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VIRGINIA BEACH EDUCATIONAL BROADCASTING FOUNDATION

LICENSEE OF

W250AE, PORTSMOUTH VA

APPLICATION FOR

A CONSTRUCTION PERMIT

FOR A MINOR CHANGE IN FACILITIES

FOR

W250AE, PORTSMOUTH VA

FACILITY ID 18865

FCC FILE BLFT-961129TD

EXHIBIT EE-1

**Larry H. Will, P.E.
1055 Powderhorn Drive
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**VIRGINIA BEACH EDUCATIONAL BROADCASTING FOUNDATION
NON-COMMERCIAL EDUCATIONAL FM TRANSLATOR**

W250AE, CHANNEL 250

PORTSMOUTH, VA

FILE NUMBER BLFT-961129TD

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VIRGINIA BEACH EDUCATIONAL BROADCASTING FOUNDATION

DECLARATION OF LARRY H. WILL

Larry H. Will declares and says:

That he prepared the attached engineering exhibit for a Construction Permit for a minor change in facilities on behalf of Virginia Beach Educational Broadcasting Foundation, Licensee of W250AE, Channel 250, Portsmouth, Virginia.

That his qualifications are a matter of record with the Federal Communications Commission.

That he is a Registered Professional Engineer in New Jersey and Pennsylvania.

That all statements contained within this exhibit are true and accurate to the best of his knowledge and belief, and as to such statements made of belief, they are believed to be true, except for information for which the Federal Communications Commission takes official notice.

(s) Larry H. Will
Larry H. Will
1055 Powderhorn Drive
Glen Mills, PA 19342
(610) 399-1826

Date: 7 December 2001

VIRGINIA BEACH EDUCATIONAL BROADCASTING FOUNDATION

LICENSEE OF

W250AE, CHANNEL 250

PORTSMOUTH, VIRGINIA

FACILITY ID 18865

FILE NUMBER BLFT-961129TD

ENGINEERING EXHIBIT

1. INTRODUCTION AND BACKGROUND

Virginia Beach Educational Broadcasting Foundation (VBEBF), is the Licensee of W250AE, 97.9 Mhz, Channel 250 licensed to Portsmouth, Virginia. This Engineering Exhibit supports our application for a Construction Permit for a minor change to the licensed facilities of W250AE.

This application is for a Construction Permit to increase the ERP from 0.010 (V) non-D to 0.250 kilowatts (V) (DA). No other changes are proposed.

On August 31, 2000, VBEBF filed an application to increase the facilities of W250AE to 0.25 kW (V) non-D (BPFT-20000831AKR). This application was dismissed by the commission on March 28, 2001¹ and a Petition for Reconsideration, filed on April 17, 2001 was also DENIED on August 16, 2001.

¹ See letter to Virginia Beach Educational Broadcasting Foundation, dated March 28, 2001, and signed by James D. Bradshaw. The basis for the dismissal was stated to be interference to population as stated in the second paragraph: "The map submitted as Figure 1 with the application shows that there are buildings within the predicted interference contour."

In the previous proceeding, the commission staff indicated that because the proposed operation of W250AE on a third adjacent channel and within the protected contour of WGH-FM, the W250AE proposed 117.8 dBu line of sight contour overlapped industrial buildings near the W250AE transmitter site, the application did not conform to 74.1204 and therefore was DISMISSED. The commission did not take exception to the methodology of calculating predicted interference to WGH-FM in that proceeding and we utilize the identical procedure here.

In this application, we are proposing 250 watts (DA) utilizing a directional transmitting antenna oriented to 270 degrees True. With this antenna and orientation, and as shown below, the proposed W250AE 117.8 dBu line of sight interference contour does not overlap any occupied buildings and therefore we believe this proposal does comply with the requirements of 74.1204(d).

2. FCC 349 EXHIBIT 12 - PROTECTION OF OTHER FACILITIES

The instant proposal complies with the requirements of 74.1235(b)(1), ERP and HAAT. All other licensed and proposed FM broadcast facilities are afforded full protection per 74.1204 with the exception of WGH-FM, Channel 247B in Norfolk, VA. WGH-FM operates on a third adjacent channel with respect to W250AE and we propose to show full protection of WGH-FM by means of contour ratios and lack of population per 74.1204(d). Specifically the WGH-FM 77.8 dB F(50,50) service contour intersects the W250AE transmitter site. For third adjacent channel protection, the undesired signal would be the W250AE 117.8 dBu contour². Using the free space propagation formula, and with W250AE at 0.250 kW ERP, the W250AE 117.8 dBu line of sight contour extends as follows:

0 degrees, 0.14 km; 45 degrees, 0.09 km; 90 degrees, 0.075 km; 135 degrees, 0.085 km; 180 degrees, 0.14 km; 225 degrees, 0.14 km; 270 degrees, 0.14 km; and 315 degrees, 0.14 km from the W250AE antenna.

² These contour values were acknowledged by the commission in the previous application.

