

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
FM STATION WFOX
SOUTHPORT, CONNECTICUT
CH 240A 3 KW 91 M

Technical Narrative

The technical exhibit of which this narrative is a part was prepared in support an application for a construction permit for FM station WFOX at Norwalk, Connecticut. Station WFOX is currently licensed (BMLH-19941219KB) to operate on channel 240A (95.9 MHz) at Norwalk with an effective radiated power (ERP) of 3 kilowatts (kW) and an antenna height above average terrain (HAAT) of 91 meters.

The purpose of the instant application is to specify a change in the city of license of WFOX from Norwalk, Connecticut to Southport, Connecticut on channel 240A. Specifically, it is proposed to operate on channel 240A at Southport, Connecticut from the existing WFOX site (ASRN 1057290) and with the existing technical facilities, namely, a nondirectional antenna maximum ERP of 3 kW and an HAAT of 91 meters.¹ It is believed that the proposed reallocation to Southport will comply with the Commission's *Rural Radio* policies.²

Response to Paragraph 13 - Allotment

Figure 1 is a separation study for channel 240A operation from the proposed allotment reference site which is also the current WFOX site. As shown, the proposed allotment reference site complies with the minimum distance separation requirements of Section 73.207 for Class A operation on channel 240 towards all existing, authorized and proposed stations with the following exceptions: the licensed operation of WFOX and the licensed operations of WPLJ on channel 238B at New York,

¹ There will be a 2-second change in the latitude for WFOX geographic site coordinates in order to conform to ASRN 1057290. Specifically, the geographic site coordinates for the WFOX license are N41-06-54/W73-26-06 whereas the coordinates listed in ASRN 1057290 are N41-06-56/W73-26-06.

² See *Policies to Promote Rural Radio Service to Streamline Allotment and Assignment Procedures*, Second Report and Order, First Order on Reconsideration, and Second Further Notice of Proposed Rule Making, MB Docket No. 09-52 (RM-11528, FCC 11-28, adopted March 3, 2011), and Second Order on Reconsideration, MB Docket 09-52 (RM-11528, FCC 12-127, adopted October 11, 2012) ("Second Order").

New York, WKSS on channel 239B at Hartford-Meriden, Connecticut, WJVC on channel 241A at Center Moriches, New York and WXNY-FM on channel 242B at New York, NY. The short-spacing with the WFOX licensed operation establishes mutual exclusivity pursuant to Section 73.3573(g). The short-spacings with WPLJ, WKSS and WXNY-FM are grandfathered under Section 73.213(a). The proposal appears to comply with Section 73.213(a) as there will be no change in transmitter site or facilities. Furthermore, the proposal complies with past FCC precedents in reallocation proposals involving such short-spacings.³ The short-spacing with WJVC was created by WJVC which utilized the contour protection provisions of Section 73.215 with respect to the WFOX licensed operation. The proposal appears to comply with past FCC precedents in reallocation proposals involving such short-spacings as there will be no change in transmitter site or facilities.⁴

Figure 2 is a map which demonstrates that the proposed allotment reference point complies with the FCC's city coverage requirements (Section 73.315) based on maximum Class A facilities (ERP 6 kW/HAAT 100 m). Figure 2 also demonstrates that the proposed operation complies with FCC's city coverage requirements as the predicted 70 dBu will encompass 100% of the Southport city limits (obtained from the 2010 Census).

Response to Paragraph 17 - RFR Hazard Statement

The proposed facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with the OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields.

The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Using a greater

³ See Report and Order in MM Docket No. 98-176, Killeen and Cedar Park, Texas, RM 9363, DA 00-143 and the Report and Order in MM Docket No. 90-138, Newnan and Peachtree City, Georgia, RM 7040, DA 92-1203.

than expected vertical relative field value of 0.6 (for angles below 60 degrees downward) for their nondirectional antenna (Shively 6810 1-bay), the total ERP of 6 kW (H+V) and an antenna center of radiation height above ground level of 108 meters, the calculated power density at two meters above ground level at the base of the tower is 6.4 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$), or 3.2 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ($200 \mu\text{W}/\text{cm}^2$ for FM channel 240). Therefore, based on the responsibility threshold of 5%, the proposed WFOX facility is in full compliance with the FCC's requirements with regard to radio frequency radiation exposure.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area to ensure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure.

