

Amendment to Proposed Minor Change to W276BV at Greenwich, CT

File No. BPFT-20180612AAX • Facility ID 158099

Technical Statement

Summary

This translator is presently licensed in noncommercial educational service with NCE station WSHU-FM as its primary. This application proposes a minor change in order to provide fill-in service for new proposed primary station WVOX(AM). A “Mattoon Waiver” is also requested. The proposed service contour lies entirely within 25 miles of the WVOX antenna site as illustrated in Figures 1 and 2 (grey circle.).

Request for Waiver of Section 74.1233(a)(1) (“Mattoon Waiver”)

A waiver of Section 74.1233(a)(1) is hereby respectfully requested. The proposed 40 dBu F(50,10) interfering contour overlaps (and encompasses) the 60 dBu F(50,50) service contour of the licensed facility (File No. BLFT-20071009AAI) as illustrated in Figures 1 and 2. Hence, the facilities are mutually exclusive for purposes of the requested waiver.

Further support for this request is provided in Attachment A to Exhibit 12 of this application.

74.1204 Study

The following facilities were studied:

<u>Call Sign</u>	<u>Location</u>	<u>Channel No.</u>
WWFS	New York, NY	274B
WBZO	Bayshore, NY	276A
WJGK	Newburgh, NY	276A
W276AQ	Fort Lee, NJ (license)	276D
W276AQ	Fort Lee, NJ (application) ¹	276D
W276AV	Stamford, CT	276D
WKTU	Lake Success, NY	278B

Figures 1 and 2 illustrate the absence of prohibited overlap between the proposed translator 40 dBu F(50,10) interfering contour and the 60 dBu service contours of co-channels WBZO, WJGK, W276AQ (both licensed facility and prior-filed application), and W276AV. (Key: same colors may not overlap.)

The presently authorized site lies within the service contours of both WWFS and WKTU. Therefore, the applicant hereby respectfully requests a waiver pursuant to 74.1204(d) as described below.

¹ W276AQ Form 349 application BPFT-20170209AAC, filed prior to this application, is fully protected. However, BPFT-20180612ABE is not protected. It was submitted subsequent to the instant application and therefore is presumed to be subject to dismissal unless it protects the facility proposed herein.

Interference Protection to All Nearby Residences, Businesses, and Roadways

As shown in Figure 2, both WWFS and WKTU place a 74.5 dBu service contour over the proposed site. The Commission has generally considered overlap from a proposed translator interfering contour to be acceptable where the ratio of undesired to desired signal (U/D) does not exceed 40 dB i.e. where in the instant case the proposed translator F(50,10) interfering signal does not exceed 114.5 dBu.

The proposed translator facility will operate with a maximum ERP of 0.09 kW (H&V) using a directional antenna array. For an ERP of 0.09 kW, the distance to the 114.5 dBu F(50,10) interfering contour in free space is 125 meters.

The proposed antenna is located 134 meters above ground level and mounted on a mast 10 meters above the roof of a mixed use building that includes apartment residences. Therefore, the interfering contour will not reach the ground. The applicant is taking precautions to avoid any possibility of interference to WWFS or WKTU in any occupied areas of the building, as described below.

The proposed halfwave-spaced array of two Scala CA-2CP antennas suppresses downward radiation. The manufacturer's vertical pattern field values are illustrated in Figure 3 below.

The antenna is directional to the north north northwest (maximum at 353 degrees True) and will be mounted on a pole on the northwest corner of the building such that the major lobe (where the maximum ERP is 0.09 kW) points directly away from the building.

The building will only be exposed to the minor lobe behind the proposed antenna, where the maximum ERP is seen to be 0.006 kW between 162 degrees and 184 degrees True.

The highest level apartments are located beneath two floors of unoccupied mechanical and equipment rooms that occupy the two top floors directly beneath the roof. The closest apartment is 7 meters below the roof, or 17 meters below the proposed antenna.

Table 4 below summarizes the field values at pertinent vertical angles, together with the ERP based on a field value of 1.000 corresponding to 0.006 kW, the distance to the 114.5 dBu F(50,10) interfering contour, the distance to the ceiling of the closest apartment residence at the pertinent angle, and the margin of safety in meters. As shown, the interfering contour never approaches the ceiling of the nearest apartment.