The W250AE transmitting antenna is located within the old Norfolk and Western railroad yard, and as can be seen on the expanded site map, Figure 1, there are no occupied buildings within the proposed 117.8 dBu line of sight contour. Figure 1 shows a large building (Building “A”) to the east of the W250AE tower, that building shown on the map was a former railroad engine maintenance facility, and was replaced by a somewhat smaller industrial building. As measured by the President of VBEBF, **the nearest point of the new building is located 268 feet (0.08 km) from the W250AE tower or beyond the predicted 117.8 dBu line of sight contour in the pertinent direction(s)**. The long thin structure next to the tracks (Structure “B”) is a concrete platform and is not a building. The three other small structures shown within the 117.8 dBu line of sight contour are unoccupied storage sheds.

Therefore this proposal to operate W250AE at 0.25 kW (DA) ERP will result in NO predicted interference to any listeners of WGH-FM and therefore this proposal satisfies the intent of 74.1204. We believe, therefore, with the directional facilities proposed for W250AE, that a waiver of 74.1204(a) with respect to 3rd adjacent channel protection of WGH-FM is warranted and we hereby request said waiver.

W250AE currently operates unattended and will continue such operation.

3. FCC 349 EXHIBIT 16 - ENVIRONMENTAL RFR CONSIDERATIONS

The instant application is excluded under 1.1306. Using the procedures outlined in OST Bulletin 65, Edition 97-01 and specifically Equation 10, Page 23, I have evaluated the RFR energy from the antenna system of W250AE as follows:

W250AE is the only broadcast antenna at the station location required to be considered by 47 CFR 1.1307(b).

W250AE, CH 250 will operate with an ERP of 0.25 kilowatts (DA) vertical only. The proposed single bay transmitting antenna is side mounted with the antenna approximately 12 meters up the tower. Utilizing Equation 10 without considering any elevation pattern attenuation, the required separation for the controlled environment is 2.9 meters. Again, utilizing

Equation 10 without considering any elevation pattern attenuation, the required separation for the general public/uncontrolled environment is 6.5 meters. Since the antenna is 12 meters above the ground, the height of the structure limits the possible excessive radiation values to at least 5.5 meters above the ground.

Again using Equation 10, at a location 2 meters above ground, the predicted RFR energy is 83.4 uW/cm^2 or 41.7 % of the OET 65 allowable of 200 uW/cm^2 for the general public/uncontrolled environment at 97.9 Mhz.

Therefore the total levels of all RFR energy sources at all points on the ground are below that required for protection of both the employees and the general public as required by ANSI 95.1-1992. The radiofrequency levels do not exceed 83.4 uW/cm^2 anywhere on ground in the area of the tower.

As a precaution to employees, a suitable sign will be posted at the base of the tower alerting maintenance personnel to the presence of RFR energy so that appropriate action can be taken when access on the tower is required.

The applicant further states that during periods of maintenance where workers on the tower could be exposed to excessive levels of RFR energy, any transmitting system that could pose a hazard will be either turned off or reduced in power to insure that workers are not subject to excessive values of RFR energy. With these procedures in place, we believe the proposed W250AE operation is in compliance with the RFR energy protection requirements of 47 CFR 1.1307(b).

4. AM STATION PROTECTION

There are 3 AM stations within 3.2 km of the W250AE transmitter site. They are WJOI at 3.1 km and WCPK and WHKT at 1.5 km. Since this application does not propose any changes to the existing W250AE antenna structure and the antenna supporting structure is only 20 meters tall, there will be no change to the RF environment with regard to AM station radiation patterns.

We therefore request that the Commission place no specific AM station protection requirement on this application as the proposal only involves a change of transmitter to increase the ERP.

VIRGINIA EDUCATIONAL BROADCASTING FOUNDATION, Inc.
Virginia Beach, VA

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***** FM CHANNEL INTERFERENCE STUDY *****

Job title: w250ae study
 Proposed latitude: N 36 48 22.00
 Proposed longitude: W 76 16 1.00
 Proposed transmit antenna elevation(AMSL): 17.0 meters
 Proposed maximum ERP: 0.2500 kW
 Database file name: C:\FCC_DATA\Fm011112.edx
 Protect maximum contours?: N

