

## MULTIPLE SERVICES STUDY

Associated with the  
Co-ownership of Stations:

WLFX(FM) – Berea, KY  
WCYO(FM) – Irvine, KY  
WEKY(AM) – Richmond, KY

WKXO(AM) – Berea, KY  
WIRV(AM) – Irvine, KY

Interim Contour Methodology for Two Markets

June 2016

### CERTIFICATION OF ENGINEERS

The firm of Munn-Reese, Inc., Broadcast Engineering Consultants, with offices at 385 Airport Drive, Coldwater, Michigan, has been retained for the purpose of preparing the technical data forming this report.

The data utilized in this report was taken from the FCC Secondary Database and data on file. While this information is believed accurate, errors or omissions in the database and file data are possible. This firm may not be held liable for damages as a result of such data errors or omissions.

The report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission.

I declare under penalty of the laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

June 16, 2016

*MUNN-REESE, INC.*

By   
Wayne S. Reese, President

385 Airport Drive, PO Box 220  
Coldwater, Michigan 49036

Telephone: 517-278-7339

**MUNN-REESE, INC.**  
Broadcast Engineering Consultants  
Coldwater, MI 49036

# Engineering Statement

---

This firm was retained by Wallingford Broadcasting Company, LLC., owner of WLFX(FM) – Berea, KY, Facility ID: 4809, to determine the minimum number of principal community radio contours available from stations authorized for commercial and non-commercial service associated with the co-ownership of four (4) other stations. WLFX(FM) is concurrently filing an application to upgrade its facility from Class A to Class C3. Due to the change, a multiple services study has been prepared. The other four (4) stations in question are WCYO(FM) – Irvine, KY, Facility ID: 34247; WKXO(AM) – Berea, KY, Facility ID: 4810; WIRV(AM) – Irvine, KY Facility ID: 34248; and WEKY(AM) – Richmond, KY Facility ID: 4811. Portions of these holdings are subject to analysis under either the *Interim Contour-overlap Methodology* or the *BIA Market Methodology*. This study solely addresses the *Interim Contour-overlap Methodology* portion of these holdings. Out of an abundance of caution, *Interim Contour-overlap Methodology* and *BIA Market Methodology* studies have been supplied for the two markets. Individual *BIA Market Methodology* studies for the affected BIA Market facilities have been supplied separately.

Under the *Interim Contour-overlap Methodology*, two (2) separate and distinct markets will result within this entire ownership group. “Market 1” is comprised of WCYO(FM) – Irvine, KY; WLFX(FM) – Berea, KY; WIRV(AM) – Irvine, KY; and WEKY(AM) – Richmond, KY. “Market 2” is comprised of WCYO(FM) – Irvine, KY; WLFX(FM) – Berea, KY; WKXO(AM) – Berea, KY; and WEKY(AM) – Richmond, KY.

The existing facilities of the stations included in this report were determined by the use of currently updated copies of the FCC computer databases of AM and FM stations. The listed facilities served as the basis for the computation of the respective principal community contours. The accuracy of the results of this study is understood to be limited to the accuracy of these databases. The FCC databases give no indication of licensed facilities that may be inoperative, construction permit facilities that may now be operating under program test authority (but have not yet been issued a license) or facilities which may have been licensed since the last update. Therefore, some stations may have been included or excluded erroneously. However, unless otherwise indicated, all licensed facilities known to be inoperative and all known applications and construction permit facilities, have been eliminated from consideration in this study.

For AM stations, Map M-3 soil conductivity values and the authorized licensed transmitting facilities served as the basis for the computation of the predicted 5.0 mV/m groundwave contour in accordance with §73.183 of the FCC Rules. The distance to the contour was computed for seventy-two (72) equally spaced azimuths beginning with 0° True. For FM stations, the authorized Center of Radiation and ERP values were utilized to compute the predicted 3.16 mV/m (70 dBu) contour as provided in §73.313 of the Rules. The predicted FM contours shown in this report are based on the use of 72 equally spaced terrain radials beginning with 0° True.

