

Exhibit 18 - Statement C  
**ENVIRONMENTAL CONSIDERATIONS**  
prepared for  
WNSH Beverly, Massachusetts  
Facility Id 22798  
1570 kHz 50 kW ND-D U

*Willow Farm, Inc. ("Willow Farm")* proposes herein to increase the daytime operating power of WNSH Beverly, Massachusetts to 50 kW utilizing a single existing tower. No change in tower placement or new site construction is proposed, however the two unused towers will be removed. Consequently, the instant proposal is not believed to have a significant environmental impact as defined under Section 1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

### **Human Exposure to Radiofrequency Radiation**

The proposed operation at this site was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET-65"). OET-65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in Section 1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in Section 1.1310 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 guidelines.

The proposed WNSH operation is the only emitter envisioned for this site. The "general population/uncontrolled" and "occupational/controlled" maximum permissible exposure limits specified in Section 1.1310 are the same for the single frequency of interest, 1570 kHz. Specifically, the maximum permissible power limits for general population/uncontrolled (and occupational/controlled) power density is 100 mW/cm<sup>2</sup>, the electric field strength limit is 614 V/m, and the magnetic field strength limit is 1.63 A/m. Guidance to broadcasters for evaluating exposure to RF energy is provided by "Supplement A" to OET-65 (Edition 97-01) and was employed herein as follows: Section 1, Tables 1 and 2 of that document, it can be determined that the predicted distance to maintain from a 50 kW AM station (through the use of a fence, for instance) to achieve compliance with the FCC exposure limits is 10 meters if the involved tower is 0.1 wavelength tall or 5 meters if the tower is 0.25 wavelengths tall.

Exhibit 18 - Statement C  
**ENVIRONMENTAL CONSIDERATIONS**  
(page 2 of 2)

The towers involved in the instant application are each effectively 66 electrical degrees, 0.18 wavelengths, in height tall. If a conservative assumption is employed that the tower is only 0.1 wavelength tall, then a distance of 10 meters would comply with the above stated guidelines for human exposure to radiofrequency energy. The nighttime non-directional operating power of 0.085 kilowatts will comply with the guidelines applicable to the proposed daytime operating power. Therefore, a fence will be constructed around the tower base at a distance of 10 meters or such distance where measurements or calculations based on power distribution demonstrate compliance with OET-65 maximum permissible exposure limits. Further, appropriate RF exposure warning signs will be appropriately posted on the fence.

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

As demonstrated herein, excessive levels of RF energy will not be caused at accessible areas near the tower. With respect to worker safety, a site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed in the vicinity of or on the tower. Such protective measures may include, but will 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. Further, no worker will be permitted to climb an energized tower. On-site RF exposure measurements may also be undertaken to more specifically 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 Section 1.1306 of the Rules.

# ENGINEERING EXHIBIT

## APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

prepared for  
**Willow Farm, Inc.**  
WNSH Beverly, Massachusetts  
Facility ID 22798  
1570 kHz 50 kW ND-D U

### Table of Contents

FCC Form 301, Section III-A

Exhibit 11	
Statement A	Nature of the Proposal and Daytime Antenna System Description
Exhibit 14	
Statement B	Daytime Allocation and Coverage Considerations
Figure 1	Proposed Daytime Coverage Contours
Figure 1A	Proposed Daytime 1000 mV/m Coverage Contour (Detail)
Figure 2A	Daytime Allocation Study (Co-Channel)
Figure 2B	Daytime Allocation Study (1 <sup>st</sup> Adjacent)
Figure 2C	Daytime Allocation Study (2 <sup>nd</sup> and 3 <sup>rd</sup> Adjacent)
Table I	Proposed Daytime Distance to Contours
Table II A-H	Daytime Allocation Study Data - Other Pertinent Stations
Figure 3	WFTU Contour Overlap Detail
Figure 4	Interference Reduction Areas
Exhibit 18	
Statement C	Environmental Considerations

**SECTION III-A - AM 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. Frequency: 1570 kHz

2. Class (select one):  
 A  B  C  D

3. Hours of Operation:  
 Unlimited  Limited  Daytime  Share Time  Specified Hours:

4. **Daytime:**  Yes  No  
 [Daytime Operation]

**4. Daytime Operation**

a. Power: 50 kW

b. Antenna Location Coordinates: (NAD 27)

Latitude:  
 Degrees 42 Minutes 33 Seconds 22  North  South

Longitude:  
 Degrees 70 Minutes 50 Seconds 13  West  East

**c. and d.**

Complete the appropriate following items. If additional space is needed, please provide the [Exhibit 19] information requested below in an Exhibit.