The applicant therefore believes its application meets the requirements of Section 74.1204(d) with respect to "other factors" insuring no actual interference to either WWFS or WKTU. Should any actual interference occur, the applicant will take the required steps to eliminate it, or cease operation.

Discussion of Recent Changes in Channel 276 Allocation Picture

This application seeks facilities nearly identical to those proposed in BPFT-20140606AAA.² New activity has significantly changed the allocation picture since that time, as described below:

1. Based on pro-forma complaints of presumed future interference from alleged listeners,³ co-channel W276AQ at Fort Lee, NJ filed a series of Informal Objections and Supplements against the original proposal for W276BV noted above. W276BV submitted Replies, and ultimately amended its proposal (BMPFT-20140711AAA), sharply curtailing its proposed coverage in order to reduce or eliminate the possibility of actual interference once the facility was placed in operation. W276AQ then resubmitted its Objections. W276BV chose not to further prolong the proceedings by again supplementing its Reply to note the new facts provided below. Its application (as amended) was ultimately dismissed by letter of June 12, 2018.
2. In July 2014, co-channel WBZO at Bayshore, NY was authorized (BPH-20140402AAK) to eliminate a directional pattern that had helped to protect W276AQ from incoming interference from WBZO. WBZO is now licensed for nondirectional operation (BLH-20141215AFF.)
3. In October 2015, W276AQ filed a Form 349 application (BPFT-20151023AKB.) This application requested displacement to Channel 272D due to extreme interference being received from the new WBZO nondirectional operation. That application was superseded on 12/9/2015, as W276AQ remained on 276D due to an Informal Objection from a station on Channel 272A.
4. In its displacement waiver request in BPFT-20151023AKB, Exhibit 13 W276AQ stated:

THE APPLICANT IS REQUESTING A MINOR CHANGE WAIVER AND DISPLACEMENT APPLICATION FOR W276AQ, FORT LEE, NJ. SINCE DECEMBER 2014, WHEN THE CO-CHANNEL UPGRADED FACILITY ID 60245, WBZO, BAY SHORE, NY WENT ON THE AIR WITH THE MINOR CHANGE FACILITY BLH-20141218AFF, THE APPLICANT HAS RECEIVED COMPLAINTS FROM LISTENERS OF W276AQ THAT WBZO WAS INTERFERING WITH THE TRANSLATOR. ALSO STATION PERSONNEL HAVE NOTICED OBVIOUS INTERFERENCE FROM THE W276AQ TO THE NEWLY-MODIFIED SIGNAL OF CO-CHANNEL STATION, WBZO. ATTACHED IS A DECLARATION FROM THE PREPARER AND A LONGLEY-RICE MAP DEMONSTRATING THE INTERFERENCE THAT HAS BEEN BOTH PREDICTED AND AS ACTUALLY OBSERVED. THE LOCATIONS WITH THE TRANSLATOR'S 60 DBU CONTOUR WHERE INTERFERENCE WAS OBSERVED REPRESENT ONLY A SMALL SAMPLING OF LOCATIONS WITHIN THAT CONTOUR WHERE INTERFERENCE IS OCCURRING.

For reference, Appendix A-1 hereto contains the map of new interference received by W276AQ from the modified WBZO facility. Appendix A-2 provides further detail and describes the areas of new interference. Both exhibits were submitted in support of the displacement waiver request.

5. More recently, W276AQ has submitted a series of Form 349 applications⁴ proposing to move its facility farther away from the broad range of areas where heavy interference from WBZO is occurring, presumably in order to regain lost population coverage.
6. Conclusion: The instant application protects W276AQ as required by 74.1204(a)(3). Further, the detailed information provided by W276AQ in its displacement waiver request establishes that W276AQ is now inaudible due to heavy incoming interference from WBZO in the vicinity of the proposed W276BV facility. The applicant therefore believes its application meets the requirements of Section 74.1204(d) with respect to "other factors" insuring no actual interference will occur to W276AQ from its proposal.

