MINOR CHANGE APPLICATION TO MODIFY
BLFT-20151103BBT, TRANSLATOR STATION W283BO
Facility ID 153192
CH283D to 281D, Lancaster, Ohio

November 2020

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf WLOH Radio Company (WLOH). The applicant proposes to change frequency to the second adjacent channel (281D) and modify the antenna in order to comply with 74.1204. The applicant will continue to rebroadcast WLOH (AM), 1320kHz, Lancaster, Ohio (Fac ID 73217). The 60dBu contour of the proposed facility will continue to be entirely encompassed by the 2mV/m daytime contour of WLOH and is considered a fill-in translator for WLOH (AM). Exhibit A demonstrates that the 60dBu contour of the proposed translator will not extend beyond the 2mV/m contour of WLOH nor will it extend beyond 25 miles (40km) of the WLOH transmitter in accordance with 73.1201(g). Because this change is to a second adjacent channel it is considered a minor change.

Exhibit B demonstrates that the proposed operation for W283BO at the proposed coordinates will comply with all pertinent interference requirements to other with respect to 74.1204(a). Exhibit C shows the directional characteristics of the Nicom BKG-77 proposed.

With respect to 74.1204(d) compliance with protection to 3rd adjacent, WNND 278A, the proposed operation will protect all residences in the area surrounding the tower. Exhibit D demonstrates the area of concern with residences noted and a spreadsheet showing the calculated AGL height of the interfering contour of the proposed translator (location where the translator signal is in excess of 40dB above the received signal level of WNND). As demonstrated, at all locations where there are residences, the interfering contour will be well above the shown residences and therefore no actual interference is expected to exist to potential WNND listeners at any pertinent locations.

Since the translator will continue to operate from the same tower location it will be in compliance with 74.1233(a)(1) of the Commission's rules requiring any minor change of a translator's facilities to continue to provide 1mV/m service to some portion of its previously authorized service area.

WLOH will continue to operate from the same unregistered tower, therefore, the FAA was not apprised of this proposal. The existing tower W283BO will operate from will be 58m. AGL (190ft) and although it does not meet the TOWAIR glide slope analysis, it is believed that the tower is compliant in accordance with 46CFR 77.9(e)(1) which states:

(e) You do not need to file notice for construction or alteration of:
(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

Since the existing tower proposed to relocate W283BO is 58m (190ft) AGL and there is at least one other higher tower within 50ft of the subject tower (ASR 1065841-60.6m/199ft.AGL, and since the tower site is in the urbanized downtown Lancaster, OH. area, it believed that the provisions of 46CFR 77.9(e)(1) applies and the tower is not required to obtain an ASR number.

A Nicom BKG-77, 8-bay ½ wavelength spaced antenna will be used for transmitting the proposed translator's signal at 54m COR AGL. The online FCC program "FM Model for Windows" produced by the OET was used to predict the maximum RF Radiation at ground level. It was determined that the maximum RFR will be 0.043µW/cm² at 192m from the tower base. This level is 0.02 percent of the µW/cm² maximum allowable level for public exposure at 2m. AGL.