Response to Paragraph 18 - Community of License Change -
Section 307(b)

1. Proposal

It is proposed to specify a change in the city of license of WFOX from Norwalk, Connecticut to Southport, Connecticut as permitted by the Commission's rules allowing community of license changes by application.

⁴ See Report and Order in MM Docket No. 98-176, Killeen and Cedar Park, Texas, RM 9363, DA 00-143.

2. City Populations and Local Service

Norwalk city has a 2010 U.S. Census population of 85,603 persons. AM station WNLK is also assigned to Norwalk. Norwalk is located in the Bridgeport-Stamford, Connecticut Urbanized Area (UA).

Southport is Census Designated Place (CDP) which has a 2010 U.S. Census population of 1,585 persons and has no other FM or AM service. Southport is also located within the Bridgeport-Stamford UA.

Under the FCC's *Rural Radio* policy, the communities of Norwalk and Southport are part of the Bridgeport-Stamford UA. Therefore, for evaluation of local services, consideration shall be with respect to local services to the Bridgeport-Stamford UA. The following full-service AM and FM stations provide local service to communities that are a part of the Bridgeport-Stamford UA:

- WADS(AM), Ansonia, CT, 690 kHz
- WCUM(AM), Bridgeport, CT, 1450 kHz
- WICC(AM), Bridgeport, CT, 600 kHz
- WDJZ(AM), Bridgeport, CT, 1530 kHz
- WPKN(FM), Bridgeport, CT, Ch. 208B
- WEZN-FM, Bridgeport, CT, Ch. 260B
- WVOF(FM), Fairfield, CT, Ch. 203A
- WSHU-FM, Fairfield, CT, Ch. 216B
- WGCH(FM), Greenwich, CT, 1490 kHz
- WFIF(AM), Milford, CT, 1500 kHz
- WLJP(FM), Monroe, CT, Ch. 207A
- WMNR(FM), Monroe, CT, Ch. 201B1
- WNLK(AM), Norwalk, CT, 1350 kHz
- WFOX(FM), Norwalk, CT, Ch. 240A
- WKLV-FM, Port Chester, NY, Ch. 244A
- WAXB(AM), Ridgefield, CT, 850 kHz
- WRXC(FM), Shelton, CT, Ch. 211A
- WSTC(AM), Stamford, CT, 1400 kHz

- WEDW-FM, Stamford, CT, Ch. 203A
- WSHU(AM), Westport, CT, 1260 kHz

Based on the above, there are a total of 20 local aural services authorized to the Bridgeport-Stamford UA, which includes Norwalk and Southport. It is noted that the Bridgeport-Stamford UA has a total population of 923,311 persons based on 2010 Census data.

Under the *Rural Radio* policies, although Norwalk will be deprived of its second local service, that service is not recognized for Section 307(b) comparisons because Norwalk is located within the Bridgeport-Stamford UA and, thus, is presumed to serve the urbanized area rather than Norwalk.

3. 60 dBu Loss Area and Available Aural Services

As there will be no change in transmitter site or in technical facilities, no gain or loss area will be created. Therefore, a reception services analysis is not required for this proposal.

4. Protected FM and AM Services Available to Southport and Norwalk

An analysis was conducted of other protected AM and FM aural services available to Norwalk and Southport. The attached map at Figure 3 illustrates the other aural service contours employed in the analysis. The results indicate that Norwalk has between 25 and 47 aural services available and Southport has between 28 and 33 aural services available.⁵ Figure 4 tabulates the FM and AM stations whose contours are shown on Figure 3.

5. 70 dBu and 60 dBu Coverage

The following tabulates the land area and 2010 Census population within the 70 dBu and 60 dBu contours for the

⁵ For FM stations, the pertinent primary service contour has been used. For AM stations, the daytime 2 mV/m contour has been used.

proposed channel 240A operation at Southport which are depicted on Figure 2.

