

## **ENGINEERING EXHIBIT**

### **APPLICATION FOR AUXILIARY ANTENNA CONSTRUCTION PERMIT**

prepared for

**Lincoln Financial Media Company of Florida**

WLYF(FM) Miami, Florida

Facility ID 30827

Ch. 268C1 43 kW 165 m

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FCC Form 301, Section III-B-FM Engineering

#### **Exhibit 31**

Statement A  
Figure 1

Consolidated Engineering Statement  
Proposed Coverage Contours

*This material supplies a "hard copy" of the engineering portions of this application as entered January 26, 2009 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.*

**Section III-B - FM Engineering****TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

**TECH BOX**

1.	Channel Number: 268
2.	Class (select one): <input type="radio"/> A <input type="radio"/> B1 <input type="radio"/> B <input type="radio"/> C3 <input type="radio"/> C2 <input checked="" type="radio"/> C1 <input type="radio"/> C0 <input type="radio"/> C <input type="radio"/> D
3.	Antenna Location Coordinates: (NAD 27)  Latitude: Degrees 25 Minutes 57 Seconds 59.7 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 80 Minutes 12 Seconds 42.8 <input checked="" type="radio"/> West <input type="radio"/> East
4.	Proposed Allotment or Assignment Coordinates: (NAD 27) <input checked="" type="checkbox"/> Not Applicable  Latitude: Degrees Minutes Seconds <input type="radio"/> North <input type="radio"/> South  Longitude: Degrees Minutes Seconds <input type="radio"/> West <input type="radio"/> East
5.	Antenna Structure Registration Number: 1262187 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
6.	Overall Tower Height Above Ground Level: 317.6meters
7.	Height of Radiation Center Above Mean Sea Level: 167.6 meters(H) 167.6 meters(V)
8.	Height of Radiation Center Above Ground Level: 165.5meters(H) 165.5meters(V)
9.	Height of Radiation Center Above Average Terrain: 165meters(H) 165meters(V)
10.	Effective Radiated Power: 43 kW(H) 43 kW(V)
11.	Maximum Effective Radiated Power: <input checked="" type="checkbox"/> Not Applicable (Beam-Tilt Antenna ONLY) kW(H) kW(V)
12.	Directional Antenna Relative Field Values: <input checked="" type="checkbox"/> Not applicable (Nondirectional) Rotation (Degrees): <input type="checkbox"/> No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

[Relative Field Polar Plot](#)

**NOTE:** In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

**CERTIFICATION**

**AUXILIARY ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 13-16. PROCEED TO ITEM 17**

**ADJUTANT ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 13-16. PROCEED TO ITEM 17.**

13.	<b>Availability of Channels.</b> The proposed facility complies with the allotment requirements of 47 C.F.R. Section 73.203.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 23]
14.	<b>Community Coverage.</b> The proposed facility complies with 47 C.F.R. Section 73.315.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 24]
15.	<b>Main Studio Location.</b> The proposed main studio location complies with 47 C.F.R. Section 73.1125.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 25]
16.	<b>Interference.</b> The proposed facility complies with all of the following applicable rule sections: Check all those that apply:  <b>Separation Requirements.</b> <input type="checkbox"/> a) 47 C.F.R. Section 73.207  <b>Grandfathered Short-Spaced.</b>  <input type="checkbox"/> b) 47 C.F.R. Section 73.213(a) with respect to station(s): [Exhibit 27] <b>Exhibit required</b> <input type="checkbox"/> c) 47 C.F.R. Section 73.213(b) with respect to station(s): [Exhibit 28] <b>Exhibit required</b> <input type="checkbox"/> d) 47 C.F.R. Section 73.213(c) with respect to station(s): [Exhibit 29] <b>Exhibit required.</b>  <b>Contour Protection</b>  <input type="checkbox"/> e) 47 C.F.R. Section 73.215 with respect to station(s): [Exhibit 30] <b>Exhibit required.</b>	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 26]
17.	<b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b>  By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 31]
18.	<b>Community of License Change - Section 307(b).</b> If the application is being submitted to change the facility's community of license, then the applicant certifies that it has attached an exhibit containing information demonstrating that the proposed community of license change constitutes a preferential arrangement of station assignments under Section 307(b) of the Communications Act of 1934, as amended (47 U.S.C. Section 307(b)).  <b>An exhibit is required</b> unless this question is not applicable.	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A  [Exhibit 32]

**PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.**

### SECTION III - PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name ROBERT J. CLINTON	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature	Date 1/26/2009	
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7839 ASHTON AVENUE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 -2883
Telephone Number (include area code) 7033929090	E-Mail Address (if available) BCLINTON@CAVELLMERTZ.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

### Exhibits

#### Exhibit 5

**Description:** MULTIPLE OWNERSHIP

THE APPLICANT IS THE LICENSEE OF 3 RADIO STATIONS IN THE MIAMI-FT. LAUDERDALE-HOLLYWOOD, FL MARKET: WAXY(AM), WLYF(FM), AND WMXJ(FM). ACCORDING TO BIA, ALL 3 STATIONS ARE HOME TO, AND LICENSED TO COMMUNITIES LOCATED WITHIN, THE MIAMI-FT. LAUDERDALE-HOLLYWOOD, FL ARBITRON METRO (THE 'MIAMI METRO'). ACCORDINGLY, IN ORDER TO SHOW COMPLIANCE WITH THE COMMISSION'S RADIO STATION MULTIPLE OWNERSHIP LIMITS, THE APPLICANT NEED ONLY DEMONSTRATE COMPLIANCE BASED ON A COUNT OF STATIONS IN THE MIAMI METRO.

ACCORDING TO BIA, THERE ARE 57 STATIONS IN THE MIAMI METRO. THE RELEVANT PORTION OF THE COMMISSION'S RADIO STATION MULTIPLE OWNERSHIP RULE PROVIDES THAT IN A RADIO MARKET WITH 45 OR MORE RADIO STATIONS, A LICENSEE MAY HAVE A COGNIZABLE INTEREST IN LICENSES FOR NO MORE THAN 8 COMMERCIAL RADIO STATIONS IN TOTAL AND NO MORE THAN 5 COMMERCIAL STATIONS IN THE SAME SERVICE (AM OR FM). SEE 47 C.F.R. 73.3555(A)(1)(I). THE APPLICANT'S CLUSTER OF 3 STATIONS IN THE MIAMI METRO - 2 FM AND 1 AM - COMPLIES WITH THESE NUMERICAL LIMITATIONS.

#### Attachment 5

#### Exhibit 31

**Description:** EXHIBIT 31 - STATEMENT A

EXHIBIT 31 - STATEMENT A - CONSOLIDATED ENGINEERING STATEMENT (WITH TABLE OF CONTENTS AND PDF COPY OF SECTION III-B - FM ENGINEERING)

#### Attachment 31

Description
<u>EXHIBIT 31 - STATEMENT A</u>

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Exhibit 31 – Statement A  
**NATURE OF THE PROPOSAL**  
**ALLOCATION AND ENVIRONMENTAL CONSIDERATIONS**

prepared for  
**Lincoln Financial Media Company of Florida**  
WLYF(FM) Miami, Florida  
Facility ID 30827  
Ch. 268C1 43 kW 165 m

*Lincoln Financial Media Company of Florida* (“*Lincoln*”), licensee of FM radio station WLYF(FM) (Ch. 268C1, Miami, FL), herein proposes to construct a new auxiliary antenna for the station. WLYF is presently authorized (BLH-5032) to operate at 100 kW effective radiated power (“ERP”) as a Class C1 station at a site adjacent to the auxiliary antenna site proposed herein. *Lincoln* has also simultaneously filed for a Construction Permit (“CP”) (CDBS Reference number 20090126AAX) to replace the WLYF main antenna and move to the same new transmitter location as is being proposed herein for the auxiliary antenna site.

The proposed auxiliary antenna will be side-mounted on the same tower (FCC ASR Number 1262187) that is being specified to support the proposed main antenna in a separate application. The proposed auxiliary antenna will operate at 43 kW ERP with an antenna height above average terrain of 165 meters.

