

THOMAS M. ECKELS, PE  
STEPHEN S. LOCKWOOD, PE  
DAVID J. PINION, PE  
ERIK C. SWANSON, PE

THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE  
BENJAMIN F. DAWSON III, PE  
CONSULTANTS

HATFIELD & DAWSON  
CONSULTING ELECTRICAL ENGINEERS  
9500 GREENWOOD AVE. N.  
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151  
FACSIMILE (206) 789-9834  
E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE  
(1942-2009)  
PAUL W. LEONARD, PE  
(1925-2011)

**Proposed Translator  
Channel 300D at Texarkana, TX  
To Rebroadcast KCMC(AM) 740 kHz Texarkana, TX  
October 2018**

**Allocation Study**

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

***New 298D Texarkana (BNPFT-20180129ACH)***

The proposed translator transmitter site is located within the 60 dBu protected contour of Townsquare's second-adjacent channel application BNPFT-20180129ACH at Texarkana. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Protected Station
New 289D	6.65 km 118 deg True	0.250 kW 152 meters	75.2 dBu Free Space	115.2 dBu	See below

Hatfield & Dawson Consulting Engineers

The 115.2 dBu contour from the proposed facility extends 185 meters from the antenna. However, taking into account the vertical plane pattern of the antenna to be used, and given the antenna height above ground, the attached Free Space calculations demonstrate that the interference area will not reach ground level. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to BNPFT-20180129ACH.

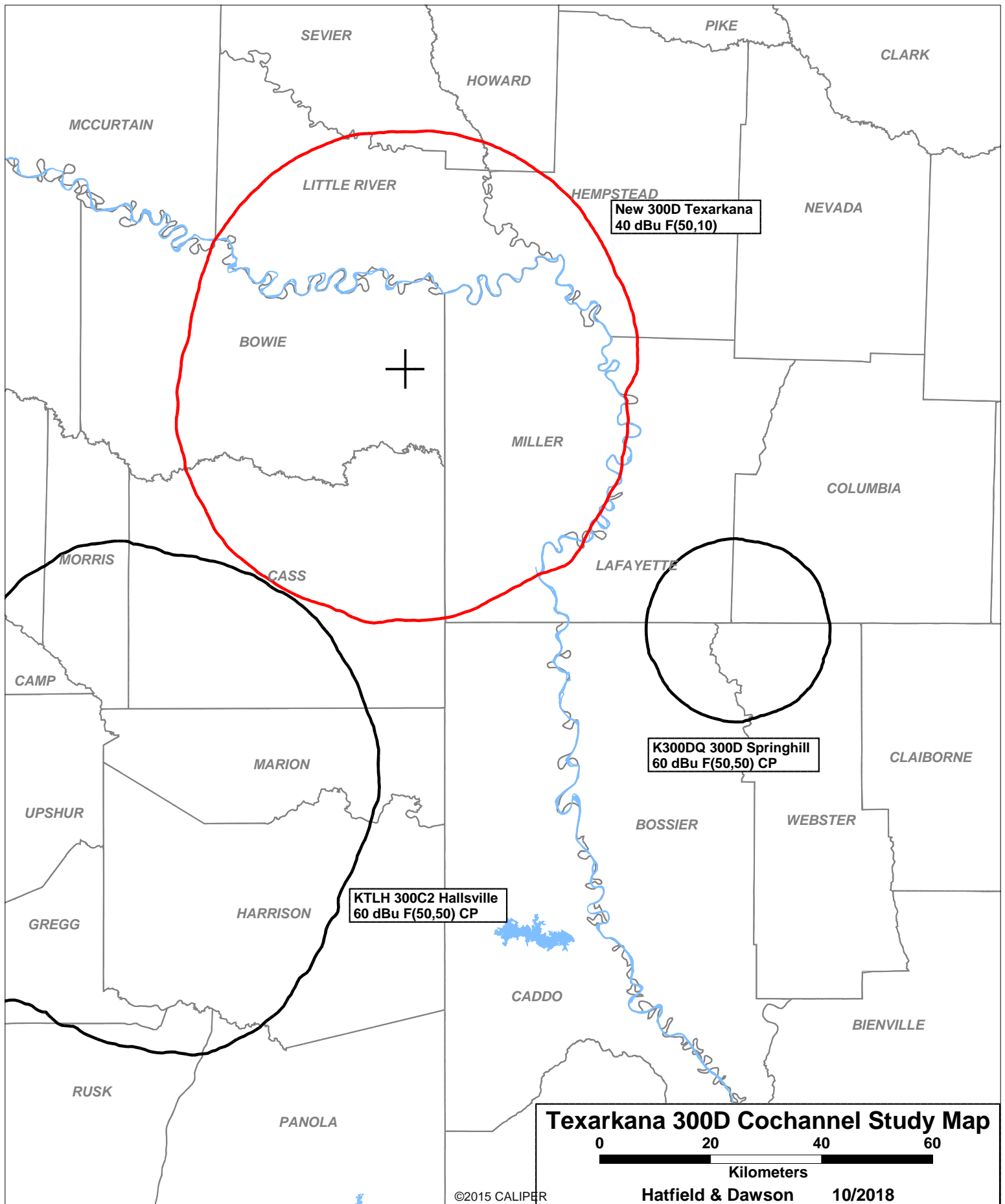
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SEARCH PARAMETERS FM Database Date: 181019

