

Channel Study

REFERENCE		CH# 240D - 95.9 MHz, Pwr= 0.205 kW, HAAT= 86.3 M, COR= 305 M								DISPLAY DATES	
36 06 55.7 N.		Average Protected F(50-50)= 11.4 km								DATA 04-12-16	
96 01 02.0 W.		Omni-directional								SEARCH 04-18-16	
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
238C Tulsa	KWEN	LIC	CX OK	321.0 141.0	11.53 BLH20080826AAF	36 11 46.0 96 05 53.0	100.000 453	12.4 687	85.3 Cox Radio, Inc.	-10.2*<	-74.7*<
243C Tulsa	KRAV-FM	LIC	CX OK	321.0 141.0	11.53 BLH20080826AAG	36 11 46.0 96 05 53.0	100.000 453	12.4 687	85.3 Cox Radio, Inc.	-10.2*<	-74.7*<
240D Tulsa	K240ED!	CP	C OK	92.6 272.7	20.75 BMPFT20160212AAO	36 06 25.0 95 47 13.0	0.062	39.9 384	12.0 Educational Media Foundati	-31.2	-32.4
240C2 Sallisaw	KKBD	LIC	CN OK	122.9 303.7	143.44 BLH19930326KB	35 24 26.0 94 41 25.0	30.000 190	132.8 365	52.8 Capstar Tx, Llc	-1.0<	50.6
241C2 Vinita	KITO-FM	LIC	CN OK	59.4 240.0	102.92 BLH19890508KD	36 34 56.0 95 01 35.0	50.000 150	77.4 376	51.6 Kxoj, Inc.	13.6	33.9
241C0 Oklahoma City	KXXY-FM	LIC	NC OK	247.0 66.1	144.85 BLH20000105AAO	35 35 52.0 97 29 22.0	100.000 372	118.4 718	79.8 Clear Channel Broadcasting	16.6	51.3
240C3 Winfield	KSOK-FM	LIC	NCX KS	322.7 142.2	134.62 BLH20041027AEE	37 04 32.0 96 56 13.0	15.200 128	106.4 481	38.3 Cowley County Broadcasting	19.0	65.7

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.
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 restricted contour.
< = Contour Overlap

Educational Media Foundation

5700 W Oaks Blvd
Rocklin, CA 95765

*Exhibit 13-A
Tulsa, OK*

Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 60dBu contour of second adjacent channel station KWEN, channel 238C, Tulsa, OK. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K240ED.P:	205 watts
The proposed COR for K240ED.P:	30 meters
KWEN F(50/50) contour at proposed site:	101.1dBu
The F(50/10) contour of proposed K240ED.P:	141.1dBu

The predicted distance to the 141.1dbu interfering contour is 8.8 meters. Taking into account the vertical elevation pattern of the Nicom BKG77 single bay antenna and the height above ground of 30M, it has been determined that the interfering contour of 141.1dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 26.0M above ground at a distance of 6m from the antenna.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 8.8m distance from the antenna.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
K240ED
Tulsa, OK

ERP (kw): 0.205
Height of Antenna above Ground (m): 30
Translator's IX Contour: 141.1
Antenna Type: Nicom BKG77/1

<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1.000	0.2050	8.8486	30.000
5	0.999	0.2046	8.8398	29.230
10	0.982	0.1977	8.6894	28.491
15	0.954	0.1866	8.4416	27.815
20	0.918	0.1728	8.1231	27.222
25	0.872	0.1559	7.7160	26.739
30	0.818	0.1370	7.2338	26.383
35	0.758	0.1178	6.7073	26.153
40	0.691	0.0979	6.1144	26.070
45	0.616	0.0778	5.4508	26.146
50	0.538	0.0593	4.7606	26.353
55	0.465	0.0443	4.1146	26.629
60	0.391	0.0313	3.4598	27.004
65	0.313	0.0201	2.7696	27.490
70	0.239	0.0117	2.1148	28.013
75	0.176	0.0064	1.5574	28.496
80	0.129	0.0034	1.1415	28.876
85	0.103	0.0022	0.9114	29.092
90	0.104	0.0022	0.9203	29.080

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*Exhibit 13-A
Tulsa, OK*

Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 60dBu contour of third adjacent channel station KRAV-FM, channel 243C, Tulsa, OK. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K240ED.P:	205 watts
The proposed COR for K240ED.P:	30 meters
KRAV-FM F(50/50) contour at proposed site:	101.1dBu
The F(50/10) contour of proposed K240ED.P:	141.1dBu

The predicted distance to the 141.1dbu interfering contour is 8.8 meters. Taking into account the vertical elevation pattern of the Nicom BKG77 single bay antenna and the height above ground of 30M, it has been determined that the interfering contour of 141.1dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 26.0M above ground at a distance of 6m from the antenna.

