

# **ENGINEERING EXHIBIT**

## **Application for Auxiliary Antenna License**

prepared for

**WCVB Hearst-Argyle Television, Inc.**

WCVB-DT Boston, Massachusetts

Facility ID 65684

Ch. 20 (Auxiliary Antenna) 200 kW 191 m

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FCC Form 302-DTV, Section III

#### **Exhibit 11**

Statement A

Engineering Statement

Figure 1

DTV Contour Comparison

*This material supplies a "hard copy" of the engineering portions of this application as entered September 19, 2002 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.*

<b>Section III - Engineering</b>		
<b>TECHNICAL SPECIFICATIONS</b>		
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.		
<b>TECH BOX</b>		
1.	Channel: 20	
2.	Operating Constants	
	Transmitter power output (average power at input to transmission line, after any filter attached to the transmitter, if used)	Transmission line power loss
	11.28 dBk      13.43 kW	3.1 dB
	Antenna Input power	Maximum antenna power gain
	8.18 dBk	14.83 dB
		Maximum effective radiated power
		23.01 dBk      200 kW
3.	Antenna Data	
	Manufacturer DIE	Model TLP-16M(C)
<b>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.</b>		
<b>CERTIFICATION</b>		
4.	<b>Main Studio Location.</b> The main studio location complies with 47 C.F.R. Section 73.1125.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 6]
5.	<b>Constructed Facility</b> The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 7]
6.	<b>Special Operating Conditions.</b> The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit.  <b>An exhibit may be required.</b> Review the underlying construction permit	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 8]
7.	<b>Transmitter.</b> The transmitter complies with 47 C.F.R. Section 73.1660.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 9]

**APPLICATION FILED PURSUANT TO 47 C.F.R. SECTIONS 73.1675(c) OR 73.1690(c).**

Only applicants filing this application pursuant to 47 C.F.R. Sections 73.1675(c) or 73.1690(c) must complete the following section.

8.	<b>Changing transmitter power output.</b> Is this application being filed to authorize a change in transmitter power output caused by the replacement of an omnidirectional antenna with another omnidirectional antenna or an alteration of the transmission line system? See 47 C.F.R. Sections 73.1690(c)(1) and (c)(10).	<input type="radio"/> Yes <input checked="" type="radio"/> No
9.	<b>Replacing a directional antenna.</b> Is this application being filed pursuant to 47 C.F.R.	<input type="radio"/> Yes <input checked="" type="radio"/> No

	Section 73.1690(c)(3) to replace a directional antenna with another directional antenna?  If "Yes" to the above, the applicant certifies the following:	
	a. <b>Pattern of Directional Antenna.</b> The proposed theoretical antenna pattern complies with 47 C.F.R. Section 73.1690(c)(3). <b>Exhibit is required.</b>	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 10]
10	<b>Use a formerly licensed main facility as an auxiliary facility.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1675(c)(1) to request authorization to use a formerly licensed main facility as an auxiliary facility and/or change the ERP of the proposed auxiliary facility?  If "Yes" to the above, the applicant certifies the following:	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. <b>Auxiliary antenna service area.</b> The proposed auxiliary facility complies with 47 C.F.R. Section 73.1675(a). <b>Exhibit is required.</b>	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 11]
	b. <b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1 306 (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).  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 12]
11.	<b>Change the license status.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(9) to change the license status from commercial to noncommercial or from noncommercial to commercial?  If "Yes" to above, submit an exhibit providing full particulars. For applications changing license status from commercial to noncommercial, include Section II of FCC Form 340 as an exhibit to this application.	<input type="radio"/> Yes <input checked="" type="radio"/> No  [Exhibit 13]

**PREPARER'S CERTIFICATION ON PAGE 6 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 JOSEPH M. DAVIS, P.E.	Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature	Date 9/19/2002	
Mailing Address CAVELL, MERTZ & DAVIS, INC. 7839 ASHTON AVENUE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 -

Telephone Number (include area code)  
7033929090

E-Mail Address (if available)  
JDAVIS@CMDCONSULTING.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).

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### Exhibits

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#### Exhibit 11

**Description:** EXHIBIT 11 - STATEMENT A

EXHIBIT 11 - STATEMENT A - ATTACHED AS A PDF FILE

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#### Attachment 11

Description	Type	Conversion	
		Status	File
<a href="#">Exhibit 11 - Statement A</a>	Adobe Acrobat File	not needed	PDF

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#### Exhibit 12

**Description:** SEE EXHIBIT 11

SEE EXHIBIT 11

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#### Attachment 12

Exhibit 11 - Statement A  
**ENGINEERING STATEMENT**  
prepared for  
**WCVB Hearst-Argyle Television, Inc.**  
WCVB-DT Boston, Massachusetts  
Facility ID 65684  
Ch. 20 (Auxiliary Antenna) 200 kW 191 m

*WCVB Hearst-Argyle Television, Inc.* (“*Hearst-Argyle*”) is the licensee of WCVB-DT, Channel 20, Boston, Massachusetts (BLC DT-20020102AAH), and the paired analog Channel 5 WCVB-TV facility (BLCT-20010501ADD). The instant application seeks to relicense the former main WCVB-DT facility as an auxiliary facility.

The DTV Channel 20 WCVB-DT facility is licensed to operate with 625 kW effective radiated power (“ERP”) at an antenna height above average terrain (“HAAT”) of 390 meters. The former main WCVB-DT facility was licensed at 200 kW ERP and 191 meters HAAT, and employed a directional antenna system (BLC DT-19981123KF).

Section 73.1675(c)(1) of the Commission’s Rules regarding auxiliary antennas permits a television station to propose use of a former main antenna as an auxiliary antenna by filing a modification of license application. The auxiliary facility proposed herein is the former main antenna for WCVB-DT, which is side-mounted on the antenna structure employed by the (new) main WCVB-DT facility. No change in transmitting location, antenna height, ERP, or directional antenna pattern from that specified in BLC DT-19981123KF is proposed (*i.e.*, the proposed auxiliary operation will employ 200 kW ERP at an antenna HAAT of 191 meters). The proposed auxiliary facility, which is still in place from its prior use as the main WCVB-DT antenna, is identical to that as licensed under BLC DT-19981123KF.

The attached **Exhibit 8 - Figure 1** supplies a DTV coverage contour map. As demonstrated thereon, the 200 kW auxiliary antenna facility’s DTV service contour (41 dB $\mu$ ) is totally encompassed by that of the presently licensed (BLC DT-20020102AAH 625 kW / 390 m) “main” WCVB-DT facilities, in compliance with §73.1675(a).

Exhibit 11 - Statement A  
**ENGINEERING STATEMENT**  
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As detailed in material on file regarding the former 200 kW WCVB-DT facility operation, the Commission's criteria with respect to human exposure to radiofrequency (RF) energy are met. Since the proposed auxiliary facility is the same as that previously licensed under BLCDT-19981123KF, no further discussion of RF exposure is believed necessary.

**EXHIBIT 11 - FIGURE 1  
COVERAGE CONTOUR COMPARISON**

prepared September 2002 for  
**WCVB Hearst - Argyle Television, Inc.**  
WCVB-DT Boston, Massachusetts  
Facility ID 65684

Cavell, Mertz & Davis, Inc.  
Manassas, Virginia

WCVB-DT  
Proposed Auxiliary Facility  
Former Main Facility  
BLCDT-19981123KF  
200 kW 191 m  
41 dBμ

WCVB-DT  
Licensed Main Facility  
BLCDT-20020102AAH  
625 kW 390 m  
41 dBμ