Contour	Population (2010 Census)	Land Area (sq. km)
70 dBu	293,050	297
60 dBu	716,720	898

Contour locations calculated in accordance with the provisions of Section 73.313. Population calculated using a computer program that utilizes the 2010 U.S. Census database of population centroids. Area calculated using a root mean square algorithm.

6. Urbanized Area Considerations

Figure 5 is a map which depicts the Norwalk and Southport city limits and the Bridgeport-Stamford UA. As indicated, the entire city limits of both Norwalk and Southport are located within the Bridgeport-Stamford UA. Also shown is the 70 dBu contour for the proposed channel 240A operation at Southport which encompasses 24% of the Bridgeport-Stamford UA.

Studies were conducted to determine if any rule-compliant minor modifications could be made on the proposed channel which would provide 70 dBu coverage over 50 percent or more of the Bridgeport-Stamford UA or any other nearby UA.⁶ The studies considered all existing registered towers in the Commission's Antenna Structure Registration database along with unregistered towers currently used by licensed radio stations. In addition, consideration was also given to use of short-spaced sites and directional antenna systems. On this basis, it was determined that no other registered or unregistered tower could potentially be used for the proposed Southport

⁶ Danbury, CT, Waterbury, CT, New Haven, CT and New York-Newark, NY-NJ are the closest nearby UA's.

channel 240A operation and provide 70 dBu service to over 50 percent of the Bridgeport-Stamford UA or any other nearby UA.⁷

If there are any questions, or additional information is required, please contact the office of the undersigned.



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⁷ The following ASRN's were considered for this analysis: 1057288, 1200672, 1203184, 1045789, 1046320, 1220017, 1231583, 1236983, 1263916, 1267023, 1278460, 1281610, 1045080, 1209131, 1057290, 1057289, 1045931, 1045932, 1057288, 1056289, 1045931 1045932. There were no nonregistered towers of sufficient height to be considered.

CDBS FM Separation Study - Proposed WFOX

Channel: 240 Coordinates: 041-06-56 073-26-06 (NAD 27)
 Class: A Buffer Distance: 5 km

