieval methodology is more accurate than the uniform distribution method for population determination. See paragraph 15 and footnote 10 of the Report and Order in MM Docket No. 96-120 ("Grandfathered Short-Spaced FM Stations"), adopted August 4, 1997, released August 8, 1997 (RM-7651).

³ Available aural services for this analysis are defined by the FCC as the FM service contours and AM daytime 0.5 mV/m contours.

Environmental Considerations

The proposed WLZT facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields.

The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Figure 8 is a vertical plane relative field pattern for the proposed ERI SHP8-AE, 0.5 wavelength bay spacing, antenna. As indicated on Figure 8, the maximum vertical relative field towards the tower base (-60° to -90° elevation) is less than 0.1. Therefore, using a "worst-case" vertical relative field value of 0.1, the total ERP of 64 kW (H+V) and an antenna center of radiation height above ground level of 188 meters, the calculated power density at 2 meters above ground level at the base of the tower is 0.0006 milliwatt per square centimeter (mW/cm^2), or 0.3% of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ($0.2 \text{ mW}/\text{cm}^2$ for FM frequencies). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the tower will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such procedures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down.

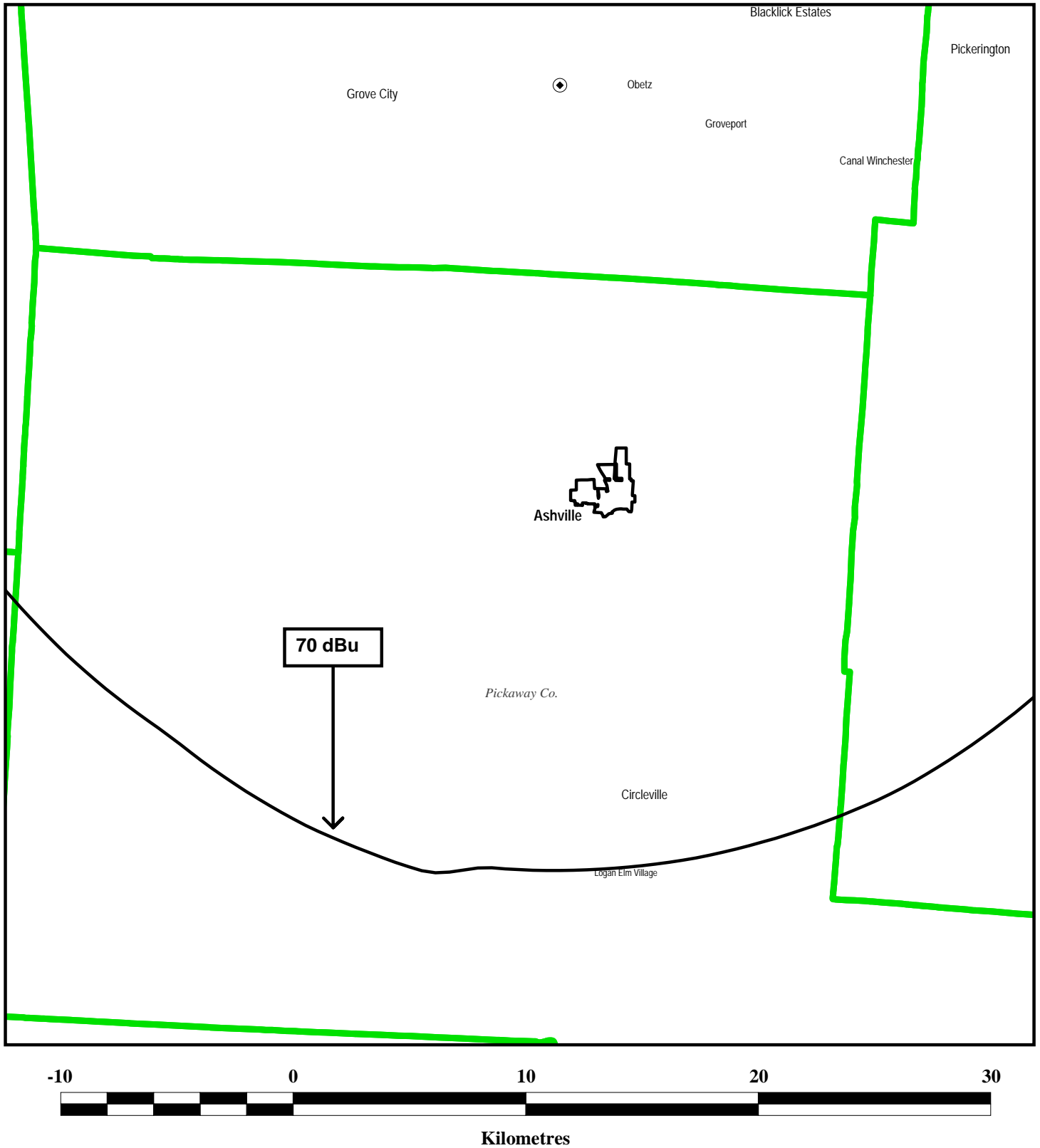
Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already has been provided to the FCC by the tower owner as part of the tower registration process.