² The W276AV license was assigned from Dennis Jackson to Sun Signals, LLC in 2016.

³ . As noted in its Reply dated 9/26/2015, W276BV attempted to confirm the complaints and assist the alleged listeners. However, not one of them was able to be located by phone, or by in-person visits.

⁴ The most recent of the W276AQ applications, BPFT-20180612ABE would create new interference to the instant prior filed W276BV application. BPFT-20180612ABE is therefore presumed subject to dismissal.

Environmental Considerations

The proposed facility will operate with less than 100 Watts. Even so, RFR compliance was determined through the use of the RF worksheets in Appendix A. The applicant will cease operation or reduce power as necessary, in order to prevent uncontrolled or controlled exposure in excess of the guidelines of OET-65.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'D. Jackson', with a stylized flourish at the end.

Dennis Jackson
Technical Consultant
June 21, 2018

Figure 1 – Section 74.1204 Study

Proposed 40 dBu F(50,10) interfering contour does not overlap the 60 dBu service contours of any co-channels (both red.)

The proposed 40 dBu F(50,10) interfering contour overlaps (and encompasses) the 60 dBu F(50,50) service contour of the licensed W276BV facility, and is thus mutually exclusive for purposes of the requested waiver of Section 74.1233(a)(1).

(Key: Same colors may not overlap.)

Proposed Service Contour is within 25 miles of WVOX antenna site (grey circle.)