As stated before, there will be two (2) unique and distinct markets associated with this modification. The markets have been defined, in accordance with §73.3555 of the FCC Rules, as the area within the total perimeter formed by the combined principal community contours of WCYO(FM), WLFX(FM), WIRV(AM) and WEKY(AM) for “Market 1”; and WCYO(FM), WLFX(FM), WKXO(AM) and WEKY(AM) for “Market 2”,

**Exhibit 1.0** shows the five (5) stations under common control which are relevant for this ownership group. The “Market 1” and “Market 2” common overlap areas have been designated as well.

## **Engineering Statement** (continued)

---

For "Market 1", the market defining contours have been shown in **Exhibit 2.0** of this report along with all of the principal community contours entering the market. The defining contours have been shown with purple dashed lines on this map. AM contours entering the market have been denoted in green lines. FM contour entering the market have been shown in red lines. Co-owned stations entering the market, but not defining the market have been omitted.

Under the current rules, "Market 1" falls at least within the minimum limitations set forth in §73.3555 (a)(1)(ii): ***In a radio market with between 30 and 44 (inclusive) full-power, commercial and noncommercial radio stations, not more than 7 commercial radio stations in total and not more than 4 commercial stations in the same service (AM or FM).*** The principal community contours of at least twenty-nine (29) other stations entering the Market 1 are shown in **Exhibit 2.0**. Including the two (2) FM and two (2) AM stations which define the market, there are at least thirty-three (33) aural services in "Market 1". **Exhibit 2.1** lists the facilities of the individual stations used in this "Market 1" report.

For "Market 2", the market defining contours have been shown in **Exhibit 3.0** of this report along with all of the principal community contours entering the market. The defining contours have been shown with purple dashed lines on this map. AM contours entering the market have been denoted in green lines. FM contour entering the market have been shown in red lines. Co-owned stations entering the market, but not defining the market have been omitted.

Under the current rules, "Market 2" falls at least within the minimum limitations set forth in §73.3555 (a)(1)(ii): ***In a radio market with between 30 and 44 (inclusive) full-power, commercial and noncommercial radio stations, not more than 7 commercial radio stations in total and not more than 4 commercial stations in the same service (AM or FM).*** The principal community contours of at least twenty-eight (28) other stations entering the Market 2 are shown in **Exhibit 3.0**. Including the two (2) FM and two (2) AM stations which define the market, there are at least thirty-two (32) aural services in "Market 2". **Exhibit 3.1** lists the facilities of the individual stations used in this "Market 2" report.