Respectfully Submitted

Bertram Goldman
Goldman Engineering Mgmt. Inc
560 Perkins Way
Auburn, CA 95603

EXHIBIT A

LIC Vs. Proposed W283BO Contours (240w @ 54m AGL) Nicom 8-bay 1/2w spaced

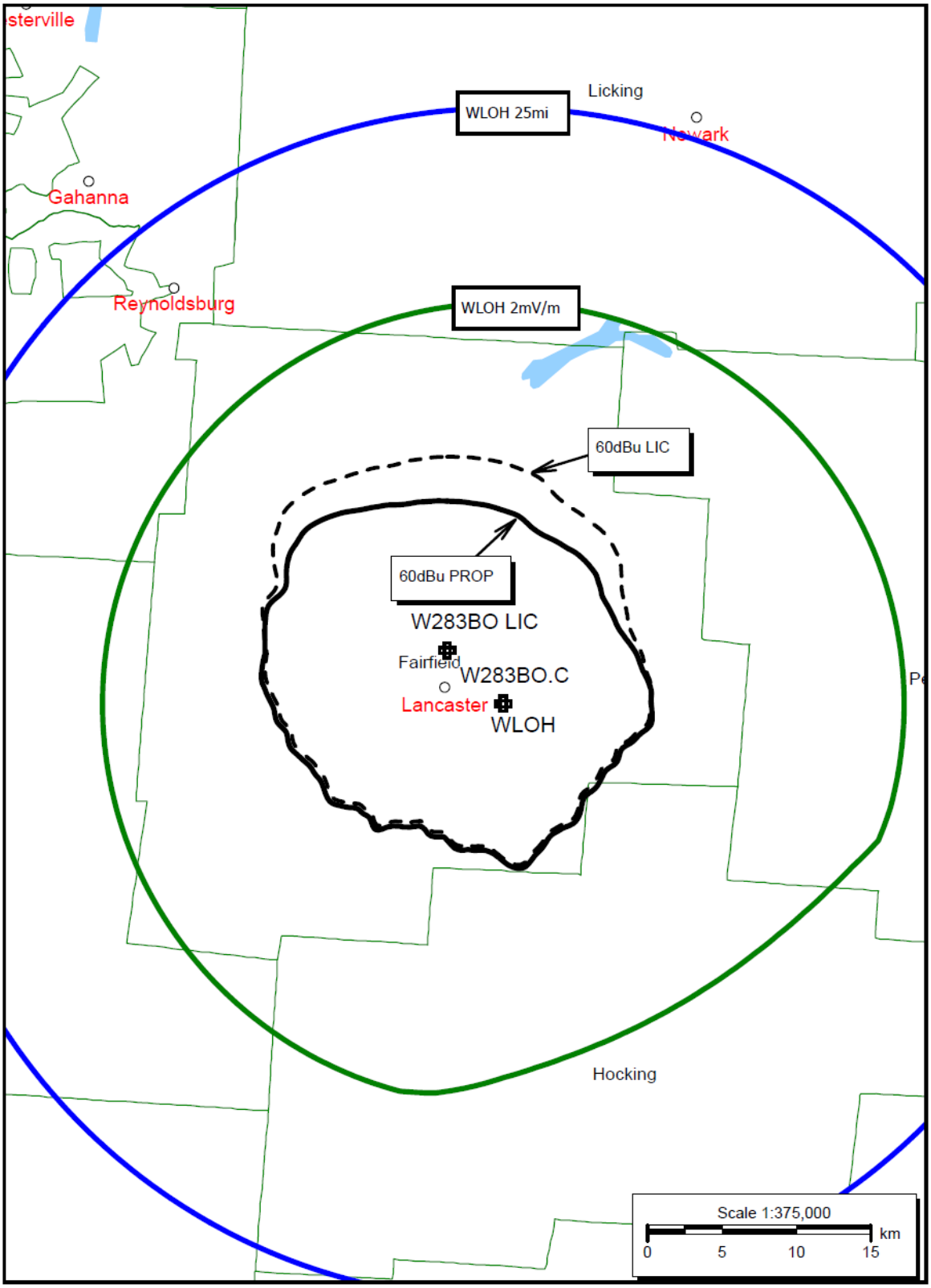


EXHIBIT B

Interference Study for W283BO, Lancaster, OHIO

ComStudy 2.2 search of channel 281 (104.1 MHz Class D) at 39-44-09.2 N, 82-35-50.5 W.