Nondirectional  Directional

Theoretical RMS: 196.9 mV/m per kW at 1 km (Nondirectional)  
mV/m at 1 km (Directional)

Standard RMS: mV/m at 1 km (Directional Only)

[Nondirectional Tower Subform]

**4c. Nondirectional Tower:**

Tower Number	1
Overall height above ground (include obstruction lighting) (meters)	30.2

Antenna structure registration	Number: <input type="checkbox"/> Notification filed with FAA <input checked="" type="checkbox"/> Not Applicable
Height of radiator above base insulator, or above base, if grounded (meters)	29.7
Electrical height of radiator (degrees)	0
Top-Loaded/Sectionalized apparent height (degrees)	
A	56
B	10
C	0
D	0

or

[Directional Towers Subform]

**Augmented:**  Yes  No

If "yes," complete the following:

Augmented RMS: mV/m at 1 km

[Augmentations Subform]

5. **Nighttime:**  Yes  No

[Nighttime Operation]

**5. Nighttime Operation**

**a. Power:** 0.085 kW

**b. Antenna Location Coordinates:** (NAD 27)

Latitude:

Degrees 42 Minutes 33 Seconds 22  North  South

Longitude:

Degrees 70 Minutes 50 Seconds 13  West  East

**c. and d.**

Complete the appropriate following items. If additional space is needed, please provide the information requested below in an Exhibit. [Exhibit 20]

Nondirectional  Directional

Theoretical RMS: 196.9 mV/m per kW at 1 km (Nondirectional)  
mV/m at 1 km (Directional)

Standard RMS: mV/m at 1 km (Directional Only)

[Nondirectional Tower Subform]

**5c. Nondirectional Tower:**

Tower Number	1
Overall height above ground (include obstruction lighting) (meters)	30.2
Antenna structure registration	Number: <input type="checkbox"/> Notification filed with FAA <input checked="" type="checkbox"/> Not Applicable
Height of radiator above base insulator, or above base, if grounded (meters)	29.7
Electrical height of radiator (degrees)	0
Top-Loaded/Sectionalized apparent height (degrees)	
A	56
B	10
C	0
D	0

or

[Directional Towers Subform]

<p><b>Augmented:</b> <input type="radio"/> Yes <input type="radio"/> No</p> <p>If "yes," complete the following:</p> <p>Augmented RMS: mV/m at 1 km</p> <p>[Augmentations Subform]</p>	
<p>6. <b>Critical Hours Operation:</b> <input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p>[Critical Hours Operation]</p>	
<p>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.</p>	
<p><b>CERTIFICATION</b></p>	
<p>7. <b>Broadcast Facility.</b> The proposed facility complies with the engineering standards and assignment requirements of requirements of 47 C.F.R. Sections 73.24(e), 73.24(g), 73.33, 73.45, 73.150, 73.152, 73.160, 73.182(a)-(i), 73.186, 73.189, 73.1650. <b>Exhibit Required</b></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 11]</p>
<p>8. <b>Community Coverage.</b> The proposed facility complies with community coverage requirements of 47 C.F.R. Section 73.24(i).</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 12]</p>
<p>9. <b>Main Studio Location.</b> The proposed main studio location complies with requirements of 47 C.F.R. Section 73.1125.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 13]</p>
<p>10. <b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. Check all those that apply. An exhibit is required for each applicable section.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 14]</p>
<p><b>Groundwave.</b>  <input checked="" type="checkbox"/> a.) 47 C.F.R. Section 73.37.</p>	<p>[Exhibit 15]</p>
<p><b>Skywave.</b>  <input checked="" type="checkbox"/> b.) 47 C.F.R. Section 73.182.</p>	<p>[Exhibit 16]</p>

<p><b>Critical Hours.</b>  <input type="checkbox"/> c.) 47 C.F.R. Section 73.187.</p>	<p>[Exhibit 17]</p>
<p>11. <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></p> <p>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.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 18]</p>
<p><b>PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.</b></p>	

**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.

<p>Name MICHAEL D. RHODES, P.E.</p>	<p>Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER</p>	
<p>Signature</p>	<p>Date 7/26/2006</p>	
<p>Mailing Address CAVELL, MERTZ &amp; DAVIS, INC. 7839 ASHTON AVE.</p>		
<p>City MANASSAS</p>	<p>State or Country (if foreign address) VA</p>	<p>Zip Code 20109 -</p>
<p>Telephone Number (include area code) 7033929090</p>	<p>E-Mail Address (if available) MIKE.RHODES@CMDCONSULTING.COM</p>	

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:** RADIO MUTIPLE OWNERSHIP

APPLICANT HAS NO ATTRIBUTABLE INTERESTS IN ANY OTHER BROADCAST STATION.

**Attachment 5****Exhibit 11****Description:** EXHIBIT 11 - NATURE OF THE PROPOSAL AND DAYTIME ANTENNA SYSTEM DESCRIPTION

EXHIBIT 11 - ATTACHED AS A PDF FILE.

**Attachment 11**

Description
<a href="#">Exhibit 11 - Nature of the Proposal and Daytime Antenna System Description</a>

**Exhibit 12****Description:** SEE EXHIBIT 11**Attachment 12****Exhibit 14****Description:** EXHIBIT 14 - DAYTIME ALLOCATION AND COVERAGE CONSIDERATIONS

EXHIBIT 14 - ATTACHED AS A PDF FILE.

**Attachment 14**

Description
<a href="#">Exhibit 14 - Daytime Allocation and Coverage Considerations</a>

**Exhibit 15****Description:** SEE EXHIBIT 14**Attachment 15****Exhibit 16****Description:** NO CHANGES ARE PROPOSED TO THE NIGHTTIME OPERATION**Attachment 16****Exhibit 18****Description:** EXHIBIT 18 - ENVIRONMENTAL CONSIDERATIONS

EXHIBIT 18 - ATTACHED AS A PDF FILE.

**Attachment 18**

Description
<a href="#">Exhibit 18 - Environmental Considerations</a>