

## **Technical Report NEW 293D.AP Minor Amendment**

This technical report is submitted in support of a unilateral minor amendment to the short form translator application auction window 83 for the NEW 293D application at Moberly, MO, FCC file no. BNPFT-20030317KPS eliminating the conflict with auction 83 application BNPFT-30030317IMH at Columbia, MO. There is no settlement agreement. Changes to the tower site and antenna are requested. The translator is to serve as a fill-in to rebroadcast KLTi(AM) 1560 kHz at Macon, MO, FCC facility I.D. 43535.

The proposed facility is not within 39 km of any Appendix A market nor is it located in a county within any top 50 ARB spectrum limited market. Therefore, no LPFM preclusion study is required.

### **NEW 293D.AP Modification:**

An overlap study in Exhibit E-1 shows the 293D.AP modification will not produce any interference overlap to current facilities.

The 293D translator will be located at an existing tower, ASR no.1251042 at coordinates:

**39 27 10 N 92 21 58 W NAD 27.**

A PSI FML-1 directional antenna (exhibit E-2) will be mounted at a COR AGL of 61 meters, 314 meters AMSL, and operate at 0.250 kW ERP. The 293D.AP modification 60 dBu F(50-50) contour is completely contained within the primary KLTi(AM) 2.0 mV/m

# Anderson Associates

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1519 Euclid Avenue  
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daytime contour, and overlaps the current 293D application 60 dBu contour, shown in exhibit E-3.

## **RF Exposure Calculation:**

The RF contribution was calculated using the formula from the OET Bulletin 65:

$$S \text{ (RF in microwatts/cm}^2\text{)} = \frac{33.4 \times F^2 \times (H \text{ ERP} + V \text{ ERP in watts})}{R^2 \text{ (distance to radiation center in meters}^2\text{)}}$$

Using a worst-case vertical (F) factor of 1.0, the RF is calculated to be 4.8  $\mu\text{W}/\text{cm}^2$  to the ground, which is well below 5% of the 200  $\mu\text{W}/\text{cm}^2$  maximum permissible for general public exposure, allowing its exclusion from consideration.

## **Conclusion:**

It is concluded that the amendment to the NEW 293D.AP complies with all Commission rules and policies.



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E-1 NEW 293D Overlap Study

REFERENCE CH# 293D - 106.5 MHz, Pwr= 0.25 kW DA, HAAT= 146.0 M, COR= 314 M DISPLAY DATES  
 39 27 10.0 N. Average Protected F(50-50)= 15.6 km DATA 07-11-13  
 92 21 58.0 W. Standard Directional SEARCH 07-12-13

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
293D Moberly	650358	APP	C MO	222.1 42.1	5.65 BNPFT20030317KPS	39 24 54.0 92 24 37.0	0.250 92	42.8 339	12.4 Fm 105, Inc.	-46.8*	-38.9*
293D Columbia	647801	APP	C MO	170.9 350.9	49.35 BNPFT20030317IMH	39 00 51.9 92 16 32.3	0.019 331	41.6 569	12.3 Radio Assist Ministry, Inc	-2.2	2.6
239C Mexico	KWWR<<	LIC	NCY MO	136.6 316.7	28.94 BLH20000530ACL	39 15 49.0 92 08 06.0	100.000 360	12.8 608	58.8 Kxeo Radio, Inc.	28.5R	0.44M
293C1 Liberty	WDAF-FM	LIC	CX MO	257.6 76.3	187.20 BMLH20040802BEU	39 04 24.0 94 29 06.0	100.000 299	171.2 565	71.8 Entercom Kansas City Licen	5.0	80.2
291C1 Ashland	KOQL	LIC	NCN MO	192.1 11.9	79.85 BLH19981125KG	38 45 01.0 92 33 31.0	69.000 292	8.9 519	67.3 Cumulus Licensing Llc	60.5	11.2
295C Jefferson City	KTXY	LIC	CY MO	186.9 6.8	91.26 BLH19900727KA	38 38 16.0 92 29 34.0	100.000 381	11.4 609	78.8 Zimmer Radio Of Mid-missou	69.5	11.3
293C1 Granite City	WARH	LIC	C IL	118.3 299.6	201.52 BLH20111026AGG	38 34 27.7 90 19 31.5	90.000 309	167.6 462	70.0 St. Louis Fcc License Sub,	26.9	110.6
292D Vandalia	K292GI	CP	C MO	105.5 286.0	68.39 BNPFT20130325AIS	39 17 07.4 91 36 01.5	0.250	13.5 282	9.6 Covenant Network	48.7	51.1