Date: 05/12/2014
 Page: 1 of 1

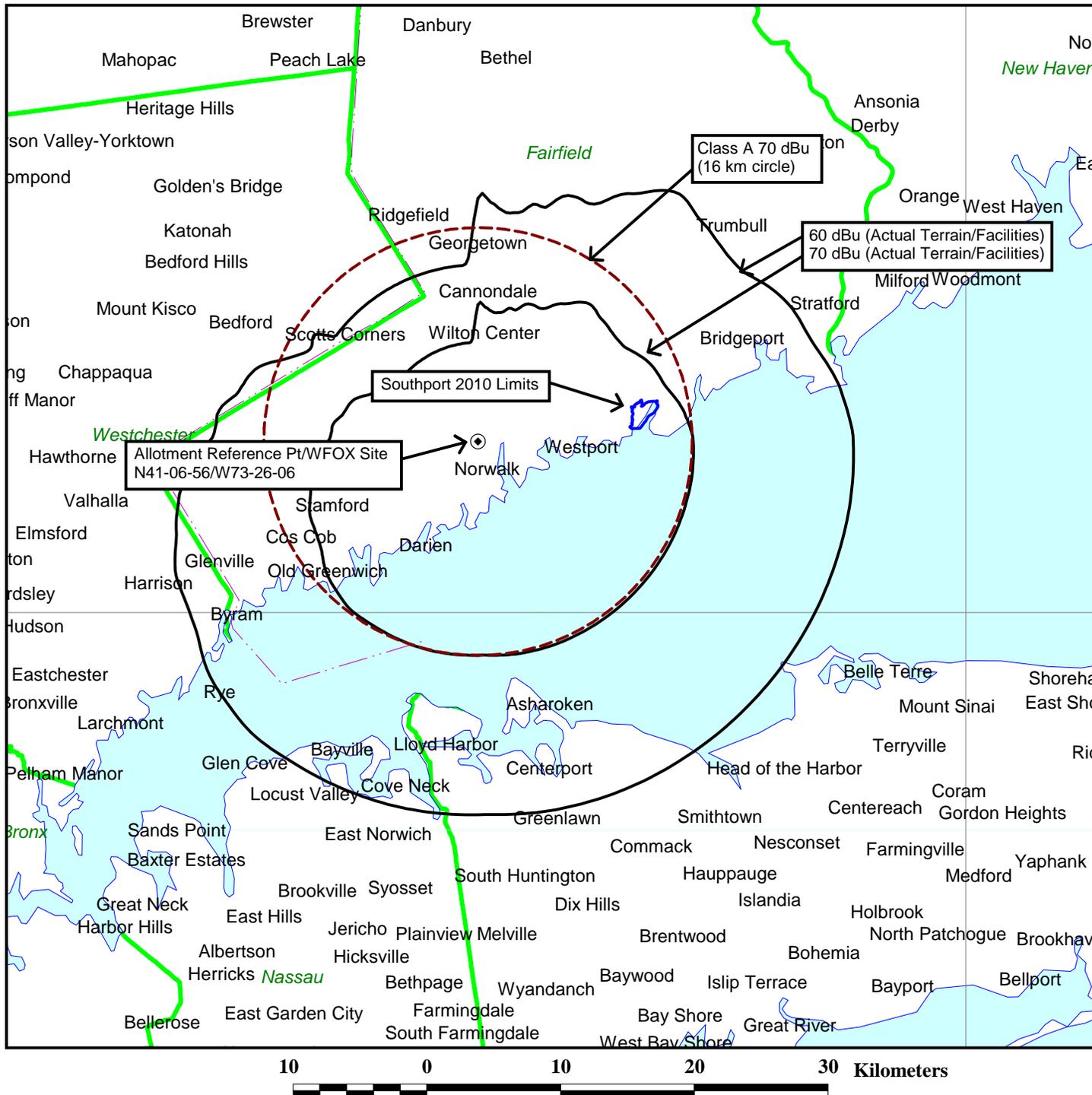
Callsign	Status	Chan.	Serv.	Freq.	City	State	Latitude	Dist.(km)	Sep.(km)	Spacing(km)	
Fac. ID	ARN			Class	DA Ant. ID	ERP(kW)	HAAT(m)	Longitude	Bear.(deg)	73.215	Comment
WPLJ	LIC	238	FM	95.5	NEW YORK	NY	040-44-54	61.79	69	-7.21	
73887	BMLH	20050216	ACG	B	N	6.7	408	073-59-10	228.77	63 N	SHORT¹
WKSS	LIC	239	FM	95.7	HARTFORD-MERIDEN	CT	041-33-41	69.98	113	-43.02	
53384	BMLH	19980820	KA	B	D 15680	16.5	268	072-50-39	44.66	96 N	SHORT¹
WFOX	LIC	240	FM	95.9	NORWALK	CT	041-06-54	0.06	115	-114.94	
14379	BMLH	19941219	KB	A	N	3	91.135	073-26-06	179.97	92	SHORT²
WRAT	LIC	240	FM	95.9	POINT PLEASANT	NJ	040-10-15	116.29	115	1.29	
59530	BMLH	20050128	AIM	A	N	4	73	074-01-42	205.67	92 N	CLOSE
WRAT	CP	240	FM	95.9	POINT PLEASANT	NJ	040-09-57	116.94	115	1.94	
59530	BPH	20120814	AAA	A	N	1.45	146	074-01-56	205.7	92 N	CLOSE
WJVC	LIC	241	FM	96.1	CENTER MORICHES	NY	040-51-08	63.5	72	-8.5	
54519	BLH	20030307	ACS	A	D 36303	2.65	152	072-45-55	117.29	49 Y	SHORT³
WXNY-FM	LIC	242	FM	96.3	NEW YORK	NY	040-44-54	61.79	69	-7.21	
29022	BLH	19940204	KG	B	N	6	415	073-59-10	228.77	63 N	SHORT¹

¹ Grandfathered short-spacing under Section 73.213(a). The proposal complies with Section 73.213(a) as there will be no change in transmitter site or facilities. Furthermore, the proposal complies with past FCC precedents in reallocation proposals involving such short-spacings. See Report and Order in MM Docket No. 98-176, Killeen and Cedar Park, Texas, RM 9363, DA 00-143 and the Report and Order in MM Docket No. 90-138, Newnan and Peachtree City, Georgia, RM 7040, DA 92-1203.