Channel: 300A 107.9 MHz  
 Latitude: 33 25 45  
 Longitude: 94 7 11  
 Safety Zone: 50 km  
 Job Title: TEXARKANA 300

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K246CR LIC	TEXARKANA TX	BLFT-80730AAQ	246D 97.1	0.250 61.0	33-26-33 094-03-20	76.0	6.15 0.00	0 TRANS
KJUK-LP LIC	HOOKS TX	BLL-40411AAJ	247L1 97.3	0.100 26.5	33-31-37 094-14-44	313.0	15.95 9.95	6 CLOSE
KDVE-LP LIC	MOUNT PLEASANT TX	BLL-50722ADF	297L1 107.3	0.063 37.6	33-10-59 094-54-24	249.7	78.21 49.21	29 CLEAR
NEW-T APP	TEXARKANA AR	BNPFT-80129ACH	298D 107.5	0.250 174.0	33-27-25 094-10-59	297.7	6.65 0.00	0 TRANS
KPLT-FM LIC	PARIS TX	BLH-40317ACP	299C2 107.7	50.000 150.0	33-44-55 095-24-53	286.9	125.33 19.33	106 CLEAR
KEZA LIC	FAYETTEVILLE AR	BLH-820917AU	300C 107.9	100.000 384.0	35-51-12 094-01-33	1.8	269.05 43.05	226 CLEAR
K300DJ CP	GLENWOOD AR	BNPFT-71201AGI	300D 107.9	0.250 DA 96.0	34-29-55 093-05-04	38.5	152.40 0.00	0 TRANS
KHOA-LP LIC	HOPE AR	BLL-50713AAE	300L1 107.9	0.100 24.1	33-40-04 093-35-30	61.4	55.73 -11.27	67 SHORT
KIVD-LP LIC	BOSSIER CITY LA	BLL-50318AAB	300L1 107.9	0.100 21.9	32-30-26 093-42-06	159.1	109.46 42.46	67 CLEAR
K300DQ CP	SPRINGHILL LA	BNPFT-80502AAR	300D 107.9	0.215 182.0	33-00-30 093-28-38	127.9	75.93 0.00	0 TRANS
KTLH CP MOD	HALLSVILLE TX	BMPH-71109ACR	300C2 107.9	50.000 DA 110.0	32-43-03 094-40-17	213.2	94.25 -71.75	166 SHORT
K300CX LIC	HENDERSON TX	BLFT-50317AAH	300D 107.9	0.205 DA 0.0	32-07-36 094-47-57	203.9	157.85 0.00	0 TRANS
K300AU LIC	MOUNT PLEASANT TX	BLFT-70405ABY	300D 107.9	0.250 81.0	33-12-09 094-54-59	251.4	78.33 0.00	0 TRANS
NEW-T APP	TEXARKANA TX	BNPFT-80125ACM	300D 107.9	0.230 118.0	33-25-45 094-07-11	0.0	0.00 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 300 =====



# **Texarkana 300D Free Space Interference Area Calculator** **Interference Area to Texarkana 298D**

Antenna Height: 86 meters AGL  
 Contour Level: 115.2 dBu equals 0.6 V/m  
 ERP in Watts: 230 Watts