# Exhibit 1.0 - Map Showing All Co-Owned Stations & Markets Generated

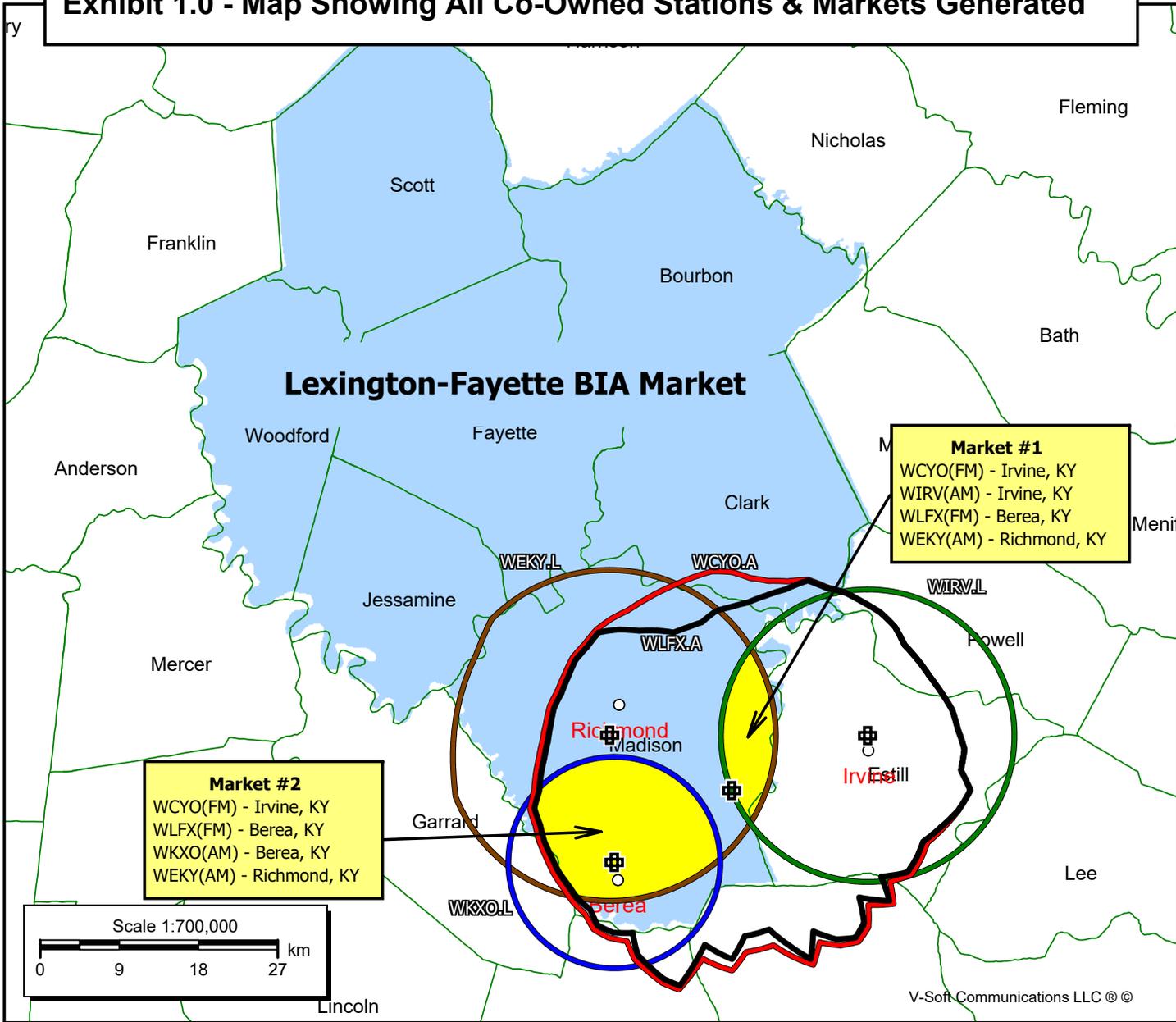
**WLFX.A**  
 Berea, KY  
 Latitude: 37-39-36 N  
 Longitude: 084-09-00 W  
 ERP: 14.50 kW  
 Channel: 294  
 Frequency: 106.7 MHz  
 AMSL Height: 409.0 m

**WCYO.A**  
 Irvine, KY  
 Latitude: 37-39-36 N  
 Longitude: 084-09-00 W  
 ERP: 11.00 kW  
 Channel: 264  
 Frequency: 100.7 MHz  
 AMSL Height: 435.0 m