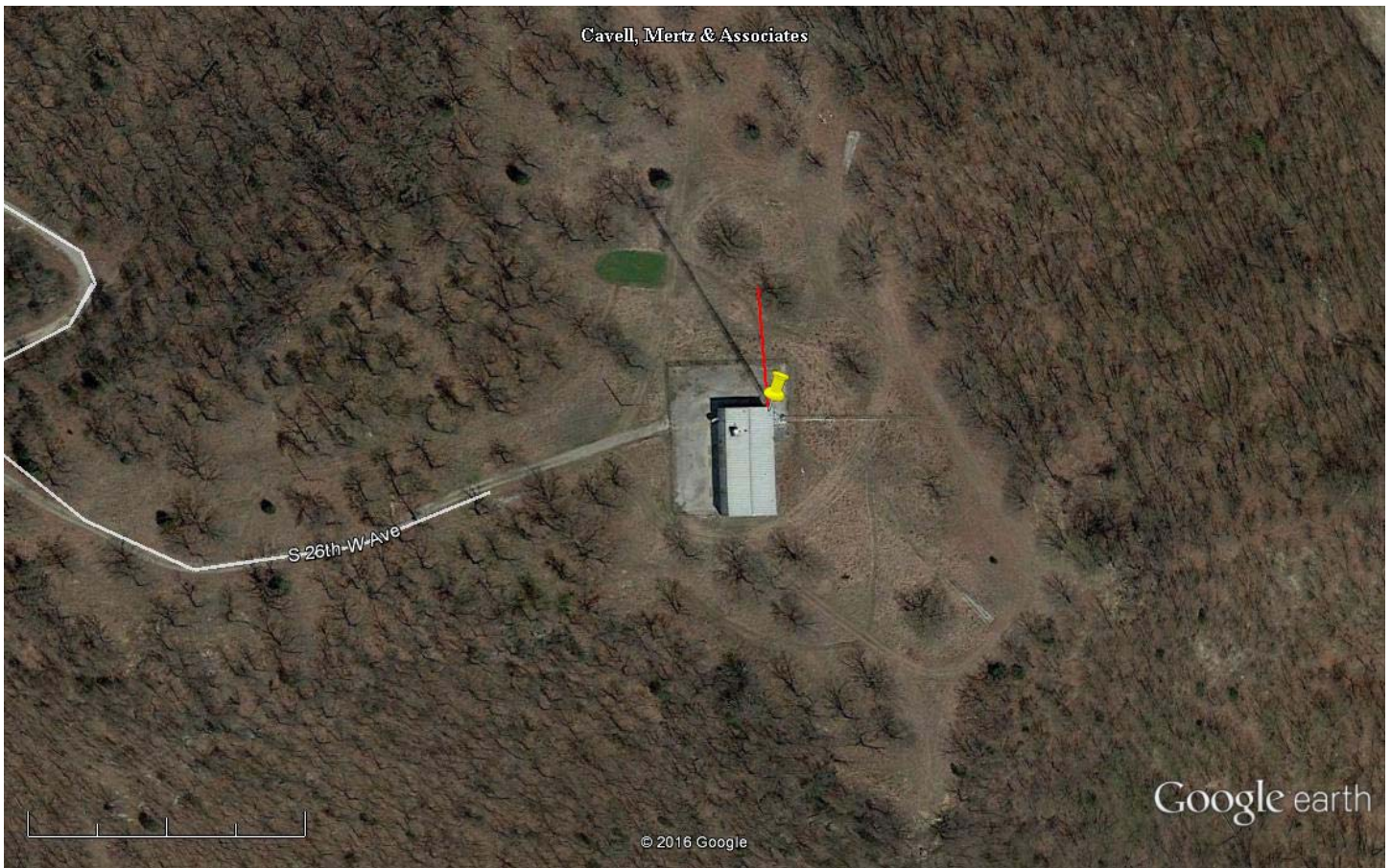
As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 8.8m distance from the antenna.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
K240ED
Tulsa, OK

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65	0.313	0.0201	2.7696	27.490
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80	0.129	0.0034	1.1415	28.876
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Google earth

feet 600
meters 200



Yellow Pin Marker

NAD 27

36 06' 55.7" N 96 01' 02.0" W

Red Line Marker: 30m at zero degrees true north