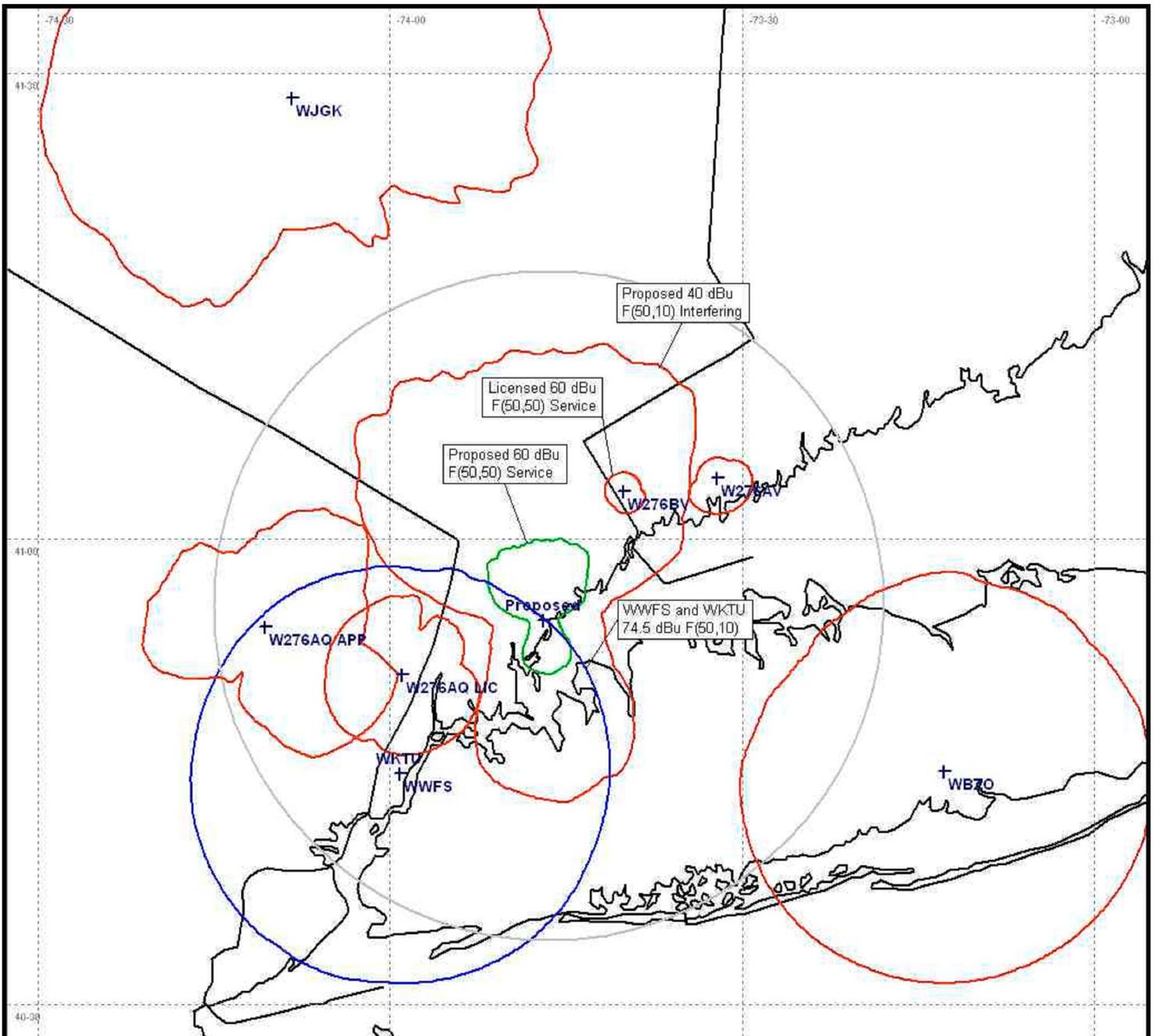


Figure 2 - 74.1204 Study (closeup)

Proposed Service Contour is within 25 miles of WVOX antenna site (grey circle.)

WWFS and WKTU place 74.5 dBu Service Contours over the proposed site.

40 dBu Interfering Contour overlaps 60 dBu service contour of the licensed facility.

(Key: Same colors may not overlap.)