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Figure 1



**COMPLIANCE WITH SECTION 73.315
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M**

CDBS FM SEPARATION STUDY

Job Title: Proposed WLZT, Ch. 227B, Ashville, OH
 Channel: 227 B

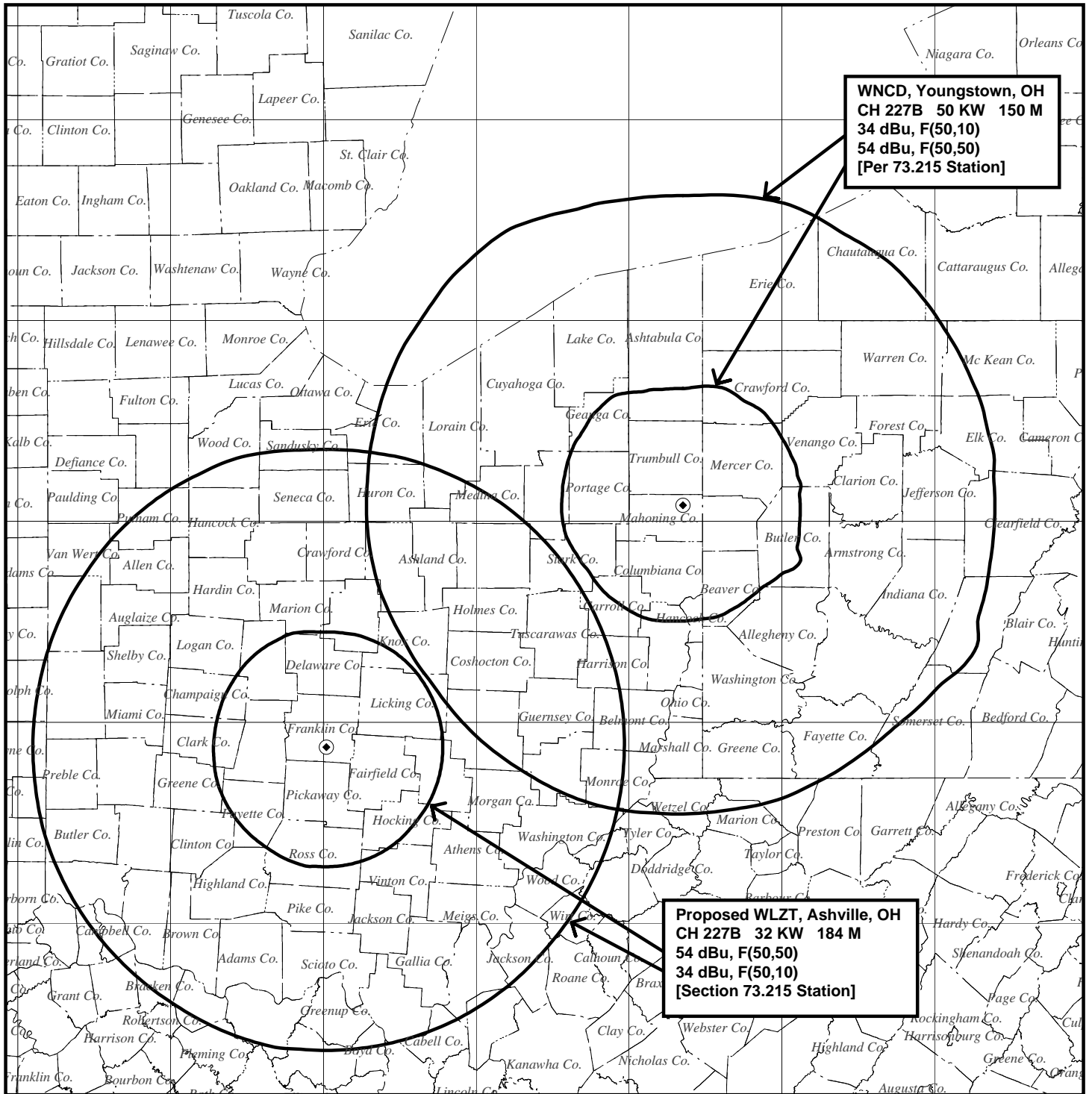
Separation Buffer: 32 km
 Coordinates: 395234 825849

