



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at [wvOASIS.gov](http://wvOASIS.gov). As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at [WVPurchasing.gov](http://WVPurchasing.gov) with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

**General Information**

Contact

Default Values

Discount

Document Information

Procurement Folder: 651935

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0439

Vendor ID: VS0000019029

SO Doc ID: EBA2000000014

Legal Name: Dielectric LLC

Published Date: 12/2/19

Alias/DBA:

Close Date: 12/10/19

Total Bid: \$57,365.83

Close Time: 13:30

Response Date: 12/09/2019

Status: Closed

Response Time: 6:55

Solicitation Description: Addendum No.02; MEDIUM POWER  
FM ANTENNA

Total of Header Attachments: 4

Total of All Attachments: 4



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia**  
**Solicitation Response**

**Proc Folder :** 651935  
**Solicitation Description :** Addendum No.02; MEDIUM POWER FM ANTENNA  
**Proc Type :** Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2019-12-10 13:30:00	SR      0439 ESR1206190000003409	1

VENDOR
VS0000019029  Dielectric LLC

**Solicitation Number:** CRFQ 0439 EBA2000000014

**Total Bid :** \$57,365.83      **Response Date:** 2019-12-09      **Response Time:** 06:55:56

**Comments:** Offered terms are 50% with order with balance net 30 after shipment. Note: payment terms may be subject to negotiation.

**FOR INFORMATION CONTACT THE BUYER**  
 Guy Nisbet  
 (304) 558-2596  
 guy.l.nisbet@wv.gov

Signature on File	FEIN #	DATE
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All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Medium POWER FM ANTENNA	1.00000	EA	\$57,365.830000	\$57,365.83

Comm Code	Manufacturer	Specification	Model #
43221703			

<b>Extended Description :</b>	Medium POWER UHF TV TRANSMIT ANTENNA
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**Comments:** Ref. quote 900239CMZ which has breakdown of pricing. Upon award, Commercial General Liability Insurance will be furnished in the amount specified.



Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

Dec 6, 2019

Attention: Guy Nisbet  
RE: RFQ# EBA2000000014 – Medium Power FM Antenna

Mr. Nisbet,

Thank you for the opportunity to respond to the West Virginia, WVBY-FM Antenna Project. We are pleased to offer the following proposal for your review.

Since our inception in 1942, Dielectric has considered itself a solution-oriented engineering company, with pride in our depth of knowledge and our experience in both FM and TV. Our Corporate parent Sinclair Broadcasting is one of the nation's largest TV station owners and like Dielectric, an industry leader with respect to current and future broadcast technologies.

We have included a list of any clarifications with our response. Unless specifically addressed, Dielectric takes no exception to the RFQ specifications. If any information is missing it is not intentional. We have included Dielectric's standard Terms and Conditions of Sale and Warranty, however the terms of West Virginia stated within the RFQ will take precedent.

We welcome any questions and an opportunity for any further clarification if necessary.

Kind regards,



Jay Martin

Vice President, Sales

Cc: Christine Zuba



**CLARIFICATIONS TO WEST VIRGINIA REQUEST FOR QUOTATION CRFQ# EBA2000000014  
SPECIFICATIONS**

**Sections 1 and 2**

Understood

**3.1.1** Comply, except where clarified as follows:

**3.1.1.1.3.4** Comply, The customer is responsible for providing all required tower details/drawings including leg diameters, face size, cross member sizes, location of any other transmission lines with the antenna aperture, and tower orientation.

**3.1.1.2.3** A pattern study at 4.4:1 scale will be conducted and supplied showing FCC compliance with the required azimuth pattern limitations.

**3.1.1.3.** The proposed transmission line is 3" flexible 50 ohm. A bill of materials is shown within. Since a dehydrator was not specified, one is not included here, however can be supplied at additional cost.

**Sections 4 and 5**

Understood and Comply

**Section 6**

**6.1.** Understood and Comply.

**Section 7**

Understood

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CRFQ 0439 EBA2000000014**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Dielectric LLC.

\_\_\_\_\_  
Company

  
\_\_\_\_\_  
Authorized Signature

December 5, 2019

\_\_\_\_\_  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 60130  
 Charleston, WV 25305-0130

State of West Virginia  
 Request for Quotation  
 04 -- Audio/Video

Proc Folder: 651935

Doc Description: Addendum No.02; MEDIUM POWER FM ANTENNA

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2019-12-02	2019-12-10 13:30:00	CRFQ 0439 EBA2000000014	3

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

**FOR INFORMATION CONTACT THE BUYER**

Guy Nisbet  
 (304) 558-2596  
 guy.l.nisbet@wv.gov

Signature X

FEIN #

DATE

All offers subject to all terms and conditions contained in this solicitation



ADDITIONAL INFORMATION:

Addendum

Addendum No.02 issued to publish and distribute the attached information to the vendor community.