**Exhibit 22 - Figure 1** demonstrates that the 60 dB $\mu$  (1 mV/m) contour of the proposed auxiliary facility would not extend beyond the bounds of the 60 dB $\mu$  contour of the licensed or proposed main facility,<sup>1</sup> in compliance with 73.1675(a)(1). Because minimum distance spacing and contour protection rules do not apply to auxiliary facilities, the instant proposal is believed to comply with all pertinent FCC allocations requirements.

Based on data extracted from the FCC’s CDBS database, no AM broadcast stations are located within 3.2 km (2 miles) of the proposed site. As a result, no impact to nearby directional antenna systems is anticipated. The nearest FCC monitoring station is at Vero Beach, Florida at a distance of 186.4 km from the proposed site. This exceeds by a great margin the minimum distance specified in §73.1030(c)(3)(iv) that would suggest consideration of the monitoring station.

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<sup>1</sup> The coverage of the respective licensed and concurrently proposed main facility’s 60 dB $\mu$  contours is essentially the same. No change in ERP or antenna height above ground level is specified. The proposed location is immediately adjacent to the authorized facility (approximately 30 meters distant).

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**ENVIRONMENTAL CONSIDERATIONS**  
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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 for an auxiliary facility.

**ENVIRONMENTAL CONSIDERATIONS**

The proposed antenna will be side-mounted on an existing antenna support structure (FCC ASR Number 1262187). The proposed effective radiated power (“ERP”) is 43 kilowatts with an antenna height above ground of 165.5 meters.

The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission’s rules.

**Human Exposure to Radiofrequency Radiation**

In keeping with §1.1307(b) of the Commission’s Rules, the proposed operation has been evaluated for human exposure to radiofrequency energy using the procedures outlined by the Federal Communications Commission in FCC OET Bulletin No. 65 (“OET 65”). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines specified in §1.1310 of the Commission’s Rules. Under present Commission policy, a facility may be presumed to comply with the limits in §1.1310 of the Commission’s Rules if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The proposed WLYF(FM) auxiliary antenna will have a center of radiation 165.5 meters above ground level. An ERP of 43 kilowatts, circularly polarized, will be employed utilizing a 4-bay, half-wavelength spaced ERI model SHPX-4AC-HW-SP omni-directional antenna. According to data provided by the antenna manufacturer, the maximum relative field value in nearby downward directions (between 25 and 90 degrees below the horizontal) is less than 25 percent. Thus, a value of 25 percent relative field is used for this calculation. The “uncontrolled/general population” limit specified in §1.1310 for the FM Band is 200  $\mu\text{W}/\text{cm}^2$ .

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The formula used for calculating FM signal density in this analysis, shown below, is essentially the same as equation (10) in OET 65:

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

S	=	power density in microwatts/cm <sup>2</sup>
ERP	=	total (average) ERP in Watts
F	=	relative field factor
D	=	distance in meters

Using this formula and the assumptions provided above, the proposed facility would contribute a maximum power density of 6.7 µW/cm<sup>2</sup>, or 3.35 percent of the “uncontrolled/general population” limit, at locations two meters above ground level. At ground level locations away from the base of the tower, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna.

§1.1307(b)(3) states that facilities are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent. Since the instant situation meets the five percent exclusion test at all ground level areas for the proposed WLYF(FM) auxiliary antenna, the impact of any other facilities near this site may be considered independently from this facility. Accordingly, it is believed that the impact of the WLYF(FM) auxiliary operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

### **Safety of Tower Workers and the General Public**

As demonstrated herein, excessive levels of RF energy attributable to WLYF(FM) will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission’s guidelines. Nevertheless, appropriate RF exposure warning signs will continue to be posted and access will be restricted by fencing and other appropriate means.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy is employed protecting maintenance workers from excessive exposure when work must be performed on the tower or in



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**ENVIRONMENTAL CONSIDERATIONS**  
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areas where high RF levels may be present. Such protective measures include, but are not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. *Lincoln* will coordinate with other licensees utilizing this antenna support structure. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas.

**Conclusion**

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under §1.1306 of the Rules; hence preparation of an Environmental Assessment is not required.