Proposed channel: 250D

CH	Call	Record	City	ST	Status	Bear.	Dist.	Reqd. Dist.	Result
251C2	WOBX-FM	2412	MANTEO	NC	LIC	152.0	118.3	65.7	
	Prop F(50,10)	54 dBu	8.5 km +	WOBX-F	F(50,50)	60 dBu	36.9 km =	45.4	
	Prop F(50,50)	60 dBu	6.0 km +	WOBX-F	F(50,10)	54 dBu	59.7 km =	65.7	
251C2	WOBX-FM	2413	MANTEO	NC	CP	152.0	118.3	73.4	
	Prop F(50,10)	54 dBu	8.5 km +	WOBX-F	F(50,50)	60 dBu	42.6 km =	51.1	
	Prop F(50,50)	60 dBu	6.0 km +	WOBX-F	F(50,10)	54 dBu	67.4 km =	73.4	
250A		2424	CRISFIELD	MD	ADD	22.3	133.7	93.0	
	Prop F(50,10)	40 dBu	21.3 km +		F(50,50)	60 dBu	28.3 km =	49.6	
	Prop F(50,50)	60 dBu	6.4 km +		F(50,10)	40 dBu	86.6 km =	93.0	
252A	ALLOTM	2439	NASSAWADOX	VA	VACANT	25.9	82.5	30.3	
	Prop F(50,10)	80 dBu	2.0 km +	ALLOTM	F(50,50)	60 dBu	28.3 km =	30.3	
	Prop F(50,50)	60 dBu	6.3 km +	ALLOTM	F(50,10)	80 dBu	9.1 km =	15.4	
250C3	WRUP	2980	BAYBORO	NC	LIC	194.4	206.7	113.7	
	Prop F(50,10)	40 dBu	23.8 km +	WRUP	F(50,50)	60 dBu	38.8 km =	62.6	
	Prop F(50,50)	60 dBu	7.1 km +	WRUP	F(50,10)	40 dBu	106.6 km =	113.7	
250C3	WRUP	2981	BAYBORO	NC	CP MOD	194.4	206.7	113.7	
	Prop F(50,10)	40 dBu	23.8 km +	WRUP	F(50,50)	60 dBu	38.8 km =	62.6	
	Prop F(50,50)	60 dBu	7.1 km +	WRUP	F(50,10)	40 dBu	106.6 km =	113.7	
247B	WGH-FM	3020	NEWPORT NEWS	VA	LIC	323.6	21.7	65.0	-43.3
	Prop F(50,10)	94 dBu	0.0 km +	WGH-FM	F(50,50)	54 dBu	65.0 km =	65.0	
	Prop F(50,50)	60 dBu	7.1 km +	WGH-FM	F(50,10)	100 dBu	6.0 km =	13.1	
249A	WURB	3021	WINDSOR	NC	LIC	217.9	103.7	41.2	
	Prop F(50,10)	54 dBu	10.2 km +	WURB	F(50,50)	60 dBu	22.7 km =	33.0	
	Prop F(50,50)	60 dBu	7.1 km +	WURB	F(50,10)	54 dBu	34.1 km =	41.2	

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250D	W250AE	3022	PORTSMOUTH	VA LIC	0.0	0.0	26.6	-26.6
Prop F(50,10)	40 dBu	23.4 km +	W250AE	F(50,50) 60 dBu	3.2 km =	26.6		
Prop F(50,50)	60 dBu	7.0 km +	W250AE	F(50,10) 40 dBu	10.2 km =	17.2		
251L1	NEW	3023	VIRGINIA BEACH	VA APP	102.1	15.1	7.1	7.9
Prop F(50,10)	54 dBu	7.1 km +	NEW	F(50,50) 60 dBu	0.0 km =	7.1		
Prop F(50,50)	60 dBu	5.0 km +	NEW	F(50,10) 54 dBu	0.0 km =	5.0		
251L1	NEW	3024	VIRGINIA BEACH	VA APP	90.5	16.5	7.1	9.4
Prop F(50,10)	54 dBu	7.1 km +	NEW	F(50,50) 60 dBu	0.0 km =	7.1		
Prop F(50,50)	60 dBu	5.0 km +	NEW	F(50,10) 54 dBu	0.0 km =	5.0		
251L1	NEW	3025	VIRGINIA BEACH	VA APP	76.7	17.0	7.2	9.8
Prop F(50,10)	54 dBu	7.2 km +	NEW	F(50,50) 60 dBu	0.0 km =	7.2		
Prop F(50,50)	60 dBu	5.1 km +	NEW	F(50,10) 54 dBu	0.0 km =	5.1		
251L1	NEW	3026	VIRGINIA BEACH	VA APP	100.2	16.0	7.1	8.9
Prop F(50,10)	54 dBu	7.1 km +	NEW	F(50,50) 60 dBu	0.0 km =	7.1		
Prop F(50,50)	60 dBu	5.0 km +	NEW	F(50,10) 54 dBu	0.0 km =	5.0		
250A	WLGQ	3514	GASTON	NC LIC	252.0	122.2	79.9	
Prop F(50,10)	40 dBu	23.9 km +	WLGQ	F(50,50) 60 dBu	24.2 km =	48.1		
Prop F(50,50)	60 dBu	7.1 km +	WLGQ	F(50,10) 40 dBu	72.8 km =	79.9		
252A	WDLZ	3515	MURFREESBORO	NC LIC	242.6	87.7	25.3	
Prop F(50,10)	80 dBu	2.3 km +	WDLZ	F(50,50) 60 dBu	23.0 km =	25.3		
Prop F(50,50)	60 dBu	7.1 km +	WDLZ	F(50,10) 80 dBu	7.2 km =	14.3		
251B	WTVR-FM	3550	RICHMOND	VA LIC	308.6	136.6	100.2	36.4
Prop F(50,10)	48 dBu	14.2 km +	WTVR-F	F(50,50) 54 dBu	77.4 km =	91.6		
Prop F(50,50)	60 dBu	7.1 km +	WTVR-F	F(50,10) 54 dBu	93.0 km =	100.2		

***** End of channel 250 study *****