Centralized Request for Quotation  
(Medium - Power FM Antenna)

The West Virginia Purchasing Division is soliciting bids for the agency, The West Virginia Educational Broadcasting Authority (EBA) from qualified vendors to establish a one-time contract for the purchase of a "Medium-Power" FM Antenna, per the terms and conditions, specifications that are apart of this solicitation and attached hereto.

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		SITE MANAGER EDUCATIONAL BROADCASTING WNPB-TV	
BEAVER	WV25813	191 SCOTT AVE MORGANTOWN	WV 26505
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Medium POWER FM ANTENNA	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221703			

Extended Description :  
Medium POWER UHF TV TRANSMIT ANTENNA

**SOLICITATION NUMBER: CRFQ 0439 EBA20000000014**

**Addendum Number: No.02**

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The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- | Modify bid opening date and time
- | Modify specifications of product or service being sought
- | Attachment of vendor questions and responses
- | Attachment of pre-bid sign-in sheet
- | Correction of error
- | Other

**Description of Modification to Solicitation:**

Addendum issued to publish and distribute the attached documentation to the vendor community.

1. Vendor submitted Question and Agency response.

No other Changes.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

# ATTACHMENT A

**CRFQ EBA2000000014  
Medium Power UHF TV Antenna**

**Vendor submitted Questions and Agency Responses  
12/02/2019**

**Q.1. Is this antenna going to be for a Radio Station or TV Station?**

**A.1. Radio station.**

**Q.2. What is the exact operating frequency?**

**A.2. 91.7 megahertz. The station is WVBV.**

**Q.3. While the main bid description states "Medium Power FR Antenna", why is it that most of the other parts of the bid still state Medium-Power UHF Television Transmit Antenna?**

**A.3. Our apologies for the confusion. This should read "Medium Power FM Antenna". The exact ratings are in the specifications.**



## Quote Document

22 Tower Road  
 Raymond, ME 04071  
 Tel: +1 207.655.8100  
 Fax: +1 2.7.655.8173  
[www.dielectric.com](http://www.dielectric.com)

Bill to:	Ship to:
WEST VIRGINIA PURCHASING	WVBY-FM
DIVISION	Name and telephone number
2019 WASHINGTON ST. E.	Street Address
CHARLESTON, WV 25305	City, State, Zip

<b>Quote Number</b>	900239CMZ
<b>Facility ID</b>	
<b>Quote Date</b>	12/5/2019
<b>Sales Person</b>	ZUBA
<b>Currency</b>	USD

<b>Payments</b>	
<b>Incoterms</b>	
<b>Freight Carrier</b>	
<b>Shipping Instructions</b>	
<b>Packing Instructions</b>	
<b>Governing Terms</b>	Terms and Conditions of Sales for Broadcast or Engineering Services (Rev C. 1 January 2016)

FOR WVBY-FM 91.7 MHZ, BECKLEY, WV FOB SITE. PAYMENT TERMS: 50% WITH ORDER, BALANCE NET 30 DAYS AFTER SHIPMENT. PAYMENT TERMS MAY BE SUBJECT TO NEGOTIATION.