Maximum distance  
 to interfering contour is: 606.2 feet equals 184.8 meters

Antenna: BKG77-2 0.85

Depression Angle (degrees)	Nicom BKG77-2 0.85 Relative Field	Adjusted ERP (Watts)	Free Space Distance To 115.2 dBu Contour Along the depression angle	Horizontal Distance (meters)	Contour AGL (meters)	
-90	0.107	2.6	19.8 meters	0	66.2	(Straight down)
-89	0.108	2.7	20.0	0.3	66.0	
-88	0.109	2.7	20.1	0.7	65.9	
-87	0.110	2.8	20.3	1.1	65.7	
-86	0.111	2.8	20.5	1.4	65.5	
-85	0.112	2.9	20.7	1.8	65.4	
-84	0.117	3.1	21.6	2.3	64.5	
-83	0.122	3.4	22.5	2.7	63.6	
-82	0.128	3.8	23.6	3.3	62.6	
-81	0.132	4.0	24.4	3.8	61.9	
-80	0.137	4.3	25.3	4.4	61.1	
-79	0.146	4.9	27.0	5.1	59.5	
-78	0.154	5.5	28.5	5.9	58.2	
-77	0.162	6.0	29.9	6.7	56.8	
-76	0.170	6.6	31.4	7.6	55.5	
-75	0.177	7.2	32.7	8.5	54.4	
-74	0.186	8.0	34.4	9.5	53.0	
-73	0.194	8.7	35.8	10.5	51.7	
-72	0.202	9.4	37.3	11.5	50.5	
-71	0.210	10.1	38.8	12.6	49.3	
-70	0.218	10.9	40.3	13.8	48.2	
-69	0.226	11.7	41.8	15.0	47.0	
-68	0.234	12.6	43.2	16.2	45.9	
-67	0.242	13.5	44.7	17.5	44.8	
-66	0.249	14.3	46.0	18.7	44.0	
-65	0.255	15.0	47.1	19.9	43.3	
-64	0.261	15.7	48.2	21.1	42.7	
-63	0.267	16.4	49.3	22.4	42.0	
-62	0.271	16.9	50.1	23.5	41.8	
-61	0.275	17.4	50.8	24.6	41.6	
-60	0.278	17.8	51.4	25.7	41.5	
-59	0.281	18.2	51.9	26.7	41.5	
-58	0.283	18.4	52.3	27.7	41.7	
-57	0.283	18.4	52.3	28.5	42.1	
-56	0.283	18.4	52.3	29.2	42.7	
-55	0.282	18.3	52.1	29.9	43.3	
-54	0.279	17.9	51.5	30.3	44.3	
-53	0.275	17.4	50.8	30.6	45.4	
-52	0.270	16.8	49.9	30.7	46.7	
-51	0.263	15.9	48.6	30.6	48.2	
-50	0.256	15.1	47.3	30.4	49.8	
-49	0.247	14.0	45.6	29.9	51.6	

-48	0.236	12.8	43.6	29.2	53.6
-47	0.225	11.6	41.6	28.4	55.6
-46	0.211	10.2	39.0	27.1	58.0
-45	0.197	8.9	36.4	25.7	60.3
-44	0.180	7.5	33.3	23.9	62.9
-43	0.163	6.1	30.1	22.0	65.5
-42	0.143	4.7	26.4	19.6	68.3
-41	0.122	3.4	22.5	17.0	71.2
-40	0.100	2.3	18.5	14.2	74.1
-39	0.076	1.3	14.0	10.9	77.2
-38	0.050	0.6	9.2	7.3	80.3
-37	0.023	0.1	4.2	3.4	83.4
-36	0.006	0.0	1.1	0.9	85.3
-35	0.036	0.3	6.7	5.4	82.2
-34	0.067	1.0	12.4	10.3	79.1
-33	0.099	2.3	18.3	15.3	76.0
-32	0.132	4.0	24.4	20.7	73.1
-31	0.167	6.4	30.9	26.4	70.1
-30	0.202	9.4	37.3	32.3	67.3
-29	0.238	13.0	44.0	38.5	64.7
-28	0.274	17.3	50.6	44.7	62.2
-27	0.311	22.2	57.5	51.2	59.9
-26	0.348	27.9	64.3	57.8	57.8
-25	0.386	34.3	71.3	64.6	55.9
-24	0.423	41.2	78.2	71.4	54.2
-23	0.461	48.9	85.2	78.4	52.7
-22	0.499	57.3	92.2	85.5	51.5
-21	0.537	66.3	99.2	92.6	50.4
-20	0.574	75.8	106.1	99.7	49.7
-19	0.610	85.6	112.7	106.6	49.3
-18	0.645	95.7	119.2	113.3	49.2
-17	0.680	106.4	125.6	120.1	49.3
-16	0.714	117.3	131.9	126.8	49.6
-15	0.747	128.3	138.0	133.3	50.3
-14	0.778	139.2	143.7	139.5	51.2
-13	0.807	149.8	149.1	145.3	52.5
-12	0.836	160.7	154.5	151.1	53.9
-11	0.863	171.3	159.4	156.5	55.6
-10	0.888	181.4	164.1	161.6	57.5
-9	0.908	189.6	167.8	165.7	59.8
-8	0.927	197.6	171.3	169.6	62.2
-7	0.944	205.0	174.4	173.1	64.7
-6	0.959	211.5	177.2	176.2	67.5
-5	0.972	217.3	179.6	178.9	70.3
-4	0.982	221.8	181.4	181.0	73.3
-3	0.989	225.0	182.7	182.5	76.4
-2	0.995	227.7	183.8	183.7	79.6
-1	0.999	229.5	184.6	184.5	82.8
0	1.000	230.0	184.8	184.8	86.0

(Horizontal)

## Facilities Proposed

The proposed operation will be on Channel 300D (107.9 MHz) with an effective radiated power of 0.230 kilowatts. Operation is proposed with a 2-element circularly-polarized omnidirectional antenna. The antenna will be side-mounted on an existing tower with FCC Antenna Structure Registration Number 1053162.

## RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

*D* is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the Texarkana 300D antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (or 84 meters below the antenna radiation center). Under this worst-case assumption, the highest calculated ground level power density from Texarkana 300D occurs at the base of the antenna support structure. At this point the power density is calculated to be 2.2  $\mu W/cm^2$ , which is 1.1% of 200  $\mu W/cm^2$  (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to

existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.