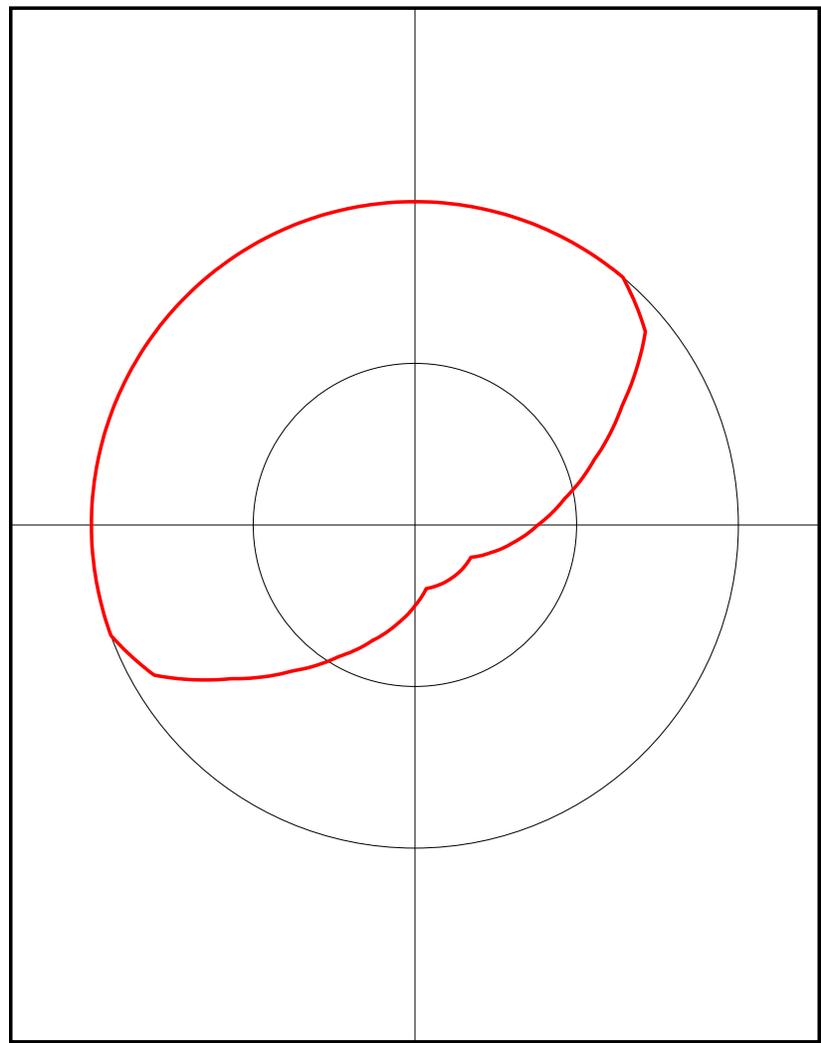
Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. Reference Zone= West Zone, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
 < = Station meets FCC minimum distance spacing for its class.

## E-2 Antenna Pattern

Azimuth (deg)

Relative Field

0.0	0.59
10.0	0.47
20.0	0.38
30.0	0.31
40.0	0.25
50.0	0.2
60.0	0.2
70.0	0.2
80.0	0.2
90.0	0.2
100.0	0.2
110.0	0.25
120.0	0.31
130.0	0.38
140.0	0.47
150.0	0.59
160.0	0.74
170.0	0.93
180.0	1.0
190.0	1.0
200.0	1.0
210.0	1.0
220.0	1.0
230.0	1.0
240.0	1.0
250.0	1.0
260.0	1.0
270.0	1.0
280.0	1.0
290.0	1.0
300.0	1.0
310.0	1.0
320.0	1.0
330.0	1.0
340.0	0.93
350.0	0.74