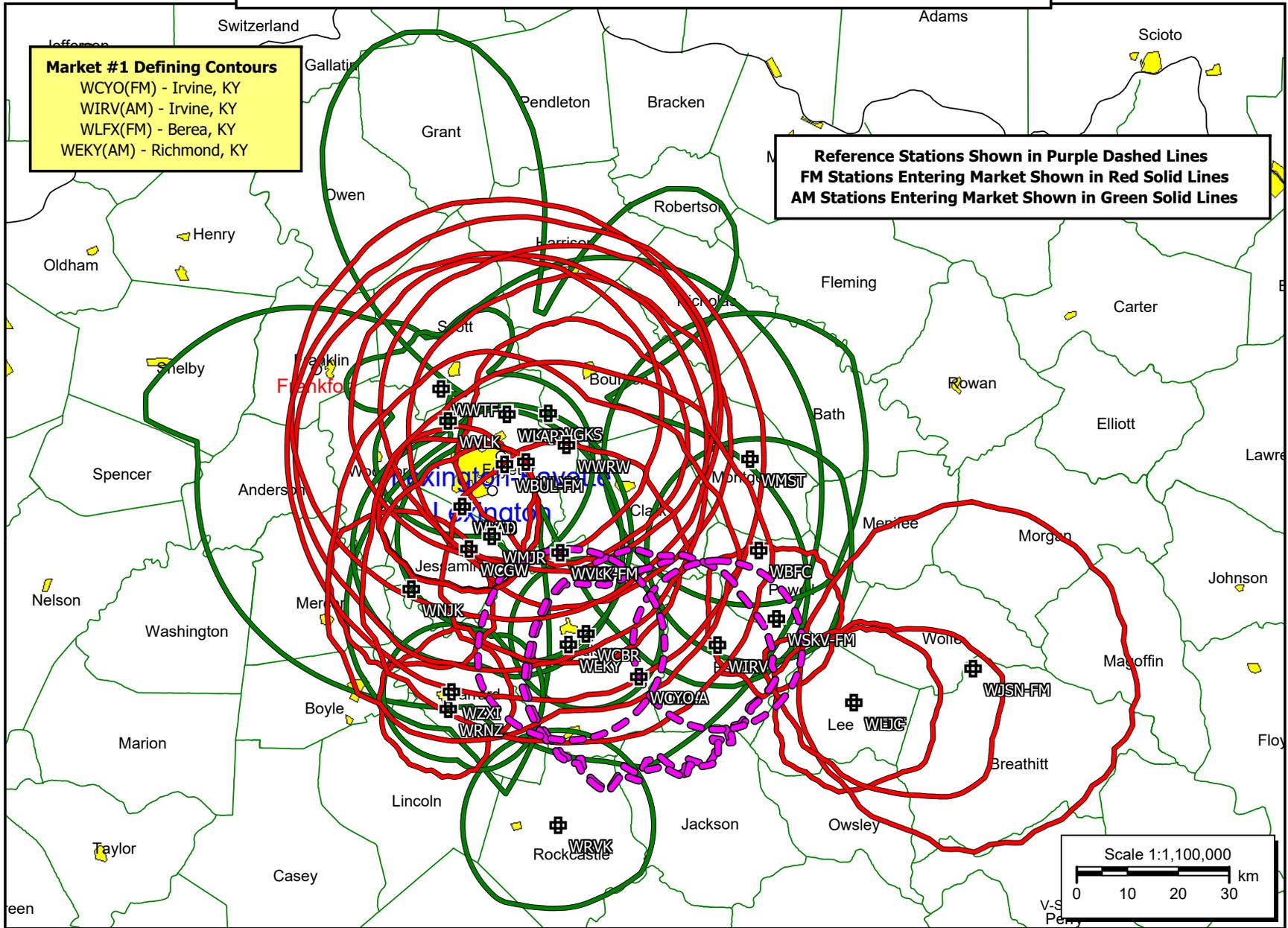
**WKXO.L**  
 Berea, KY  
 Latitude: 37-35-12 N  
 Longitude: 084-18-04 W  
 Power: 0.25 kW  
 Frequency: 1500 kHz  
 NDA Daytime

**WIRV.L**  
 Irvine, KY  
 Latitude: 37-42-57 N  
 Longitude: 083-58-29 W  
 Power: 1.0 kW  
 Frequency: 1550 kHz  
 NDA Daytime

**WEKY.L**  
 Richmond, KY  
 Latitude: 37-43-00 N  
 Longitude: 084-18-25 W  
 Power: 1.0 kW  
 Frequency: 1340 kHz  
 NDA Unlimited



# Exhibit 2.0 - Map Showing Stations Entering Market #1



# Exhibit 2.1

## Tabulation of Stations Entering "Market 1"

### Stations Entering Market 1: (No Less than 33)

Reference:

Callsign	Type	Chan	City	St	File Number	Dist (km)	Azi (deg)
WLFX.A	FM	294C3	Berea	KY	BPH20160523ABP	0.0	0.0
WCYO.A	FM	264C3	Irvine	KY	BPH20160523ABQ	0.0	0.0
WIRV	AM	1550	IRVINE	KY	BL19901120AC	16.7	68.1
WEKY	AM	1340	RICHMOND	KY	BL	15.2	294.5

Overlapping Contours:

Callsign	Type	Chan	City	St	File Number	Dist (km)	Azi (deg)
WEBF	FM	202C2	Lerose	KY	BLED20110621AAC	42.5	96.9
WEKU	FM	205C1	Richmond	KY	BMLD19990407KA	28.8	327.6
WUKY	FM	217C1	Lexington	KY	BLED20061115AAL	28.8	327.6
WLXX	FM	225C1	Lexington	KY	BMLH19800902AF	47.6	332.2
WMXL	FM	233C1	Lexington	KY	BLH20061113ADA	57.5	333.4
WVRB	FM	237A	Wilmore	KY	BLH20010501ACB	48.2	313.9
WGKS	FM	245C2	Paris	KY	BLH19910606KI	54.7	341.0
WJSN-FM	FM	247C2	Jackson	KY	BLH20051014AEA	65.7	88.6
WBUL-FM	FM	251C1	Lexington	KY	BMLH20031218ACF	49.3	327.7
WKQQ	FM	261C2	Winchester	KY	BLH20000306ACK	57.5	333.4
WVLK-FM	FM	268C3	Richmond	KY	BLH19970224KA	28.8	327.6
WLJC	FM	271A	Beattyville	KY	BLH20031028AAP	42.5	96.9
WLTO	FM	273A	Nicholasville	KY	BLH20030310AXD	48.2	313.9
WLKT	FM	283C2	Lexington-fayette	KY	BLH20000217ABS	47.6	342.6
WSKV-FM	FM	285A	Stanton	KY	BMLH20090309ABT	29.3	67.2
WRNZ	FM	286A	Lancaster	KY	BMLH20020215AAG	38.0	260.3
WWRW	FM	288C3	Mount Sterling	KY	BLH20001013ABN	47.6	342.6
WNJK	FM	290A	Burgin	KY	BLH20100628AAC	47.9	291.0
WLAI	FM	296A	Wilmore	KY	BLED20100317AAX	48.2	313.9
WBFC	AM	1470	STANTON	KY	BL20080310AEL	34.2	43.6
WMJR	AM	1380	NICHOLASVILLE	KY	BL20060628ADI	39.9	313.6
WZXI	AM	1280	LANCASTER	KY	BL	37.0	265.3
WRVK	AM	1460	MOUNT VERNON	KY	BL20060404AHE	33.2	208.5
WCBR	AM	1110	RICHMOND	KY	BL	13.4	309.0
WCGW	AM	770	NICHOLASVILLE	KY	BL19861110AF	41.7	306.9
WMST	AM	1150	MT. STERLING	KY	BL20050818ACJ	48.0	27.1
WLAP	AM	630	LEXINGTON	KY	BL19810109AA	57.7	333.3
WWTF	AM	1580	GEORGETOWN	KY		68.6	325.5
WVLK	AM	590	LEXINGTON	KY	BML20080206AGV	62.7	323.3

Distance and bearing calculations from coordinates: 37-39-36 N, 084-09-00 W

Duopoly Options:

TV: Not Included

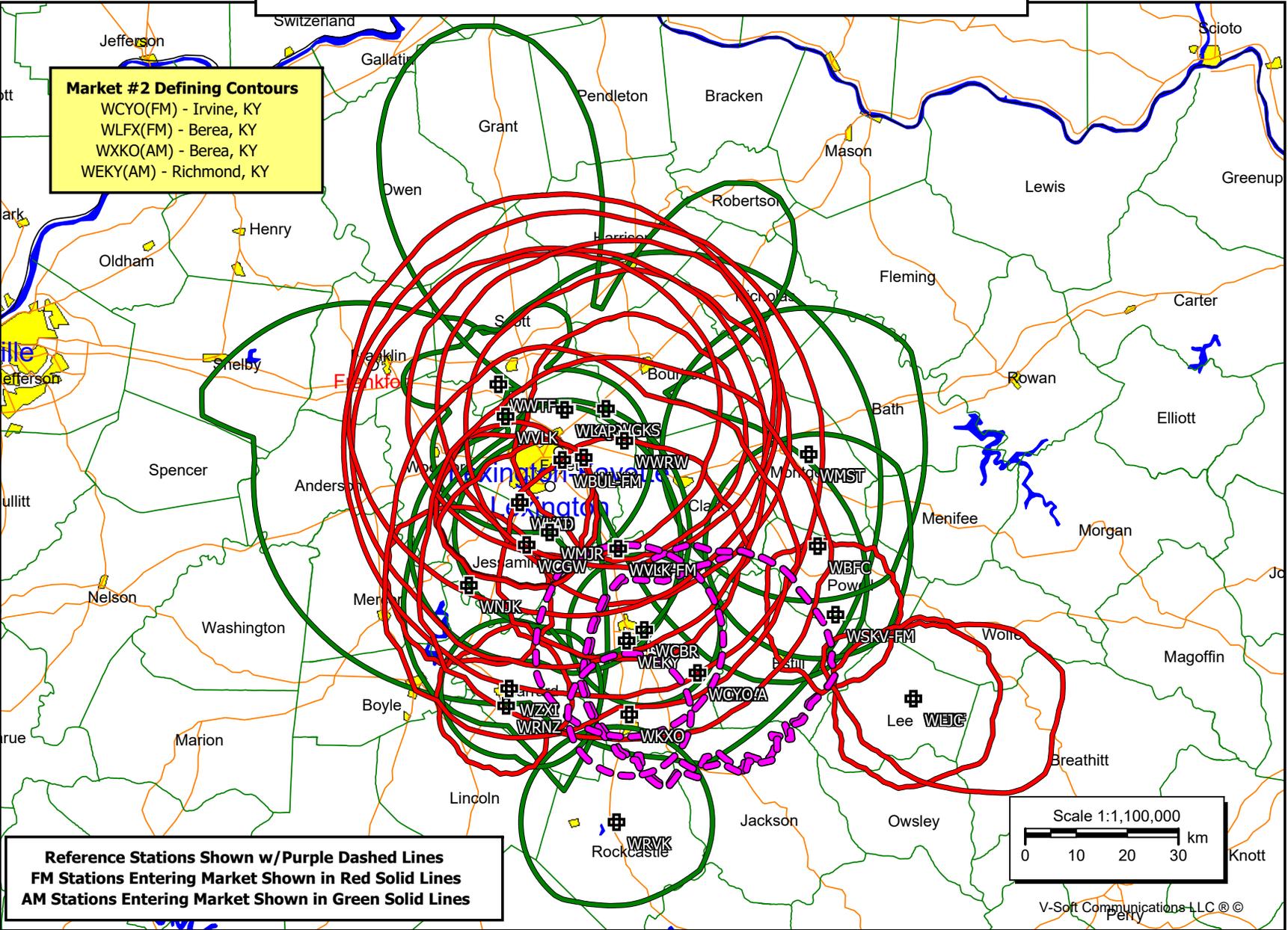
FM: 3.16 mV/m (70 dBu); Include NCE

AM: 5.0 mV/m

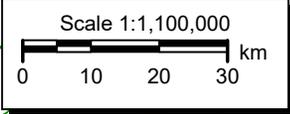
Stations more than 92 km from the common area were excluded.

# Exhibit 3.0 - Map Showing Stations Entering Market #2

**Market #2 Defining Contours**  
 WCYO(FM) - Irvine, KY  
 WLFX(FM) - Berea, KY  
 WXKO(AM) - Berea, KY  
 WEKY(AM) - Richmond, KY



**Reference Stations Shown w/ Purple Dashed Lines**  
**FM Stations Entering Market Shown in Red Solid Lines**  
**AM Stations Entering Market Shown in Green Solid Lines**



# Exhibit 3.1

## Tabulation of Stations Entering "Market 2"

### Stations Entering Market 2: (No Less than 32)

Reference:

Callsign	Type	Chan	City	St	File Number	Dist (km)	Azi (deg)
WLFX.A	FM	294C3	Berea	KY	BPH20160523ABP	0.0	0.0
WCYO.A	FM	264C3	Irvine	KY	BPH20160523ABQ	0.0	0.0
WEKY	AM	1340	RICHMOND	KY	BL	15.2	294.5
WKXO	AM	1500	BEREA	KY	BL	15.6	238.7

Overlapping Contours:

Callsign	Type	Chan	City	St	File Number	Dist (km)	Azi (deg)
WEBF	FM	202C2	Lerose	KY	BLED20110621AAC	42.5	96.9
WEKU	FM	205C1	Richmond	KY	BMLD19990407KA	28.8	327.6
WUKY	FM	217C1	Lexington	KY	BLED20061115AAL	28.8	327.6
WLXX	FM	225C1	Lexington	KY	BMLH19800902AF	47.6	332.2
WMXL	FM	233C1	Lexington	KY	BLH20061113ADA	57.5	333.4
WVRB	FM	237A	Wilmore	KY	BLH20010501ACB	48.2	313.9
WGKS	FM	245C2	Paris	KY	BLH19910606KI	54.7	341.0
WBUL-FM	FM	251C1	Lexington	KY	BMLH20031218ACF	49.3	327.7
WKQQ	FM	261C2	Winchester	KY	BLH20000306ACK	57.5	333.4
WVLK-FM	FM	268C3	Richmond	KY	BLH19970224KA	28.8	327.6
WLJC	FM	271A	Beattyville	KY	BLH20031028AAP	42.5	96.9
WLTO	FM	273A	Nicholasville	KY	BLH20030310AXD	48.2	313.9
WLKT	FM	283C2	Lexington-fayette	KY	BLH20000217ABS	47.6	342.6
WSKV-FM	FM	285A	Stanton	KY	BMLH20090309ABT	29.3	67.2
WRNZ	FM	286A	Lancaster	KY	BMLH20020215AAG	38.0	260.3
WWRW	FM	288C3	Mount Sterling	KY	BLH20001013ABN	47.6	342.6
WNJK	FM	290A	Burgin	KY	BLH20100628AAC	47.9	291.0
WLAI	FM	296A	Wilmore	KY	BLED20100317AAX	48.2	313.9
WBFC	AM	1470	STANTON	KY	BL20080310AEL	34.2	43.6
WMJR	AM	1380	NICHOLASVILLE	KY	BL20060628ADI	39.9	313.6
WZXI	AM	1280	LANCASTER	KY	BL	37.0	265.3
WRVK	AM	1460	MOUNT VERNON	KY	BL20060404AHE	33.2	208.5
WCBR	AM	1110	RICHMOND	KY	BL	13.4	309.0
WCGW	AM	770	NICHOLASVILLE	KY	BL19861110AF	41.7	306.9
WMST	AM	1150	MT. STERLING	KY	BL20050818ACJ	48.0	27.1
WLAP	AM	630	LEXINGTON	KY	BL19810109AA	57.7	333.3
WWTF	AM	1580	GEORGETOWN	KY		68.6	325.5
WVLK	AM	590	LEXINGTON	KY	BML20080206AGV	62.7	323.3

Distance and bearing calculations from coordinates: 37-39-36 N, 084-09-00 W

Duopoly Options:

TV: Not Included

FM: 3.16 mV/m (70 dBu); Include NCE

AM: 5.0 mV/m

Stations more than 92 km from the common area were excluded.