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215 207	
WCVZ 11126	SOUTH OH	ZANES LIC C	BMLED 19960423KC	224 B1 92.7	16.000 124	N	39-42-52 082-04-10	N	102.7	80.05 9.05	65.0 Close	71.0
WQEL 7112	BUCYRUS OH		BLH 6478	224 A 92.7	3.000 91	N	40-45-45 082-55-50	N	2.4	98.51 29.51	63.0 Clear	69.0
WFGF 74294	LIMA OH		BLH 19920916KD	226 A 93.1	3.000 97	N	40-45-47 084-10-59	N	314.4	141.95 28.95	96.0 Clear	113.0
WZAK 74465	CLEVELAND OH		BLH 4273	226 B 93.1	27.500 189	N	41-16-50 081-37-22	N	35.8	193.74 24.74	145.0 Clear	169.0
WLZT 52042	ASHVILLE OH		BPH 20031112AIA	227 B 93.3	33.000 179	N	39-52-34 082-58-49	N	106.3	0.00		
WLZT 52042	CHILLICOTHE OH		BLH 20020304AFX	227 B 93.3	33.000 182	Y 41708	39-35-30 083-06-38	N	199.4	33.50		
WLZT 52042	ASHVILLE OH		BPH 20030508ACW	227 B 93.3	33.000 182	Y 60507	39-35-30 083-06-38	N	199.4	33.50		
WAKW 52599	CINCINNATI OH		BLH 19891011KD	227 B 93.3	50.000 150	Y 13767	39-12-22 084-33-23	N	241.6	154.57 -86.43	211.0 Short ¹	241.0
WNCD 13668	YOUNGSTOWN OH		BLH 19831024AC	227 B 93.3	50.000 85	N	41-04-50 080-38-54	N	55.1	238.72 -2.28	211.0 Short ²	241.0
WBTU 22106	KENDALLVILLE IN		BLH 20030602AXS	227 B1 93.3	18.500 117	N	41-12-49 085-12-04	Y	309.1	239.69 28.69	178.0 Clear	211.0
WQIO 74475	MOUNT VERNO OH		BLH 19870625KB	229 B 93.7	37.000 172	N	40-24-18 082-26-20	N	37.9	74.68 0.68	68.0 Close	74.0
WEGE 60099	WESTERVILLE OH		BPH 20040108ALM	280 A 103.9	6.000 100	N	40-05-24 082-56-52	N	6.6	23.91 8.91	0.0 Close	15.0
WEGE 60099	WESTERVILLE OH		BLH 19980825KC	280 A 103.9	5.100 106	Y 15600	40-09-33 082-55-23	Y	8.8	31.81 16.81	0.0 Clear	15.0
WEGE 60099	WESTERVILLE OH		BPH 20011221AAO	280 A 103.9	5.300 106	Y 42044	40-09-33 082-55-23	N	8.8	31.81 16.81	0.0 Clear	15.0

¹ Grandfathered short-spacing pursuant to Section 73.213(a). There is no increase in total interference caused and received with WAKW (area or population). See Technical Narrative and Figures 3 and 4.

² Processing pursuant to Section 73.215 requested with respect to the short-spacing with WNCD. See Technical Narrative and Figure 5.