² Current WFOX operation. It is noted that this application proposes a 2-second change in the latitude for WFOX geographic site coordinates in order to conform to ASRN 1057290. See Technical Narrative.

³ Station WJVC utilized the contour protection provisions of Section 73.215 with respect to the short-spacing with the WFOX licensed operation which will not change as there will be no change in facilities. Thus, the proposal appears to comply with past FCC precedents in reallocation proposals involving such short-spacings as there will be no change in transmitter site or facilities. See Report and Order in MM Docket No. 98-176, Killeen and Cedar Park, Texas, RM 9363, DA 00-143.

Figure 2

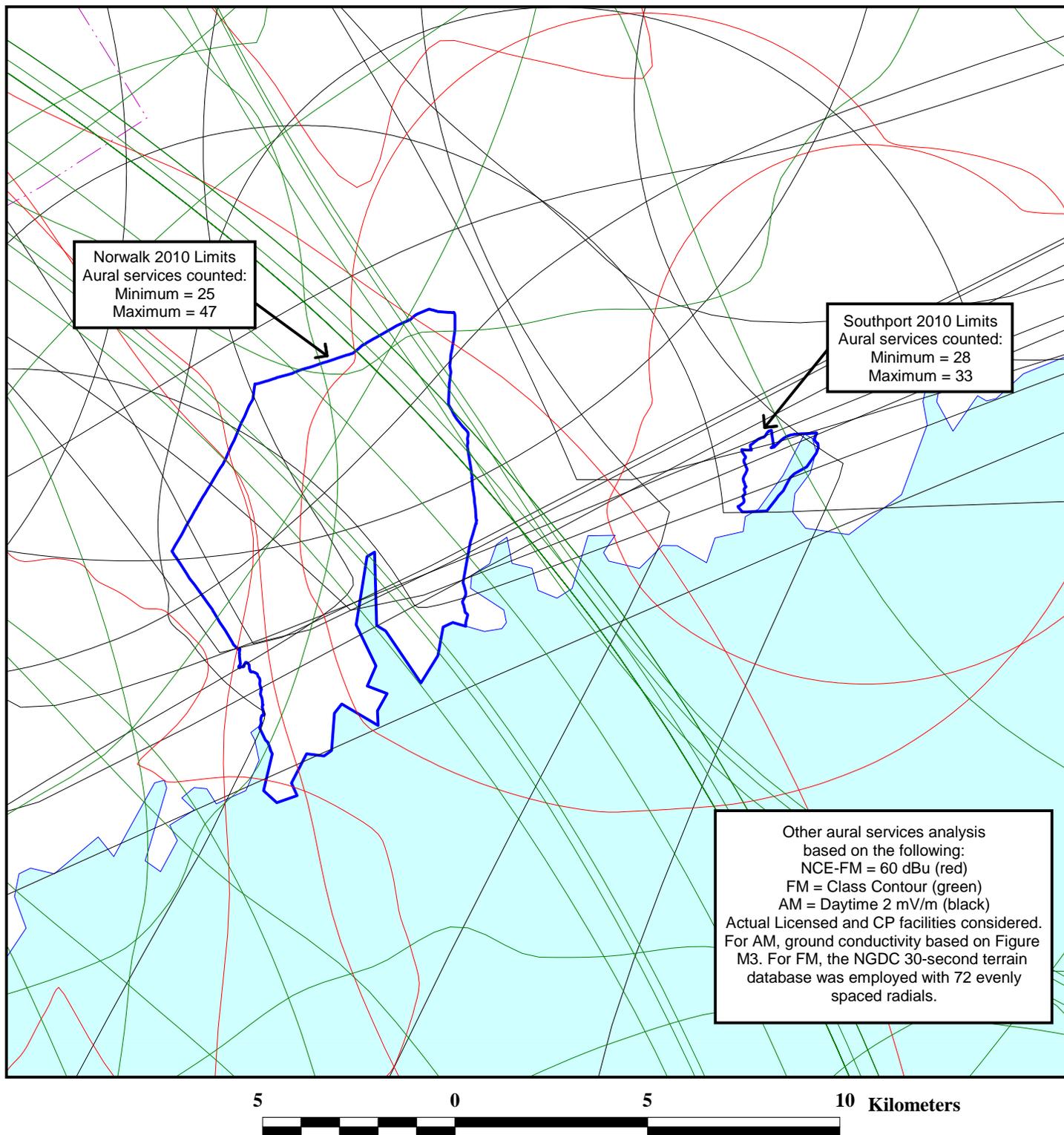


COMPLIANCE WITH SECTION 73.315

FM STATION WFOX
SOUTHPORT, CONNECTICUT
CH 240A 3 KW 91 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 3



OTHER AURAL SERVICES ANALYSIS

FM STATION WFOX
SOUTHPORT, CONNECTICUT
CH 240A 3 KW 91 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

TECHNICAL EXHIBIT
STATION WFOX
SOUTHPORT, CONNECTICUT
CH 240A 3 KW 91 M

Tabulation of Other AM and FM Protected Services
Available to Norwalk and Southport, Connecticut