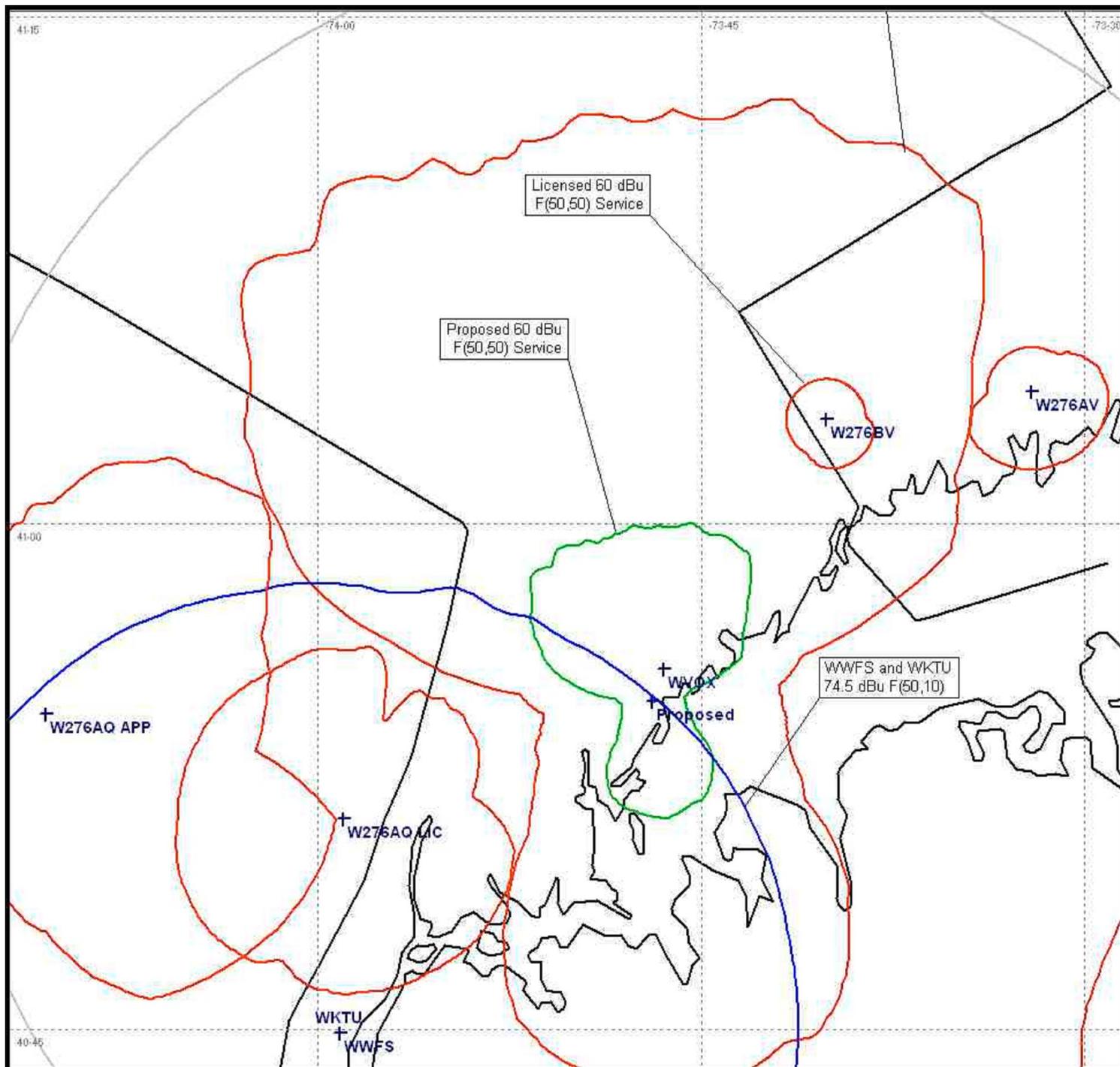


Figure 3

Vertical Pattern for Scala CA-2CP Two-Bay Halfwave Spaced Antenna Array

2xCA2-FM/CP/CV Circular Polarized Array Two antennas skewed 0 degrees Vertically stacked @ .5 WL Max Gain: 3.5 dBd / Power-x: 2.23 Circular Polarization Vertical Plane Pattern					 Post Office Box 4580 Phone:(541) 779-6500 Medford, OR 97501 (USA) Fax:(541) 779-3991 http://www.kathrein-scala.com				
Angle	Field	Rel dB	PWR mult	dBd	Angle	Field	Rel dB	PWR mult	dBd
0	1.000	.00	2.24	3.50	-45	.287	-10.84	.18	-7.34
-1	.998	-.02	2.23	3.48	-46	.269	-11.39	.16	-7.89
-2	.995	-.05	2.21	3.45	-47	.252	-11.96	.14	-8.46
-3	.991	-.08	2.20	3.42	-48	.236	-12.55	.12	-9.05
-4	.986	-.12	2.18	3.38	-49	.220	-13.15	.11	-9.65
-5	.981	-.17	2.15	3.33	-50	.205	-13.77	.09	-10.27
-6	.975	-.22	2.13	3.28	-51	.190	-14.43	.08	-10.93
-7	.968	-.29	2.10	3.21	-52	.175	-15.12	.07	-11.62
-8	.960	-.35	2.06	3.15	-53	.162	-15.82	.06	-12.32
-9	.952	-.43	2.03	3.07	-54	.149	-16.55	.05	-13.05
-10	.943	-.51	1.99	2.99	-55	.136	-17.30	.04	-13.80
-11	.930	-.63	1.94	2.87	-56	.124	-18.14	.03	-14.64
-12	.917	-.75	1.88	2.75	-57	.112	-19.00	.03	-15.50
-13	.904	-.88	1.83	2.62	-58	.101	-19.90	.02	-16.40
-14	.890	-1.02	1.77	2.48	-59	.091	-20.84	.02	-17.34
-15	.875	-1.16	1.71	2.34	-60	.081	-21.82	.01	-18.32
-16	.859	-1.32	1.65	2.18	-61	.072	-22.83	.01	-19.33
-17	.842	-1.49	1.59	2.01	-62	.064	-23.88	.01	-20.38
-18	.825	-1.67	1.52	1.83	-63	.056	-24.99	.01	-21.49
-19	.808	-1.85	1.46	1.65	-64	.049	-26.15	.01	-22.65
-20	.790	-2.04	1.40	1.46	-65	.043	-27.37	.00	-23.87
-21	.771	-2.26	1.33	1.24	-66	.037	-28.72	.00	-25.22
-22	.751	-2.49	1.26	1.01	-67	.031	-30.14	.00	-26.64
-23	.731	-2.72	1.20	.78	-68	.026	-31.66	.00	-28.16
-24	.711	-2.97	1.13	.53	-69	.022	-33.30	.00	-29.80
-25	.690	-3.22	1.07	.28	-70	.018	-35.06	.00	-31.56
-26	.670	-3.48	1.00	.02	-71	.014	-36.84	.00	-33.34
-27	.649	-3.76	.94	-.26	-72	.012	-38.77	.00	-35.27
-28	.628	-4.04	.88	-.54	-73	.009	-40.88	.00	-37.38
-29	.607	-4.34	.82	-.84	-74	.007	-43.23	.00	-39.73
-30	.586	-4.64	.77	-1.14	-75	.005	-45.87	.00	-42.37
-31	.564	-4.97	.71	-1.47	-76	.004	-48.03	.00	-44.53
-32	.543	-5.31	.66	-1.81	-77	.003	-50.39	.00	-46.89
-33	.521	-5.66	.61	-2.16	-78	.002	-53.02	.00	-49.52
-34	.500	-6.02	.56	-2.52	-79	.002	-55.97	.00	-52.47
-35	.479	-6.39	.51	-2.89	-80	.001	-59.36	.00	-55.86
-36	.459	-6.77	.47	-3.27	-81	.001	-61.72	.00	-58.22
-37	.439	-7.16	.43	-3.66	-82	.001	-64.32	.00	-60.82
-38	.419	-7.56	.39	-4.06	-83	.000	-67.23	.00	-63.73
-39	.399	-7.97	.36	-4.47	-84	.000	-70.54	.00	-67.04
-40	.380	-8.39	.32	-4.89	-85	.000	-74.39	.00	-70.89
-41	.361	-8.86	.29	-5.36	-86	.000	-78.31	.00	-74.81
-42	.342	-9.33	.26	-5.83	-87	.000	-83.32	.00	-79.82
-43	.323	-9.82	.23	-6.32	-88	.000	-90.22	.00	-86.72
-44	.305	-10.32	.21	-6.82	-89	.000	-101.17	.00	-97.67

Figure 4

Protection to ground, and apartment residences within host building.

The table below summarizes:

1. Pertinent downward angles below horizon from proposed antenna
2. Antenna array field values at the pertinent vertical angles.
(Please see manufacturer's specifications in Attachment B to Exhibit 12.)
3. ERP at pertinent vertical angles based on a field value of 1.000 = 0.006 kW.
4. Distance to the 114.5 dBu F(50,10) interfering contour in free-space.
5. Distance to ceiling of closest apartment residence.
6. Margin of safety in meters.
7. As illustrated below, the proposed interfering contour never reaches the ceiling of the nearest apartment.

ANGLE BELOW HORIZON (Degrees)	FIELD VALUE	ERP (Watts)	DISTANCE TO 114.5 dBu INTERFERING (meters)	DISTANCE TO CLOSEST APT CEILING (meters)
90	0.000	0.000	0	17.0
80	0.000	0.000	0	17.3
70	0.018	0.002	1	18.1
60	0.081	0.039	3	19.6
50	0.205	0.252	7	22.2
40	0.380	0.866	12	26.4
30	0.586	2.060	19	34.0
20	0.790	3.745	25	49.7
10	0.943	5.335	30	97.9
0	1.000	6.000	32	infinite

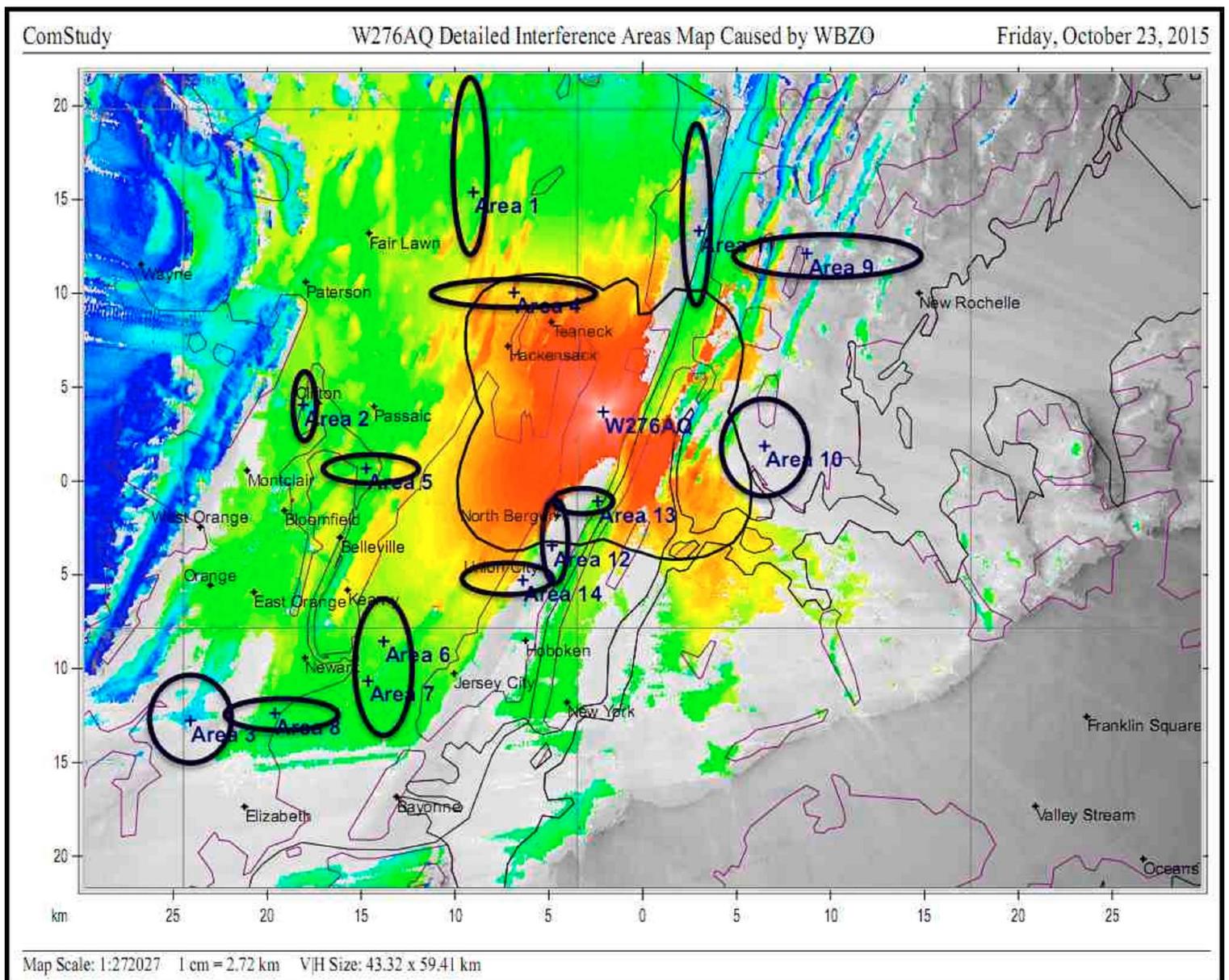
Appendix A-1

Areas of New WBZO Interference Cited by W276AQ in 2015 Displacement Waiver Request

Areas 9, 10, and 11 are areas within which W276AQ had submitted a series of Informal Objections to previous applications submitted by W276BV.

The instant proposal from W276BV cannot create new interference to W276AQ in areas where it W276AQ is already inaudible due to heavy incoming interference from WBZO. Any such interference will continue to be caused by WBZO, rather than proposed W276BV. Under 74.1204(d) this may be construed as “other factors” assuring

This map and the Declaration in Appendix A-2 are contained in Attachment 13 to W276AQ application File Number BPFT-20151023AKB dated 10/23/2015 (superseded 12/9/2015.)



Appendix A-2

Engineer's Declaration, Discussion, and Descriptions of Areas of New WBZO Interference Cited by W276AQ in 2015 Displacement Waiver Request

Near the applicant's proposed facility, and even in areas much closer to the W276AQ antenna site than the applicants proposed facility (i.e. Areas 9, 10, and 11), W276AQ describes its signal as "unlistenable due to interference from WBZO," and "totally overtaken by WBZO, with WBZO intelligible." At best, the two signals "flip flop."

