

Exhibit 14 - Statement A  
**ALLOCATION CONSIDERATIONS**  
prepared for  
**WGBH EDUCATIONAL FOUNDATION, INC.**  
WNAN(FM) Nantucket, Massachusetts  
Facility ID 8600  
Ch. 216A 2.3 kW 64 m

*WGBH Educational Foundation, Inc.*, (“WGBH”), is the licensee of non-commercial educational FM radio station WNAN(FM) (Ch.216A, Nantucket, MA, file number BLED-20000302AAD).

The instant proposal seeks a minor modification to increase the WNAN effective radiated power to 2.3 kW, using the existing tower (Antenna Structure Registration number 1006317), and using the licensed antenna system at its “as-built” height of 56 meters above ground.

Terrain data for the eight “cardinal” radials for the proposed WNAN were obtained from U.S.G.S. 3 arc-second digitized terrain data. Nantucket is an island, and a 16 km radius circle around the transmitter site lies almost entirely over water. The F(50,50) 34 dBμ contour encompasses United States land area over the 270°, 315°, and 0° radials, thus the entire 3 to 16 km section of these respective radials were used. The 45°, 90°, 135°, 180°, and 225° radials were truncated per §73.313(d)(2). The 3 to 16 km section of these radials extend over the Atlantic Ocean, and were truncated at the last point each radial was over land. Accordingly, the determination of HAAT was based on the average antenna elevation of the three full radials and 5 partial radials. Averaging these eight radials, the proposed antenna’s resulting height above average terrain is 64 meters.

An allocation study for the proposed facility shows that the following existing FM facilities require study in regard to prohibited overlap under §73.509 of the Commission’s Rules:

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Channel Applicant/Licensee	Call		City	State	Lat Long	Distance Bearing
=====						
216A	WSMU-FM	LIC	NORTH DARTMOUTH	MA	41-37-43	81.55
UNIVERSITY OF MASSACHUSETTS			5.6 KW	114M	71-00-24	298.28
217A	990618MA	APP	ORLEANS	MA	41-46-36	55.73
LOWER CAPE COMMUNICATIONS, INC.			0.75 KW	112M	70-00-38	11.45
217A	NONE	APP	ORLEANS	MA	41-46-49	56.13
UNIVERSITY OF MASSACHUSETTS			1.0 KW	90M	70-00-37	11.40

The attached **Exhibit 14 - Figures 1, 1A, and 2** depict the pertinent protected and interfering contours of the stations listed and the proposed WNAN facility. The contours were plotted using the actual ERP and height above terrain along each radial for each facility, as specified in §73.509(c). For the facilities under study, the antenna elevation above mean sea level, geographic coordinates, and ERP (including directional antenna relative field values, where appropriate) were retrieved from the FCC's engineering database. The requisite contours were determined using U.S.G.S. 3-second digitized terrain data along each radial of interest from each transmitter site and an implementation of the Commission's TVFMFS computer program which simulates the FM propagation curves. The F(50,10) distances are used to calculate distance to interfering contours, however if the distance is less than 16 km the F(50,50) curves are used, as specified by §73.509(c)(1).

**Exhibit 14 - Figure 1** and **1A** illustrates that there is overlap which would be prohibited between the proposed WNAN facility and co-channel WSMU-FM. However, with the contours plotted over a U.S.G.S. map as depicted, the overlap occurs entirely over water. Section 73.509(e) allows overlap of interfering contours as long as said overlap lies over water. Thus, the proposed operation of WNAN complies with the Commission's Rules as related to co-channel station WSMU-FM.

**Exhibit 14 - Figure 2** depicts the allocation situation with pertinent first adjacent facilities. There are two applications for the same channel (217A) in Orleans, Massachusetts. The application

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with the largest (and closest) contour to WNAN was chosen for the illustration. Although omitted from **Exhibit 14 - Figure 2** for clarity, the remaining proposal does not involve prohibited contour overlap with the proposed WNAN. Allocation studies indicate that there will be no prohibited contour overlap from the proposed WNAN with any second or third adjacent channel stations, due to the large distances to the nearest such facilities.

Thus, **Exhibit 14 - Figures 1, 1A, and 2** show that the proposed WNAN facility fully complies with the prohibited overlap criteria of §73.509.

A spacing study was performed as required by §73.507(c) (regarding facilities differing in frequency by 10.6 or 10.8 MHz from the proposal). The proposed facility meets the minimum distance separation requirements of §73.207 in all such instances. The nearest stations on the pertinent channels are summarized below.

Channel	Call		City	State	Lat	Distance	Reqr'd
Applicant/Licensee					Long	Bearing	Clear
=====							
270B	WCIB	LIC	FALMOUTH	MA	41-33-31	48.49	15.00
RADIO FALMOUTH, INC.			50.0 KW	146M	70-35-46	309.07	33.49
269A	WFNX	LIC	LYNN	MA	42-25-52	149.53	15.00
MCC BROADCASTING COMPANY, INC.			1.65 KW	137M	71-05-20	328.77	134.53

**TV Channel 6 Considerations**

Under §73.525(a)(1), an affected TV Channel 6 station must be considered with a proposed non-commercial educational facility on Channel 216 if the distance between the respective transmitter sites is 177 km or less. Within a 177 km radius of the proposed WNAN facility, the only TV Channel 6 facility is that of WLNE-TV, New Bedford, Massachusetts (BLCT-19920604KF), at a distance of 94 km. The WNAN transmitter site is located within the WLNE-TV Grade B contour.