# E-3 NEW 293D Contour Plot

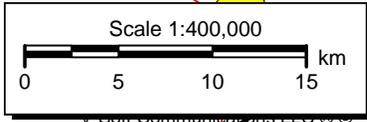
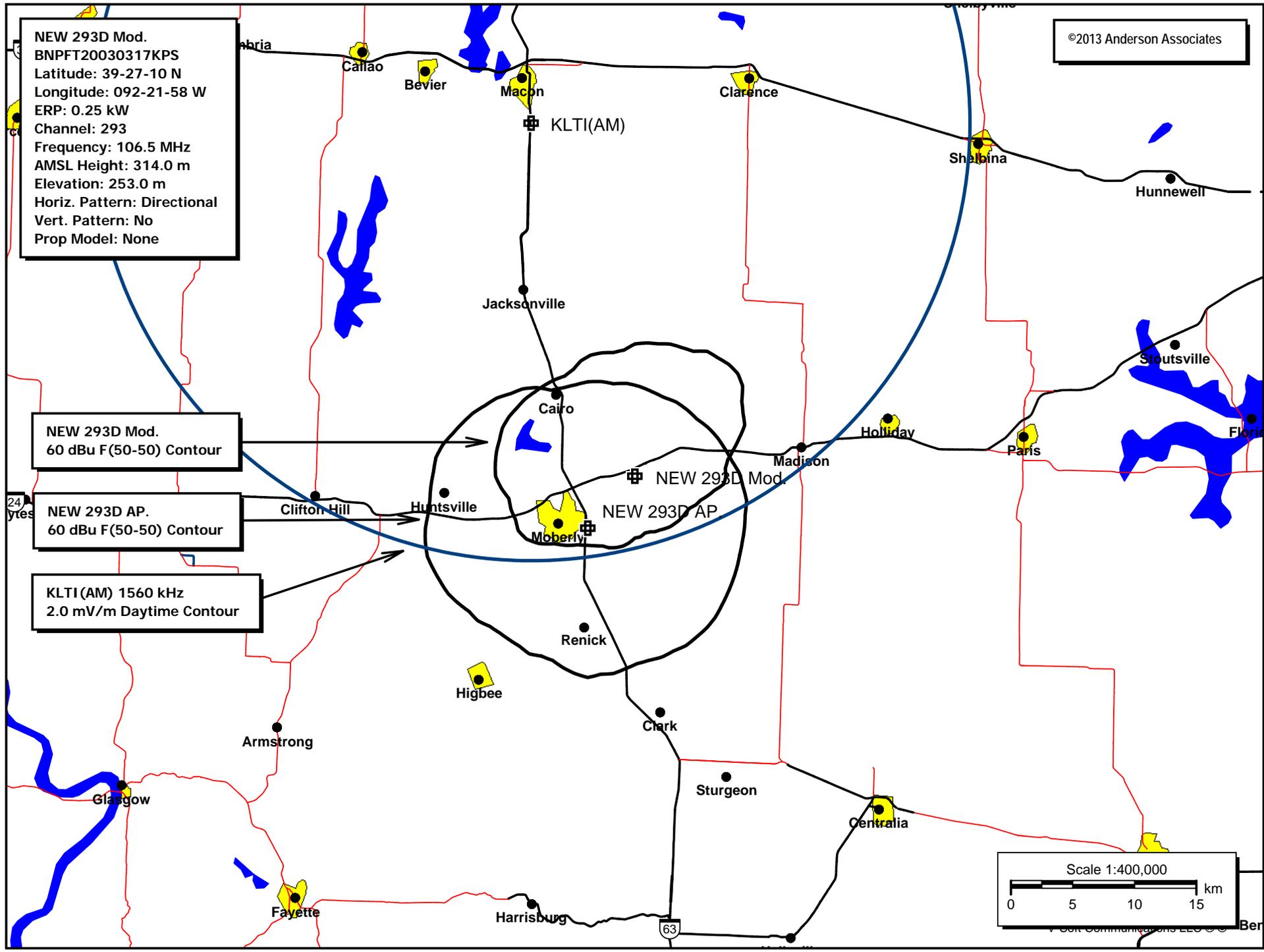
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NEW 293D Mod.  
BNPFT20030317KPS  
Latitude: 39-27-10 N  
Longitude: 092-21-58 W  
ERP: 0.25 kW  
Channel: 293  
Frequency: 106.5 MHz  
AMSL Height: 314.0 m  
Elevation: 253.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

NEW 293D Mod.  
60 dBu F(50-50) Contour

NEW 293D AP.  
60 dBu F(50-50) Contour

KLTI (AM) 1560 kHz  
2.0 mV/m Daytime Contour



## E-4 NEW 293D Tower

### ASR Registration 1251042

#### Registration Detail

Reg Number	1251042	Status	Constructed
File Number	A0616324	Constructed	03/14/2008
EMI	No	Dismantled	
NEPA	No		

#### Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

#### Location (in NAD83 Coordinates)

Lat/Long	39-27-10.1 N 092-21-58.7 W	Address	1 km south southwest from the intersection of County Road 2320 and US Highway 24
City, State	Moberly , MO		
Zip	65270	County	RANDOLPH
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	253.0	Overall Height Above Ground (AGL)	91.4
Overall Height Above Mean Sea Level	344.4	Overall Height Above Ground w/o Appurtenances	91.4

#### Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12  
Paint and Light in Accordance with FAA Circular Number 70/7460-1K

#### FAA Notification

FAA Study	2007-ACE-4028-OE	FAA Issue Date	10/19/2007
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#### Owner & Contact Information

FRN	0003772548	Owner Entity Type	
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#### Owner

105-FM, Inc. 408 West Reed Street P.O. Box 219 Moberly , MO 65270	P: (660)263-7368 F: E: best@mcmsys.com
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#### Contact

P:  
F:  
E:

#### Last Action Status

Status	Constructed	Received	12/10/2008
Purpose	Notification	Entered	12/10/2008
Mode	Interactive		

#### Related Applications