

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

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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 $\mu\text{W/cm}^2$ to the ground, which is well below 5% of the 200 $\mu\text{W/cm}^2$ 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.


Christopher Anderson July 11, 2013
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E-1 NEW 293D Overlap Study

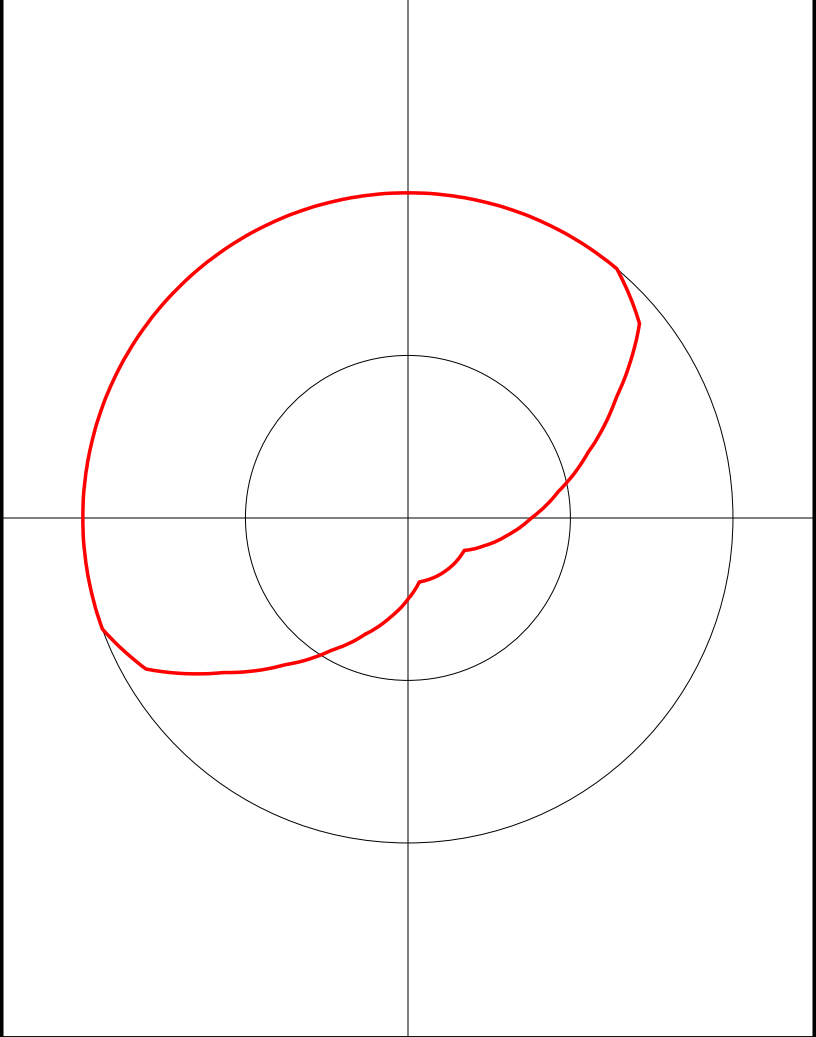
REFERENCE CH# 293D - 106.5 MHz, Pwr= 0.25 kW DA, HAAT= 146.0 M, COR= 314 M DISPLAY DATES
39 27 10.0 N. Average Protected F(50-50)= 15.6 km DATA 07-11-13
92 21 58.0 W. Standard Directional SEARCH 07-12-13

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

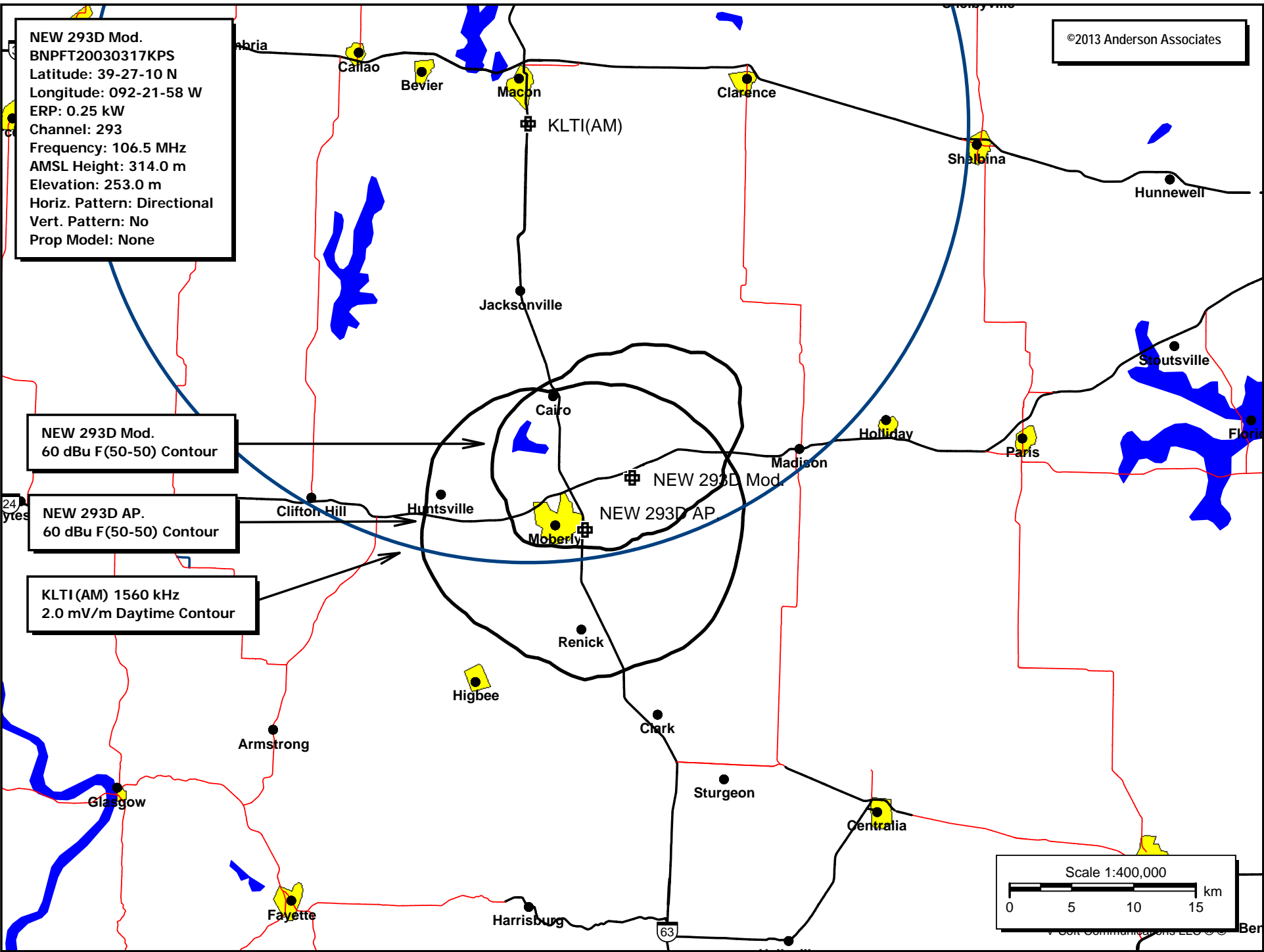
Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference Zone= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding
Ant Column: (D= DA Standard, 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



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

Contact

P:
F:
E:

Last Action Status

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

Related Applications