Figure 3



WNCD, Youngstown, OH
CH 227B 50 KW 150 M
34 dBu, F(50,10)
54 dBu, F(50,50)
[Per 73.215 Station]

Proposed WLZT, Ashville, OH
CH 227B 32 KW 184 M
54 dBu, F(50,50)
34 dBu, F(50,10)
[Section 73.215 Station]

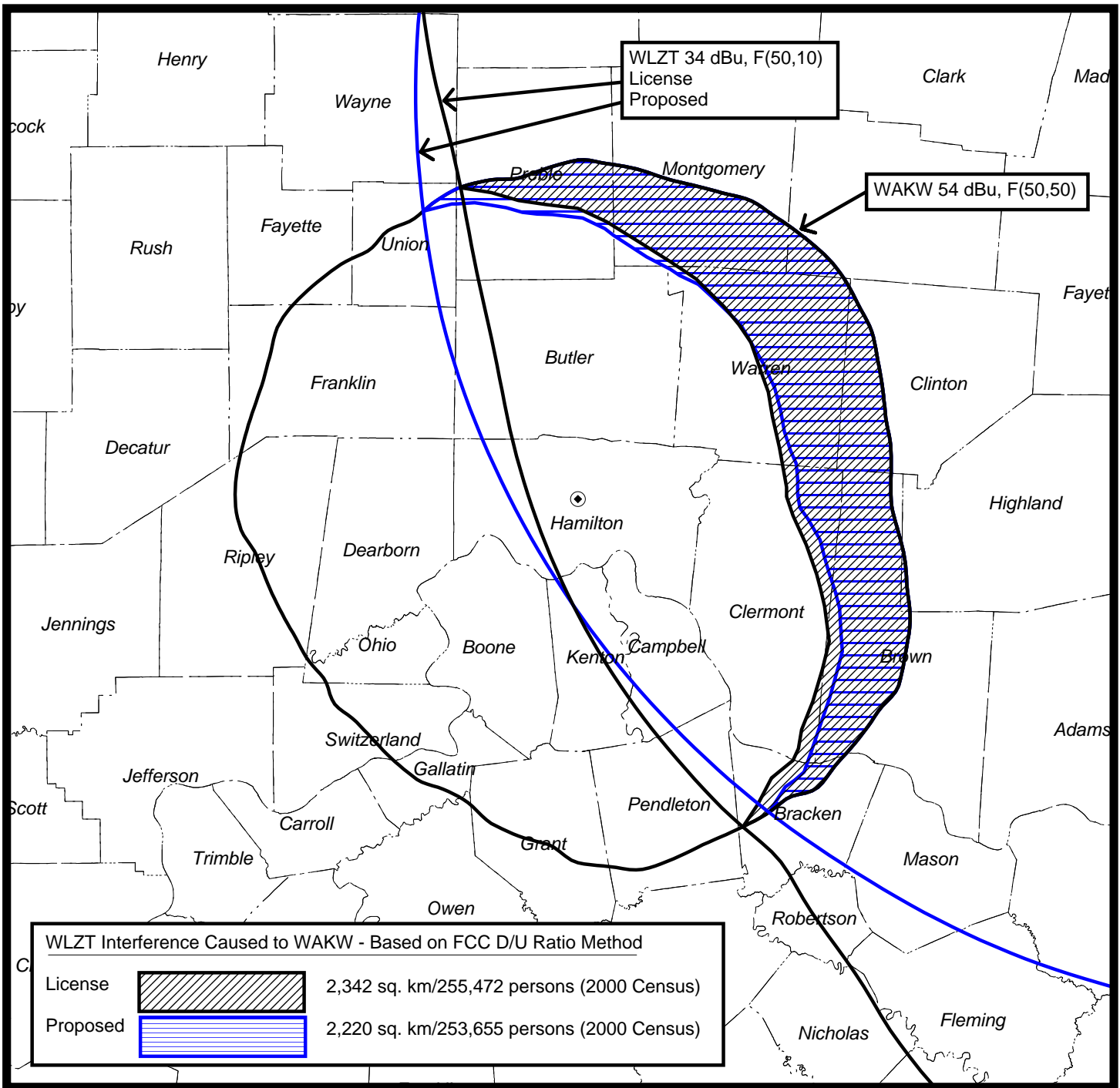
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Kilometres

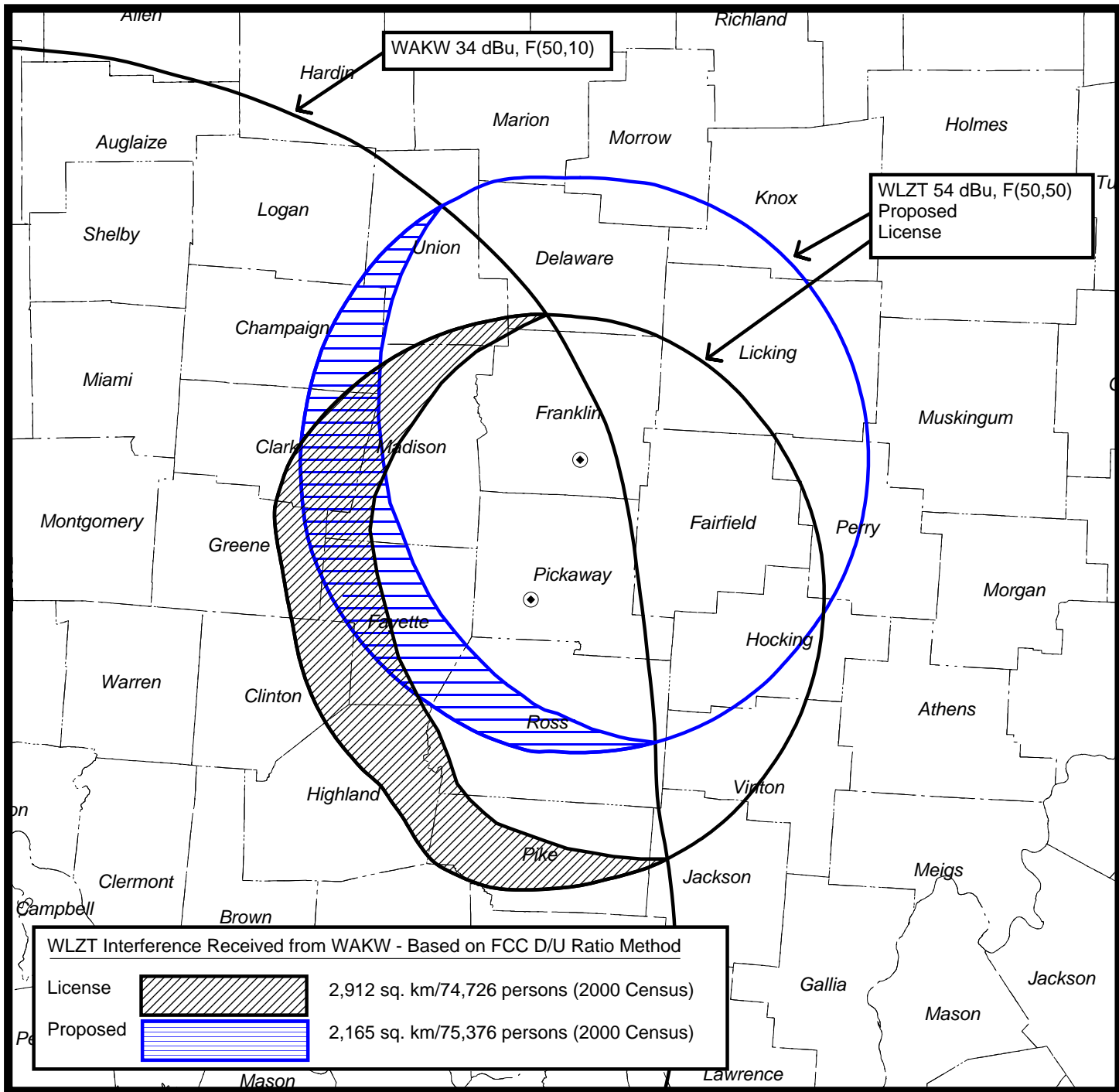
COMPLIANCE WITH SECTION 73.215
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M

Figure 4



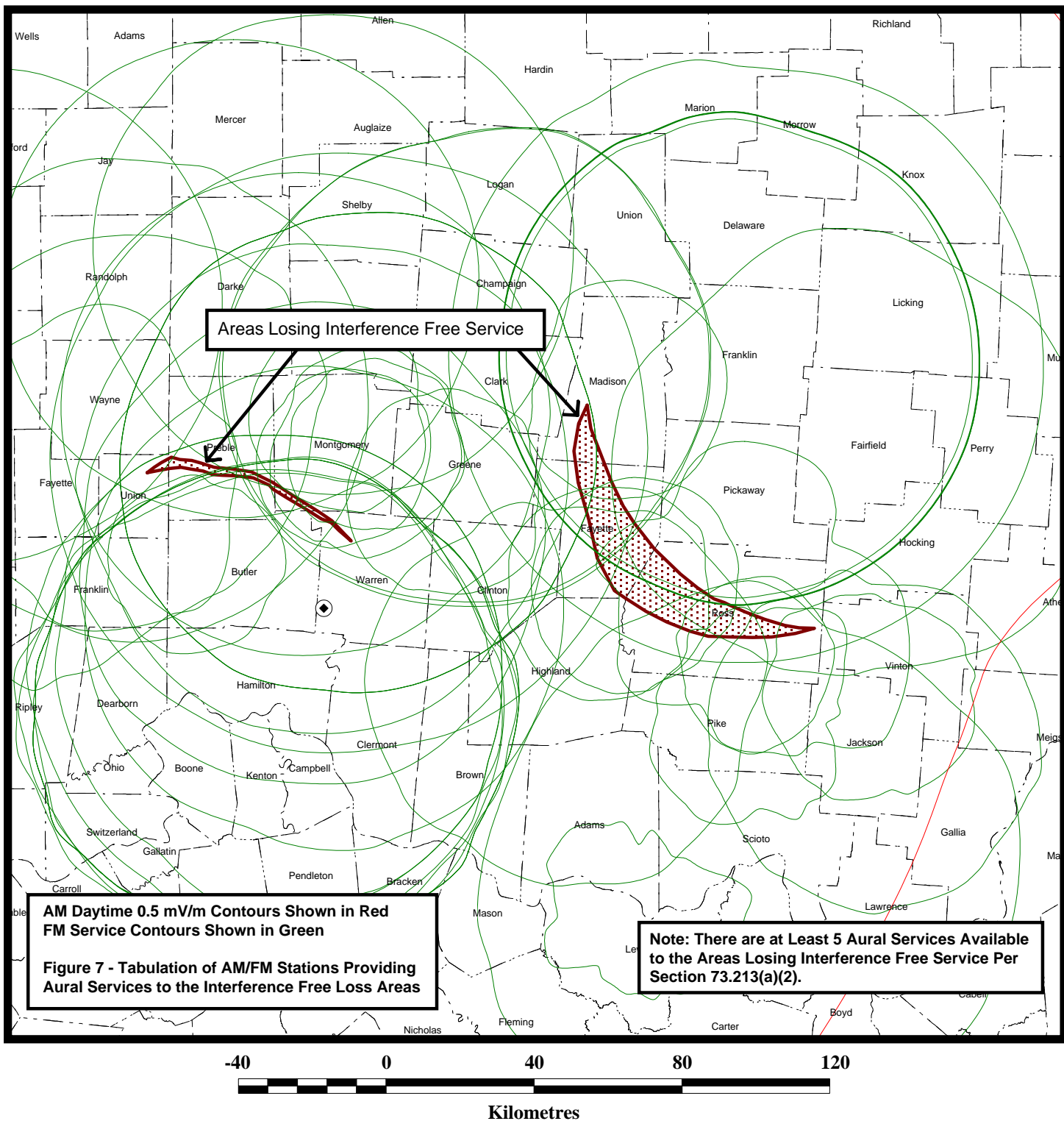
COMPLIANCE WITH SECTION 73.213(a)
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M

Figure 5



COMPLIANCE WITH SECTION 73.213(a)
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M

Figure 6



COMPLIANCE WITH SECTION 73.213(a)
STATION WLZT
ASHVILLE, OHIO
CH 227B 32 KW 184 M

Figure 7

**TABULATION OF AM/FM STATIONS PROVIDING SERVICE
TO AREAS LOSING INTERFERENCE FREE SERVICE**

I. FM STATIONS

<u>Call Letters</u>	<u>City</u>	<u>State</u>	<u>Status</u>	<u>Channel</u>	<u>ERP</u>	<u>HAAT</u>	<u>Service Contour</u>
WMDH	NEW CASTLE	IN	LIC	273B	50	152	54
WKKS	VANCEBURG	KY	LIC	285A	3	91	60
WXEG	BEAVERCREEK	OH	LIC	280A	1.15	159	60
WBNS	COLUMBUS	OH	LIC	246B	20.5	238	54
WRRM	CINCINNATI	OH	LIC	253B	18	246	54
WSNY	COLUMBUS	OH	LIC	234B	22	230	54
WSRW	HILLSBORO	OH	LIC	294B	50	75	54
WDHT	SPRINGFIELD	OH	LIC	275B	50	150	54
WBZX	COLUMBUS	OH	LIC	259B	20	239	54
WOXY	OXFORD	OH	LIC	249A	3	98	60
WCOL	COLUMBUS	OH	LIC	222B	22	230	54
WPAY	PORTSMOUTH	OH	LIC	281C	100	305	60
WDJO	GREENVILLE	OH	LIC	293B	50	146	54
WRNB	WEST CARROLLTON	OH	LIC	221A	0.89	182	60
WJYD	LONDON	OH	LIC	292A	6	100	60
WEEC	SPRINGFIELD	OH	LIC	264B	50	143	54
WYRO	MCARTHUR	OH	LIC	254A	6	100	60
WGRR	HAMILTON	OH	LIC	278B	11	316	54
WKKJ	CHILLICOTHE	OH	LIC	232B1	25	81	57
WFMG	RICHMOND	IN	LIC	267B	50	78	54
WXZQ	PIKETON	OH	LIC	261A	6	100	60
WQLK	RICHMOND	IN	LIC	241B	50	150	54
WNCI	COLUMBUS	OH	LIC	250B	175	171	54
WDPT	PIQUA	OH	LIC	239B	50	145	54
WDKF	ENGLEWOOD	OH	LIC	233A	3.6	130	60
WPFB	MIDDLETOWN	OH	LIC	290B	34	181	54
WYGY	LEBANON	OH	LIC	243B	19.5	247	54
WMMX	DAYTON	OH	LIC	299B	28	200	54
WTUE	DAYTON	OH	LIC	284B	28	200	54
WLQT	KETTERING	OH	LIC	260B	28	200	54
WXEG	BEAVERCREEK	OH	LIC	280A	2.9	146	60
WFCJ	MIAMISBURG	OH	LIC	229B	50	150	54
WMOJ	FAIRFIELD	OH	LIC	235B	10.5	322	54
WOFX	CINCINNATI	OH	LIC	223B	16	264	54
WLVQ	COLUMBUS	OH	LIC	242B	18	229	54
WKOY	WELLSTON	OH	LIC	244B1	16	129	57
WZLR	XENIA	OH	LIC	237A	6	98	60
WHKO	DAYTON	OH	LIC	256B	50	325	54
WEBN	CINCINNATI	OH	LIC	274B	16	264	54
WCHO	WASHINGTON COURT HOUSE	OH	LIC	288A	6	100	60
WGTZ	EATON	OH	LIC	225B	40	168	54
WXIZ	WAVERLY	OH	LIC	265A	0.92	152	60
WUBE	CINCINNATI	OH	LIC	286B	14.5	279	54
WIFE	CONNERSVILLE	IN	LIC	262B	28	84	54
WHOK	LANCASTER	OH	LIC	238B	21	232	54
WKRQ	CINCINNATI	OH	LIC	270B	16	264	54
WVMX	CINCINNATI	OH	LIC	231B	32	183	54
WVNU	GREENFIELD	OH	LIC	248A	2.3	164	60

II. AM STATIONS

<u>Call Letters</u>	<u>City</u>	<u>State</u>	<u>Status</u>	<u>FREQUENCY</u>	<u>POWER</u>	<u>HOURS</u>	<u>SERVICE Contour</u>
WLW	CINCINNATI	OH	LIC	700 kHz	50 kW	U	0.5

Figure 8