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As with the licensed WNAN operation, the instant proposal specifies vertical polarization only. A “worst case” study was performed using the parameters found in §73.525(e)(4)(i). A study was performed to determine the affected population using the largest interfering contour (72.4 dBμ for the range of desired signal levels) at 1/40 the proposed 2.3 kW ERP (57.5 watts). Using year 2000 census data, the “worst case” predicted interference area contains 2,316 persons, which is well under the proscribed limit of 3,000. Accordingly, the instant proposal complies with the television Channel 6 protection criteria of §73.525.

**Other Considerations**

The U.S. - Canadian agreement calls for protection consideration for stations within 320 km of the border. As the WNAN site is located at least 428 km from the nearest point on the U.S. - Canadian Border, the proposed WNAN facility does not require coordination as referenced under §73.207(b)(2) of the Commission’s Rules.

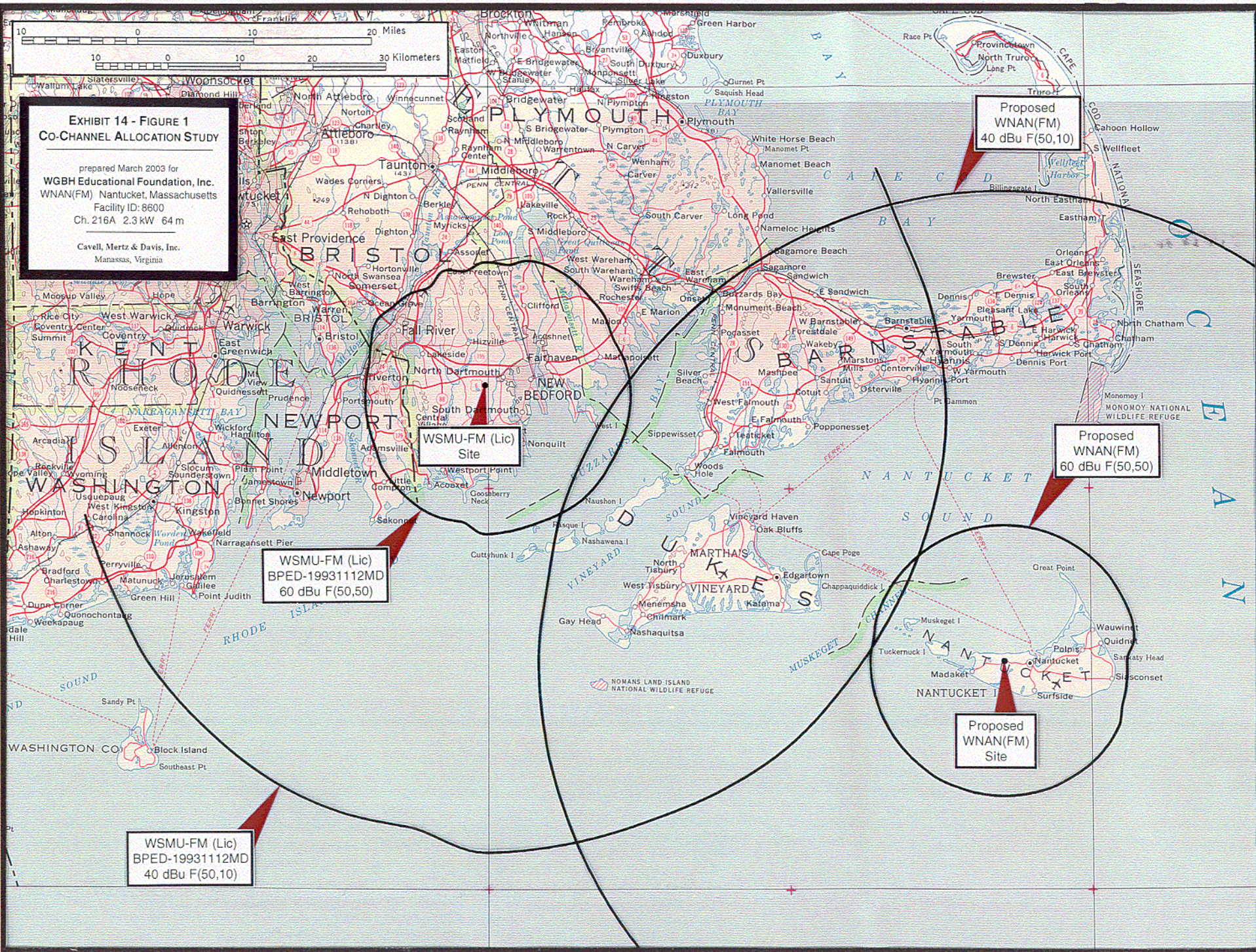
It is thus believed that the facility proposed herein will satisfy all of the pertinent Commission Rules and Policies now in effect regarding allocation matters.



**EXHIBIT 14 - FIGURE 1**  
**Co-Channel Allocation Study**

prepared March 2003 for  
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Cavell, Mertz & Davis, Inc.  
Manassas, Virginia









# EXHIBIT 14 - FIGURE 2 FIRST ADJACENT ALLOCATION STUDY

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