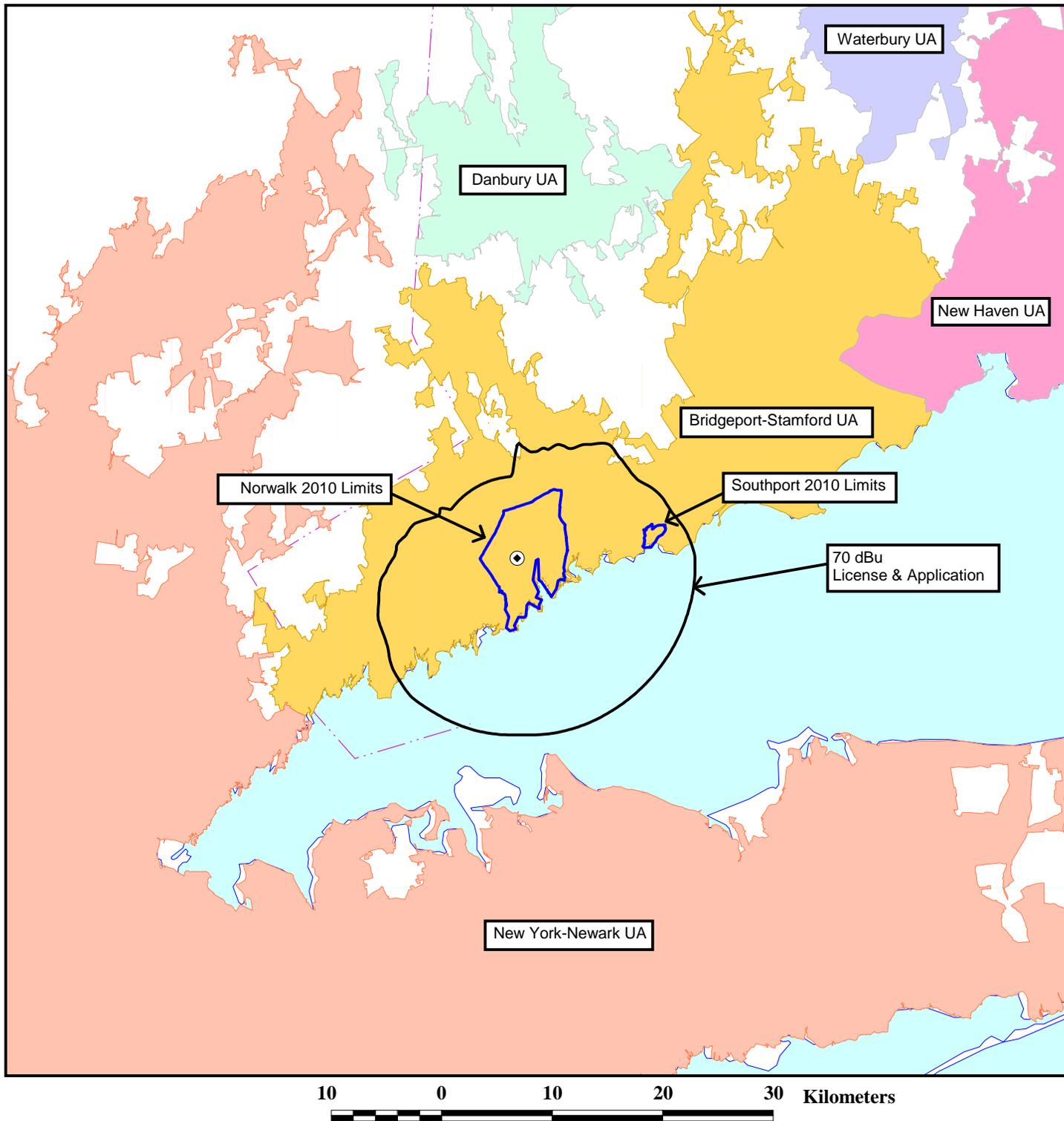
FM CONTOURS

<u>Call Sign</u>	<u>Community of License</u>	<u>State</u>	<u>Channel</u>
WWPT	Westport	CT	212A
WVOF	Fairfield	CT	203A
WEDW-FM	Stamford	CT	203A
WSHU-FM	Fairfield	CT	216B
WPKN	Bridgeport	CT	208B
WFUV	New York	NY	214B
WDAQ	Danbury	CT	252A
WFME	Mount Kisco	NY	292A
WFOX	Norwalk	CT	240A
WEBE	Westport	CT	300B
WEZN-FM	Bridgeport	CT	260B
WBLI	Patchogue	NY	291B
WALK-FM	Patchogue	NY	248B
WRKI	Brookfield	CT	236B
WPLR	New Haven	CT	256B
WKCI-FM	Hamden	CT	267B
WHUD	Peekskill	NY	264B
WMRQ-FM	Waterbury	CT	281B
WZMX	Hartford	CT	229B
WDRC-FM	Hartford	CT	275B
WWYZ	Waterbury	CT	223B
WSPK	Poughkeepsie	NY	284B
WAXQ	New York	NY	282B
WWFS	New York	NY	274B
WBLS	New York	NY	298B
WXNY-FM	New York	NY	242B
WBAI	New York	NY	258B
WWPR-FM	New York	NY	286B
WKTU	Lake Success	NY	278B
WCBS-FM	New York	NY	266B
WQHT	New York	NY	246B
WLTW	New York	NY	294B