DECLARATION OF ROBERT H BRANCH, JR.

I, Robert H. Branch, Jr., am a qualified broadcast engineering consultant.

I consult for Bridgelight LLC ("Bridgelight") for technical matters in the New York City and Northern New Jersey area. Bridgelight, LLC is the licensee of FM translator W276QQ, 103.1 MHz, Fort Lee, New Jersey. The translator has continuously served the public since 1986.

In December 2014, co-channel station, WBZO, 103.1 MHz, Bay Shore, New York went on the air with modified and upgraded facilities. The new facility resulted in a coverage increase in the area where W276AQ provides coverage and has listeners, including significant areas of interference within the licensed f(50,50) 60 dBu contour of W276AQ operating facility.

On July 28, 2015, I drove with the General Manager, Rob Taylor, to the coverage areas of W276AQ that were the most affected by the recent WBZO upgrade. At the time of WBZO turning on its upgraded facilities, through the time of testing and continuously since the testing to the present, W276AQ was operating at full-power with the licensed facilities. The areas of interference are described below. The areas have one or more of the component described within each circle area described on the attached map.

1. Garden State Parkway: North of Exit 165 to NY State Line.

Moderate incoming interference to W276AQ from WBZO resulting in high levels of noise
W276AQ unlistenable due to incoming interference
Reception Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

2. Exit 153 Clifton, NJ.

Moderate incoming interference to W276AQ from WBZO resulting in high levels of noise
Reception Flip flops between W276AQ and WBZO

3. Exit 142 Union, NJ.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO

4. Route 4: Hackensack, New Jersey to Paramus, New Jersey.

Moderate interference to W276AQ from WBZO resulting in high levels of noise
W276AQ unlistenable due to incoming interference

5. Route 3: Rutherford, New Jersey to Clifton, New Jersey.

Moderate interference to W276AQ resulting in high levels of noise
W276AQ unlistenable due to incoming interference
Flip flops between W276AQ and WBZO

6. NJ Turnpike, Western Spur, between Exit 15E and 15W.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO

7. NJ Turnpike, between exit 15E and 13A.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

8. I-78: From the Garden State Parkway and the NJ Turnpike.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

9. Cross County Parkway: Between Yonkers, New York and Mt. Vernon, New York.

Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

10. Cross Bronx Expressway: Exit 1C to 6A.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

11. Palisades Interstate Parkway: Between Exit 1 and Exit 2 – South of Alipne, NJ.

Moderate interference to W276AQ resulting in high levels of noise from WBZO
W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

12. Bergenline Avenue: Between 87th Street in North Bergen to 31th in Union City.

Moderate interference to W276AQ resulting in high levels of noise from WBZO
W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO

13. County Route 505 (River Road): Between Route 5 in Edgewater to Port Imperial Boulevard in West New York, NJ and Port Imperial Boulevard: Between County Route 505 (River Road) in West New York, NJ and Baldwin Avenue in Weehawkin.

Moderate interference to W276AQ resulting in high levels of noise from WBZO
W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

14. Route 495: From The New Jersey Turnpike to the Lincoln Tunnel Toll Plaza.

W276AQ unlistenable due to incoming interference from WBZO
Flip flops between W276AQ and WBZO
W276AQ totally overtaken by WBZO, programming from WBZO intelligible

Attached is an exhibit that I prepared detailing the interfering area overlaid with a Longley Rice map showing the predicted area of interference, as well as the f(50,50) 60 dBu service contour of the FM translator. The map shows areas shaded in Grey where interference is predicted. The numbered interference sites are indexed according to the numbers and descriptions detailed above. Also shows is the f(50,50) 60 dBu contour of the W276AQ licensed facility. Interference is shown and described within this contour.

I declare under penalty of perjury under the laws of the United States that the foregoing is based on my personal knowledge or belief and is true and correct.

Dated this 23rd day of October, 2015.



Robert H. Branch Jr.