CALL	CITY	ST	CHN	CL	DIST	SEP	BRNG	CLEARANCE	
WNND	PICKERINGTON	OH	278	A	26.15	0.00	335.5	-3.05 dB	Exhibit D
WJKR	WORTHINGTON	OH	280	A	50.64	0.00	300.7	1.20 dB	Exhibit B
WPYK	PORTSMOUTH	OH	281	C0	122.22	0.00	197.1	3.60 dB	Exhibit B
WJFY-LP	NEWARK	OH	282	LP100	30.60	13.00	31.0	6.09 dB	
W280FZ	NELSONVILLE	OH	280	D	44.61	0.00	133.2	7.50 dB	
WQOU-LP	MT GILEAD	OH	281	LP100	89.09	24.00	354.3	15.85 dB	
WZVL	PHILO	OH	279	A	56.59	0.00	67.5	16.73 dB	
W284CH	NEWARK	OH	284	D	37.07	0.00	26.6	16.88 dB	
WNNP	RICHWOOD	OH	282	A	88.95	0.00	315.7	20.35 dB	
WQAL	CLEVELAND	OH	281	B	192.49	0.00	21.8	20.11 dB	
WODC	ASHVILLE	OH	227	B	36.30	15.00	295.6	21.3	
W283CL	COLUMBUS	OH	283	D	42.60	0.00	301.9	21.76 dB	
WQKT	WOOSTER	OH	283	B	131.24	0.00	26.4	23.00 dB	
WQAL	CLEVELAND	OH	281	B	197.04	0.00	21.8	24.15 dB	
WTUE	DAYTON	OH	284	B	138.19	0.00	269.9	25.79 dB	
WNRJ	VIENNA	WV	280	A	104.25	0.00	114.8	26.59 dB	
WODC	ASHVILLE	OH	227	B	42.96	15.00	302.4	28.0	
WLBC-FM	MUNCIE	IN	281	B	242.35	0.00	282.2	27.18 dB	
WCKY-FM	PEMBERVILLE	OH	279	B	165.23	0.00	340.8	29.90 dB	