WNOW-FM	New York	NY	222B
WHTZ	Newark	NJ	262B
WSKQ-FM	New York	NY	250B
WEPN-FM	New York	NY	254B
WFAN-FM	New York	NY	270B
WNYC-FM	New York	NY	230B
WPLJ	New York	NY	238B
WPAT-FM	Paterson	NJ	226B

AM CONTOURS

<u>Call Sign</u>	<u>Community of License</u>	<u>State</u>	<u>Frequency (kHz)</u>
WSHU	Westport	CT	1260
WNLK	Norwalk	CT	1350
WICC	Bridgeport	CT	600
WCUM	Bridgeport	CT	1450
WSTC	Stamford	CT	1400
WAXB	Ridgefield	CT	850
WADS	Ansonia	CT	690
WNYH	Huntington	NY	740
WLIE	Islip	NY	540
WFAN	New York	NY	660
WCBS	New York	NY	880
WQEW	New York	NY	1560
WABC	New York	NY	770
WBBR	New York	NY	1130
WEPN	New York	NY	1050
WOR	New York	NY	710
WINS	New York	NY	1010
WLIB	New York	NY	1190
WNYC	New York	NY	820
WMCA	New York	NY	570

Figure 5



URBANIZED AREA COVERAGE

FM STATION WFOX
SOUTHPORT, CONNECTICUT
CH 240A 3 KW 91 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida