

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRILOGY GENESIS, INC, D/B/A TRINITY BROADCASTING OF OKLAHOMA CITY, INC., licensee of digital television station KTBO-TV, Channel 15 in Oklahoma City, Oklahoma, in support of its request for Special Temporary Authority to operate with the licensed facilities of KUOT-CD, Channel 21 in Oklahoma City, under a channel-sharing arrangement. On October 27, 2020, KTBO-TV was forced off the air when its antenna tower was destroyed due to an ice storm. The station is currently dark (under STA) and would like to resume interim operation using the KUOT-CD facility while a new KTBO-TV tower is constructed. No change in site location, antenna make or model, effective radiated power or antenna height from that licensed to KUOT-CD under LMS-0000069721 is proposed herein.

It is proposed to share the present KUOT-CD Dielectric directional, elliptically-polarized antenna that is currently mounted at the 180-meter level of an existing 194.5-meter tower. Exhibit B is a map upon which the predicted service contours of the shared facility are plotted. As shown the predicted city-grade (48 dBu) contour of KTBO-TV/KUOT-CD completely encompasses Oklahoma City, as required under FCC Rules. Since no change in the licensed KUOT-CD facility is proposed herein, no interference study is provided. Azimuth and elevation pattern data for the existing antenna are included as Exhibit C, and were used for the power density calculation that appears in Exhibit D.

EXHIBIT A

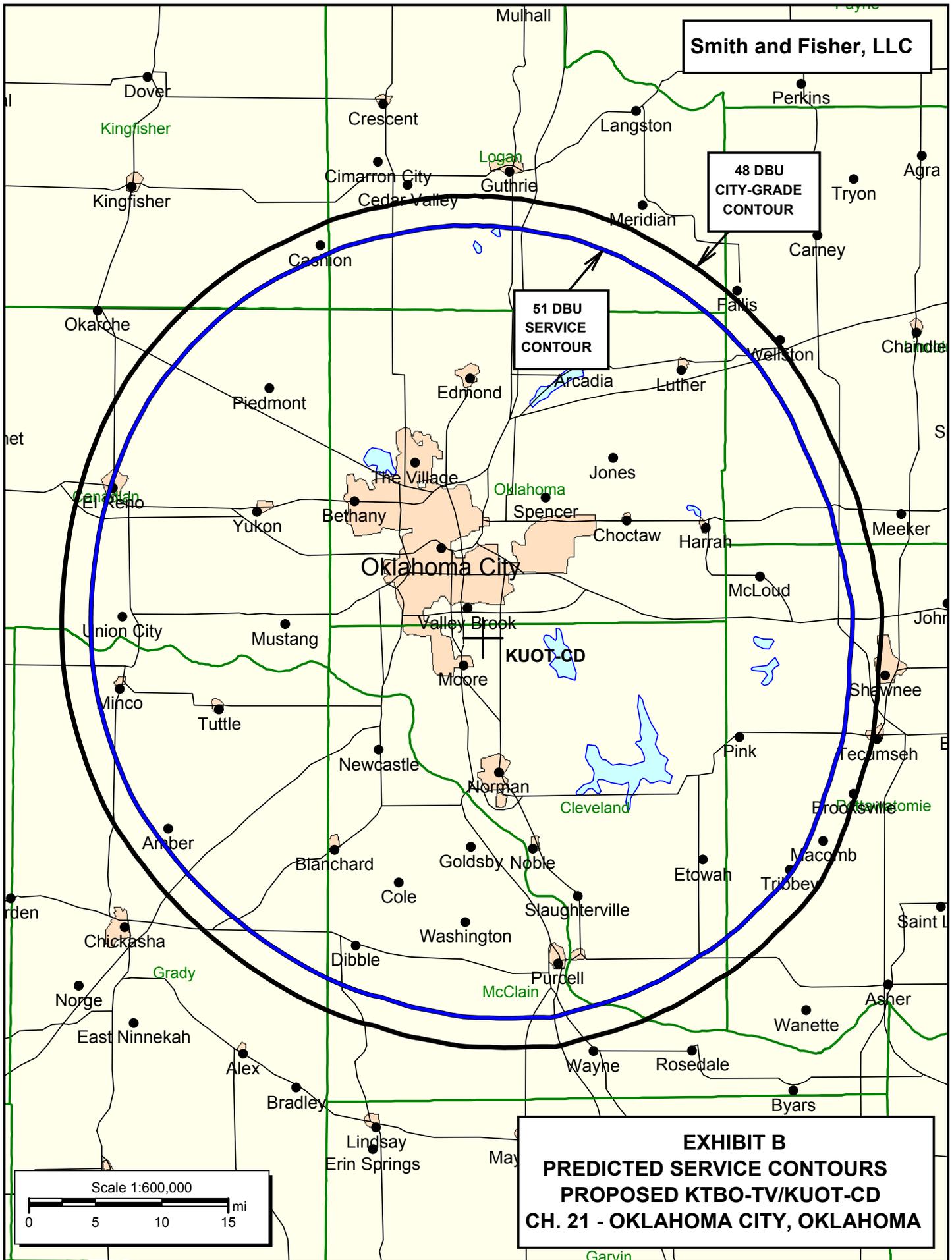
Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1011510 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is written in a cursive, stylized font.

KEVIN T. FISHER

December 1, 2020



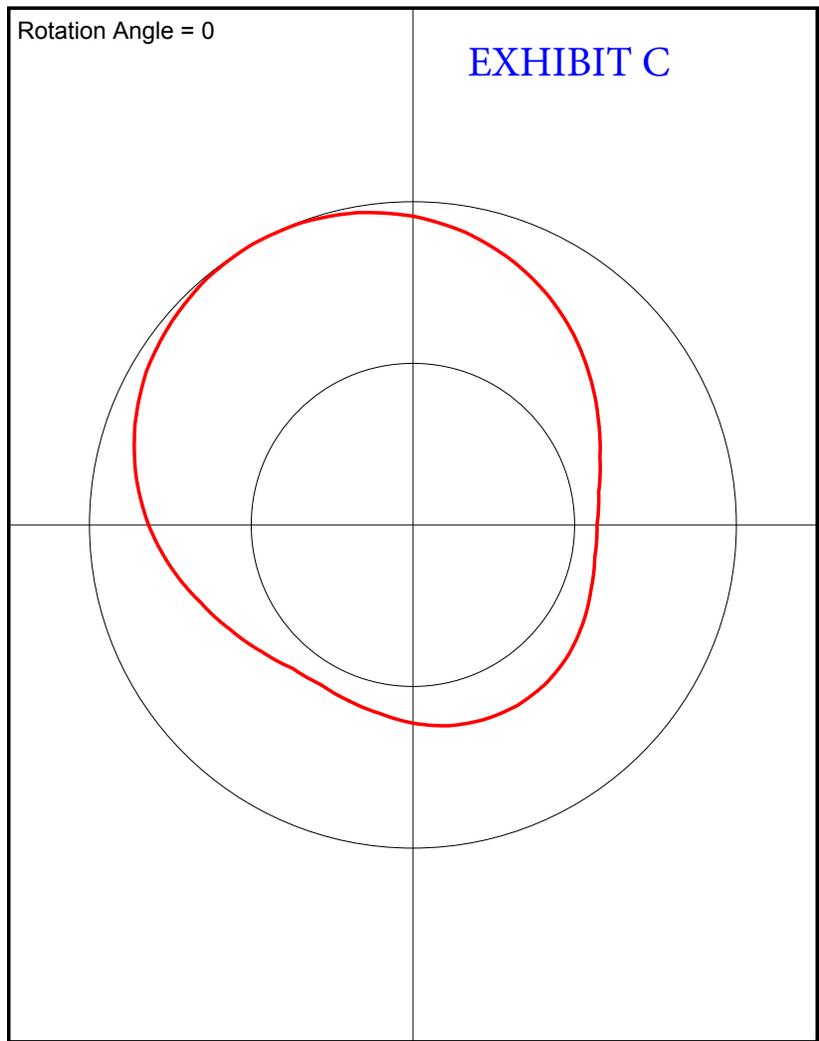
# Antenna Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.955
10.0	0.92
20.0	0.876
30.0	0.826
40.0	0.771
50.0	0.714
60.0	0.661
70.0	0.615
80.0	0.583
90.0	0.569
100.0	0.571
110.0	0.586
120.0	0.607
130.0	0.627
140.0	0.64
150.0	0.645
160.0	0.641
170.0	0.631
180.0	0.613
190.0	0.592
200.0	0.579
210.0	0.57
220.0	0.579
230.0	0.61
240.0	0.65
250.0	0.699
260.0	0.759
270.0	0.817
280.0	0.869
290.0	0.914
300.0	0.951
310.0	0.975
320.0	0.993
330.0	1.0
340.0	0.996
350.0	0.981

Rotation Angle = 0

EXHIBIT C



## ELEVATION PATTERN

Exhibit No.

Date **1 Dec 2020**

**EXHIBIT C**

Call Letters

Channel **21**

Antenna Type **DLP B**

Location

Customer

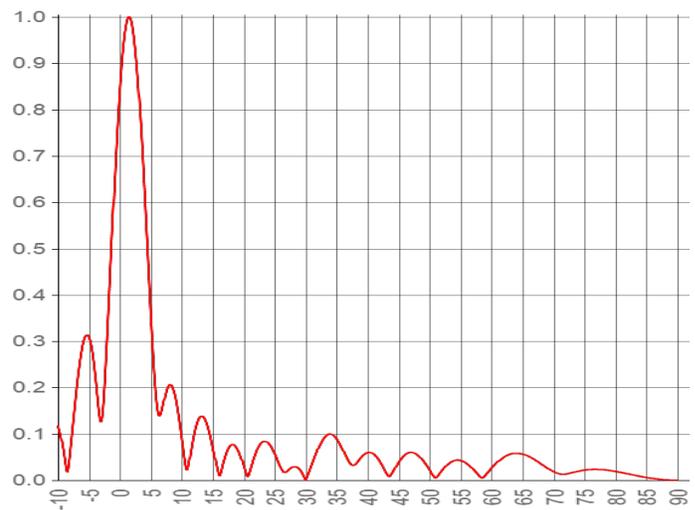
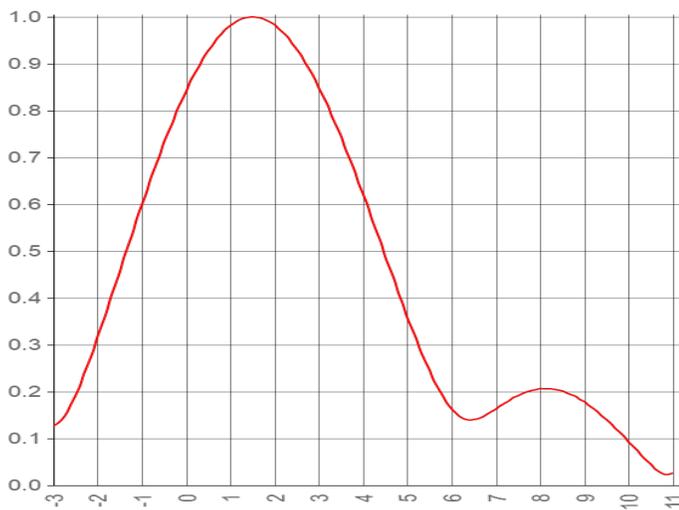
RMS Gain at Main Lobe **12.0 (10.79 dB)**

Beam Tilt **1.0 Degrees**

RMS Gain at Horizontal **8.5 (9.30 dB)**

Drawing # **12D120150**

**Calculated**



Degrees below horizontal

Degrees below horizontal

Angle	Field								
-10	0.118	10	0.093	30	0.000	50	0.022	70	0.019
-9	0.055	11	0.026	31	0.034	51	0.005	71	0.014
-8	0.064	12	0.100	32	0.068	52	0.021	72	0.013
-7	0.192	13	0.137	33	0.092	53	0.035	73	0.016
-6	0.289	14	0.124	34	0.100	54	0.043	74	0.019
-5	0.309	15	0.072	35	0.089	55	0.043	75	0.022
-4	0.229	16	0.011	36	0.066	56	0.036	76	0.023
-3	0.127	17	0.051	37	0.039	57	0.024	77	0.024
-2	0.314	18	0.076	38	0.034	58	0.009	78	0.023
-1	0.598	19	0.067	39	0.050	59	0.011	79	0.021
0	0.842	20	0.031	40	0.059	60	0.026	80	0.019
1	0.981	21	0.020	41	0.056	61	0.040	81	0.017
2	0.983	22	0.060	42	0.040	62	0.050	82	0.014
3	0.850	23	0.082	43	0.016	63	0.056	83	0.011
4	0.621	24	0.079	44	0.016	64	0.058	84	0.008
5	0.360	25	0.057	45	0.039	65	0.056	85	0.006
6	0.163	26	0.027	46	0.055	66	0.051	86	0.004
7	0.163	27	0.019	47	0.060	67	0.044	87	0.002
8	0.206	28	0.029	48	0.055	68	0.035	88	0.001
9	0.178	29	0.023	49	0.041	69	0.026	89	0.000

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POWER DENSITY CALCULATION

PROPOSED KTBO-TV STA REQUEST  
CHANNEL 21 – OKLAHOMA CITY, OKLAHOMA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Oklahoma City facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 15.0 kW (H,V), an antenna radiation center 180 meters above ground, and the specific elevation pattern of the KUOT-CD licensed Dielectric DLP12-B-VP antenna, maximum power density two meters above ground of 0.000085 mW/cm<sup>2</sup> is calculated to occur 89 meters north-northwest of the base of the tower. Since this is significantly less than 0.1 percent of the 0.34 mW/cm<sup>2</sup> reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 21 (512-518 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.