EXHIBIT B

LIC Vs. Proposed W283BO Contours (240w @ 54m AGL) Nicom 8-bay 1/2w spaced

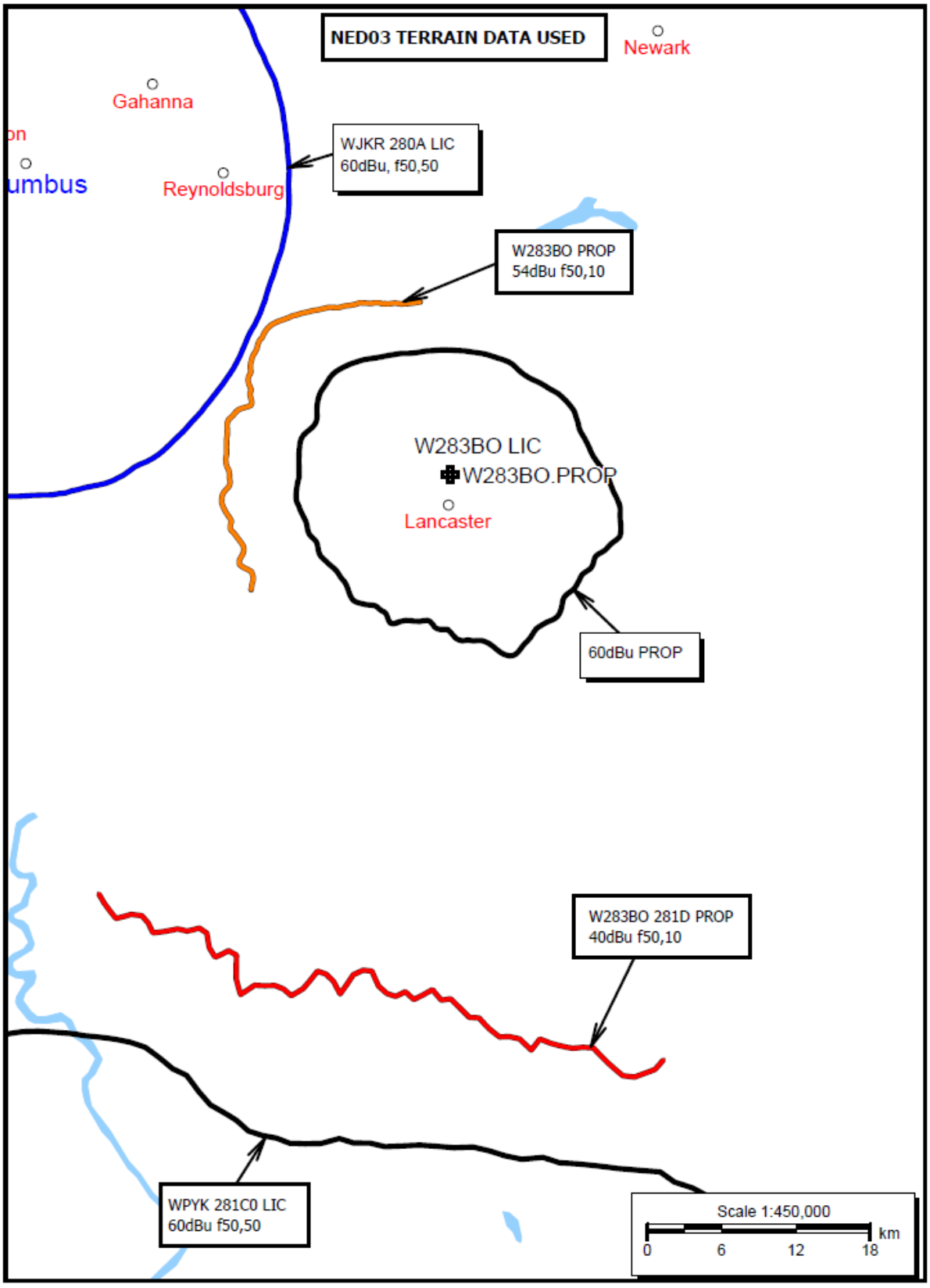
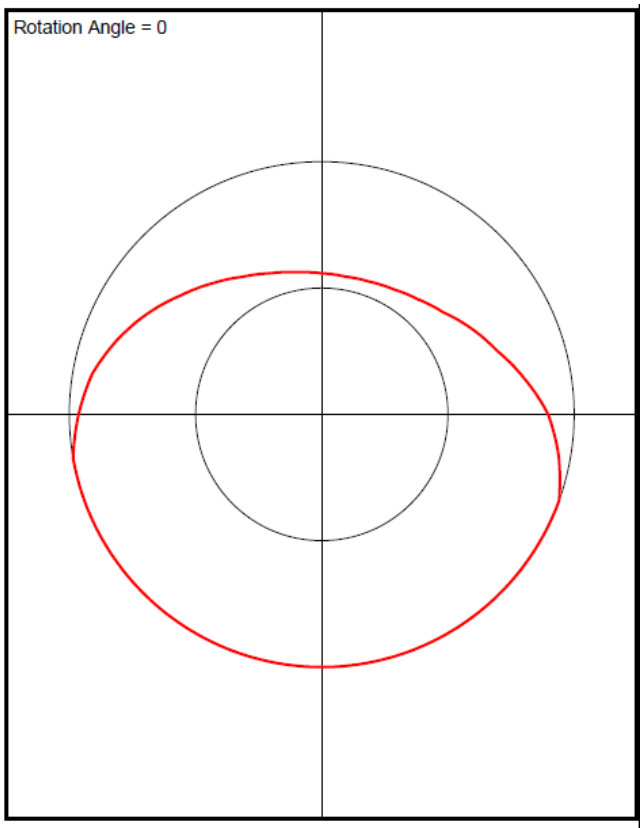


EXHIBIT C- Antenna Pattern

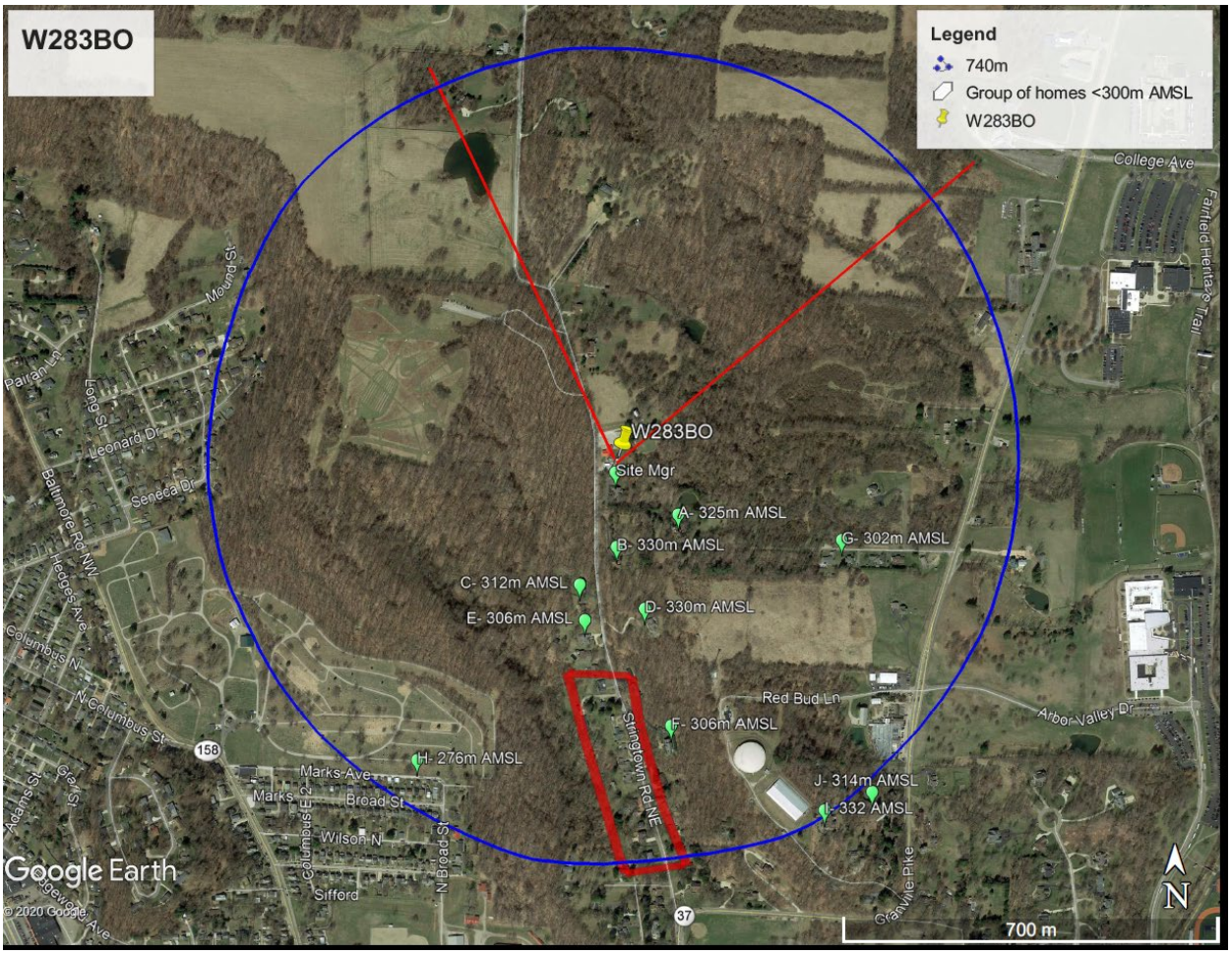
W283BO 281D Antenna Pattern

Pre-Rotation Antenna Pattern....



Azimuth (deg)	Relative Field
0.0	0.558
5.0	0.5555
10.0	0.553
15.0	0.5555
20.0	0.558
25.0	0.5645
30.0	0.571
35.0	0.5825
40.0	0.594
45.0	0.611
50.0	0.628
55.0	0.655
60.0	0.682
65.0	0.71
70.0	0.738
75.0	0.7765
80.0	0.815
85.0	0.856
90.0	0.897
95.0	0.925
100.0	0.953
105.0	0.9765
110.0	1.0
115.0	1.0
120.0	1.0
125.0	1.0
130.0	1.0
135.0	1.0
140.0	1.0
145.0	1.0
150.0	1.0
155.0	1.0
160.0	1.0
165.0	1.0
170.0	1.0
175.0	1.0
180.0	1.0
185.0	1.0
190.0	1.0
195.0	1.0
200.0	1.0
205.0	1.0
210.0	1.0
215.0	1.0
220.0	1.0
225.0	1.0
230.0	1.0
235.0	1.0
240.0	1.0
245.0	1.0
250.0	1.0
255.0	1.0
260.0	1.0
265.0	0.9815
270.0	0.963
275.0	0.943
280.0	0.923
285.0	0.8925
290.0	0.862
295.0	0.8295
300.0	0.797
305.0	0.764
310.0	0.731
315.0	0.7035
320.0	0.676
325.0	0.652
330.0	0.628
335.0	0.611
340.0	0.594
345.0	0.5825
350.0	0.571
355.0	0.5645

EXHIBIT D



Map of area around proposed W283BO (281D) showing pertinent residences

3rd Adjacent Interference Compliance (74.1204(d), WNND. 278A, Pickerington, OH

Reference Facility, Site AMSL Height 338m, Antenna AGL 54m, Antenna COR 392 ERP 240w

Any location with apparent height* over 68m AGL, contour does not reach under 2m AGL

All locations between 335deg T and 50 Deg T, (Red Lines) Intf Contour does not reach within 2m AGL

Below locations shows all pertinent residences within full power (240w, 54m AGL) Antenna Power.

Any residences within blue circle not marked are below 300m AMSL (92m Apparent AGL to antenna)

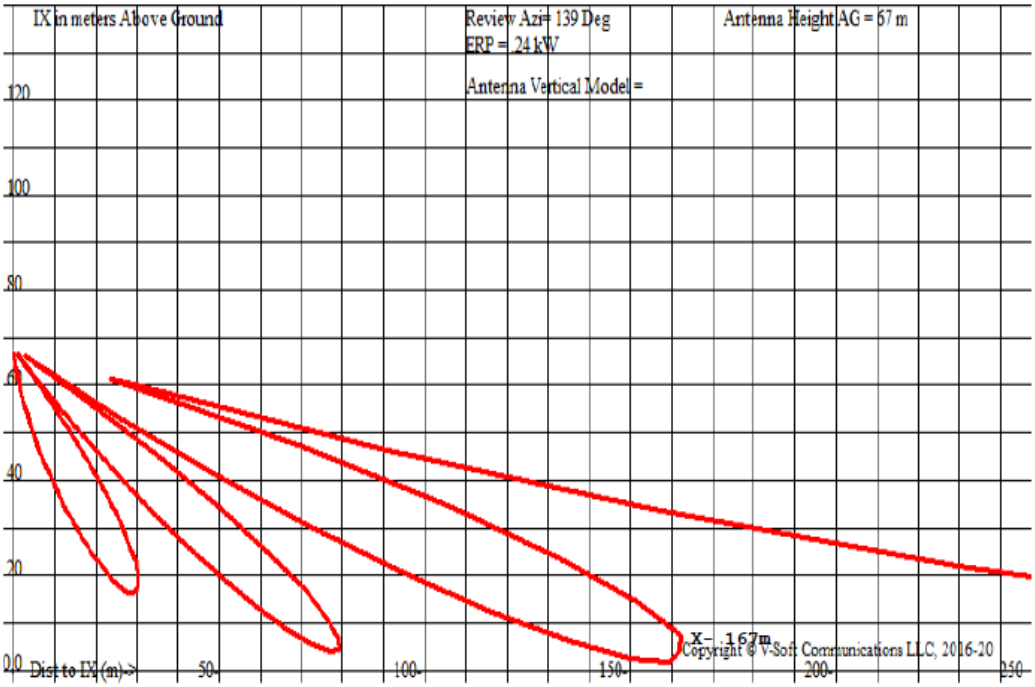
REF Site	Rcv AMSL	Apparent AGL	AZ to Rcv	Dist to Rcv	Intf Contour Ht AGL
A	325	67	139	167	**6.8m**
B	330	62	182	185	**28m**
C	312	80	198	256	**25m**
D	330	62	172	300	**7m**
E	306	86	192	326	**30m**
F	306	86	170	520	**19m**
G	302	90	113	443	**24m**
H	276	116	213	690	**82m**
I	332	60	151	751	**12m**
J	314	78	144	767	**35m**

Blocked area (Red Polygon), max AMSL= 300m (92m Apparent AGL)

*Apparent AGL= Height difference between 392AMSL COR and Receive AMSL

The locations with the closest margins are Point A with 67m apparent AGL height and 167m from the proposed antenna, and point D with 62m apparent AGL and 300m from the proposed antenna. The chart below shows the interfering contours with the tightest margins.

PLOT SHOWING GRAPH OF INTERFERING CONTOUR TO POINT A



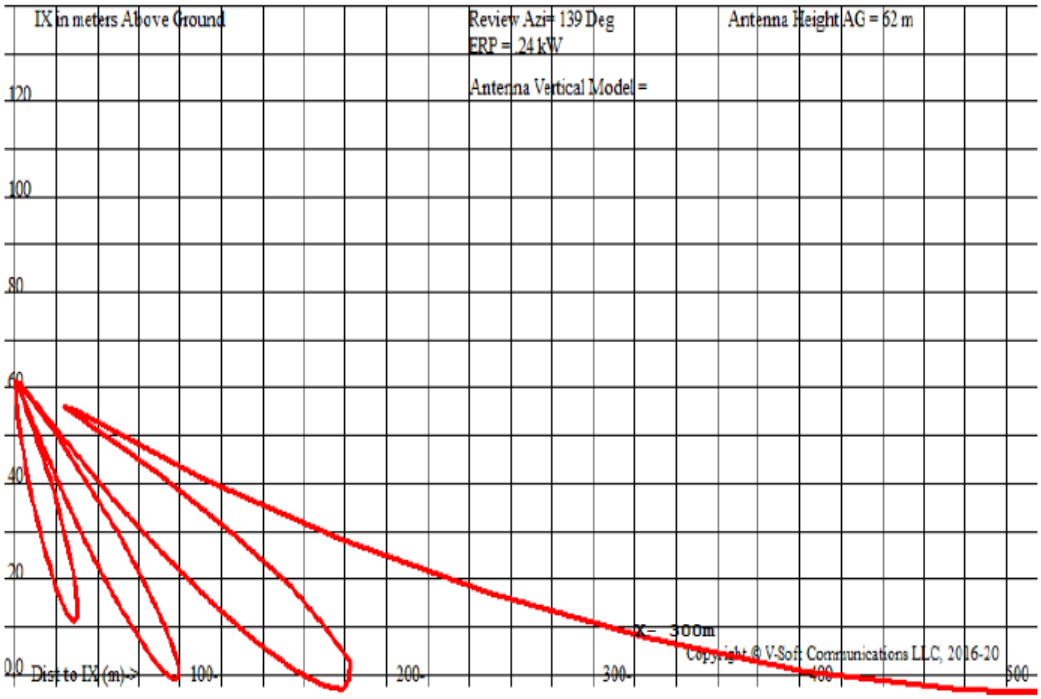
W283BO Lancaster, OH, Showing Protection to WNND, Channel: 278
Geographic Coordinates: N. 394409.2 W. 823550.5
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Antenna ERP = 0.24 kW, Channel: 283
Translator or LPFM Antenna Height AG = 67 meters
W283BO Antenna Azimuth Model = NICOM Slight Directional.PAT, Vertical Model =

Protected Station's Contour = 62.28959 dBu
Translator's or LPFM's full Interference contour 102.28959

Review Azimuth = 139 Degrees True
Relative Field on the horizontal at Review Azimuth = 1.000
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.24 kW
Distance between stations = 26.2 km
Protected Station= WNND, 4.2 kW, 409 M meters COR AMSL

Depression Angle From Horiz. (Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.0	1.0	1.0	0.2400	834.8840	834.8840	067.000
01.0	0.992	1.0	0.2362	828.2049	828.0787	052.546
02.0	0.968	1.0	0.2249	808.1677	807.6754	038.795
03.0	0.930	1.0	0.2076	776.4421	775.3780	026.364
04.0	0.878	1.0	0.1850	733.0281	731.2425	015.867
05.0	0.813	1.0	0.1586	678.7607	676.1778	007.842
06.0	0.738	1.0	0.1307	616.1443	612.7690	002.595
07.0	0.655	1.0	0.1030	546.8490	542.7728	000.356
08.0	0.565	1.0	0.0766	471.7094	467.1188	001.351
09.0	0.473	1.0	0.0537	394.9001	390.0382	005.224
10.0	0.379	1.0	0.0345	316.4210	311.6139	012.054
11.0	0.286	1.0	0.0196	238.7768	234.3898	021.439
12.0	0.197	1.0	0.0093	164.4721	160.8780	032.804
13.0	0.114	1.0	0.0031	095.1768	092.7374	045.590
14.0	0.037	1.0	0.0003	030.8907	029.9731	059.527
15.0	0.030	1.0	0.0002	025.0465	024.1931	060.517
16.0	0.088	1.0	0.0019	073.4698	070.6237	046.749
17.0	0.135	1.0	0.0044	112.7093	107.7845	034.047
18.0	0.171	1.0	0.0070	142.7652	135.7777	022.883
19.0	0.196	1.0	0.0092	163.6373	154.7221	013.725
20.0	0.211	1.0	0.0107	176.1605	165.5367	006.750
21.0	0.212	1.0	0.0108	176.9954	165.2394	003.571
22.0	0.210	1.0	0.0106	175.3256	162.5591	001.322
23.0	0.199	1.0	0.0095	166.1419	152.9344	002.083
24.0	0.181	1.0	0.0079	151.1140	138.0495	005.536
25.0	0.157	1.0	0.0059	131.0768	118.7959	011.605
26.0	0.129	1.0	0.0040	107.7000	096.8001	019.787

PLOT SHOWING GRAPH OF INTERFERING CONTOUR TO POINT D



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W283BO Antenna Azimuth Model = NICOM Slight Directional.PAT, Vertical Model =

Protected Station's Contour = 62.28959 dBu
Translator's or LPFM's full Interference contour 102.28959

Review Azimuth = 139 Degrees True
Relative Field on the horizontal at Review Azimuth = 1.000
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.24 kW
Distance between stations = 26.2 km
Protected Station= WNND, 4.2 kW, 409 M meters COR AMSL

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00.0	1.0	1.0	0.2400	834.8840	834.8840	062.000
01.0	0.992	1.0	0.2362	828.2049	828.0787	047.546
02.0	0.968	1.0	0.2249	808.1677	807.6754	033.795
03.0	0.930	1.0	0.2076	776.4421	775.3780	021.364
04.0	0.878	1.0	0.1850	733.0281	731.2425	010.867
05.0	0.813	1.0	0.1586	678.7607	676.1778	002.842
06.0	0.738	1.0	0.1307	616.1443	612.7690	-002.405
07.0	0.655	1.0	0.1030	546.8490	542.7728	-004.644
08.0	0.565	1.0	0.0766	471.7094	467.1188	-003.649
09.0	0.473	1.0	0.0537	394.9001	390.0382	000.224
10.0	0.379	1.0	0.0345	316.4210	311.6139	007.054
11.0	0.286	1.0	0.0196	238.7768	234.3898	016.439
12.0	0.197	1.0	0.0093	164.4721	160.8780	027.804
13.0	0.114	1.0	0.0031	095.1768	092.7374	040.590
14.0	0.037	1.0	0.0003	030.8907	029.9731	054.527
15.0	0.030	1.0	0.0002	025.0465	024.1931	055.517
16.0	0.088	1.0	0.0019	073.4698	070.6237	041.749
17.0	0.135	1.0	0.0044	112.7093	107.7845	029.047
18.0	0.171	1.0	0.0070	142.7652	135.7777	017.883
19.0	0.196	1.0	0.0092	163.6373	154.7221	008.725
20.0	0.211	1.0	0.0107	176.1605	165.5367	001.750
21.0	0.212	1.0	0.0108	176.9954	165.2394	-001.429
22.0	0.210	1.0	0.0106	175.3256	162.5591	-003.678
23.0	0.199	1.0	0.0095	166.1419	152.9344	-002.917
24.0	0.181	1.0	0.0079	151.1140	138.0495	000.536
25.0	0.157	1.0	0.0059	131.0768	118.7959	006.605
26.0	0.129	1.0	0.0040	107.7000	096.8001	014.787