Line	Item	Item Description	Qty	Unit	Net Price	Extended Price
1	11000000077	**** ANTENNA - FM SIDE MOUNT. DCR-C6-R CIRCULARLY POLARIZED DIRECTIONAL ANTENNA FOR WVBY-FM 91.7 MHZ. FULL WAVELENGTH SPACING. INPUT 3-1/8" 50 OHM. INCLUDES STANDARD TOWER LEG MOUNTS	1	EA	\$ 28,753.00	\$28,753.00
2	11000000077	FM PATTERN STUDY. CUSTOMER MUST PROVIDE ALL REQUIRED TOWER DRAWINGS/DETAIL/ORIENTATION WITHIN 10 DAYS OF ORDER	1	EA	\$ 8,500.00	\$8,500.00
3	11000000077	TRANSMISSION LINE 3-50 FLEXIBLE. 450 FT INCLUDES ITEMS 4-16	1	EA	\$ 16,212.83	\$16,212.83
4	11000006462	FLEXLINE 3-50 ANDREW HJ8-50B	450	FT		
5	11000002371GP	FLEXLINE CONN 3-50 EIA FEMALE BLOCK H8FB-302-S FOR 3-50 AIR HJ8-50B CONVERTED TO GAS PASS	1	EA		
6	400009298	H8ATTACH-318 HJ8-50 INSTALL KIT FOR 3-1/8" EIA CONNECTOR H8FB-302-S	1	EA		
7	11000002371	FLEXLINE CONN 3-50 GS FEMALE H8FB-302-S	1	EA		
8	R0013705508	CONN ANCHOR 3-50 W / SCALLOP INS "QS"	1	EA		
9	11000000993	FLEXLINE 3" HOISTING GRIP 26985A	4	EA		
10	11000000515	FLEX 3"HANGER BUTTERFLY 31766A-11 10PK	9	EA		
11	11000002446	FLEXLINE RMA6 31670-6 10PK	18	EA		
12	11000002447	FLEXLINE ANGLE ADPTR 10PK - 31768A	1	EA		
13	11000002449	FLEXLINE HRDW KIT 31769-1 3/8 X 1" 10PK	1	EA		
14	11000002378	FLEXLINE 3" WALL/ROOF FEED THRU 40394-2	1	EA		
15	11000000992	FLEXLINE 3-1/8" GROUND KIT 223700-724	3	EA		
16	11000002385	FLEXLINE WEATHERPROOF KIT - 221213	1	EA		
17	RFREIGHT	SHIPPING - HANDLING.	1	EA	\$ 3,900.00	\$3,900.00

**Total Net Price**

**\$57,365.83**

<b>Bill to:</b>	<b>Ship to:</b>
WEST VIRGINIA PURCHASING DIVISION 2019 WASHINGTON ST. E. CHARLESTON, WV 25305	WVBY-FM Name and telephone number Street Address City, State, Zip

<b>Quote Number</b>	900239CMZ
<b>Facility ID</b>	
<b>Quote Date</b>	12/5/2019
<b>Sales Person</b>	ZUBA
<b>Currency</b>	USD

**Acceptance of Quotation**

By execution below, or by sending a Purchase Order referencing this proposal, the undersigned accepts this proposal to furnish equipment and services on this schedule subject to the Terms and Conditions of Sale for Broadcast and Engineering Services attached hereto and/or incorporated by reference herein, and authorizes Dielectric LLC to proceed with the procurement and fabrication of this equipment. Your acceptance of this proposal is conditioned upon your acceptance of the Dielectric LLC terms and your agreement to be bound by and comply with the Dielectric LLC terms. Dielectric LLC's failure to object to provisions contained in any Purchase Order or other document from you shall not be construed as a waiver by Dielectric LLC of the Dielectric LLC Terms or an acceptance of any such provisions. Any conflicting or additional terms or conditions set forth in a Purchase Order or other document from you are not binding upon Dielectric LLC, and Dielectric LLC hereby expressly objects thereto. If for any reason this proposal is not accepted by Dielectric LLC any condition to an accepted order is removed. ONLY SUCH PORTION OF THE DOWN PAYMENT THAT HAS NOT BEEN COMMITTED OR SPENT WILL BE REFUNDED.

Compay Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Requested Date: \_\_\_\_\_

This requested ship date is subject to review by Dielectric. If Dielectric cannot meet the requested ship date, you will be contacted to work out a manually acceptable shipment date. Dielectric requires that the customer take ownership of the product no later than 14 calendar days after the agreed-upon ship date.



**Antenna Model: DCRC6ERD**

Proposal Number: **C-06783**  
Date: **3-Dec-19**  
Customer: **WV Educational Broadcasting**  
Location: **Beckly, WV**

**Electrical Specifications**

Polarization:  
Azimuth Pattern:  
Antenna Input: **3-1/8" 50 Ohm EIA/DCA**  
VSWR: **Channel 1.08 : 1**  
Bandwidth:  
Rated Input Power: **40 kW (16.02 dBk) Maximum Average Power**

**Mechanical Specifications**

Mounting: **Side Mounted**  
Environmental Protection: **Full Radome**  
Height: **53.6 ft (16.3m)**  
Weight: **600 lb (0.3t)** Excludes Mounts  
Effective Projected Area: **39.7 ft<sup>2</sup> (3.7m<sup>2</sup>) TIA-222-G** Basic Wind Speed: **90 m/h (144.8 km/h)**

**Channel Specifications**

**\*Pattern Study Required**

Call	Freq	Hpol ERP	Vpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak Main Lobe Vpol Gain	Peak at Horizontal Hpol Gain	Peak at Horizontal Vpol Gain
WVBY	91.7 MHz							

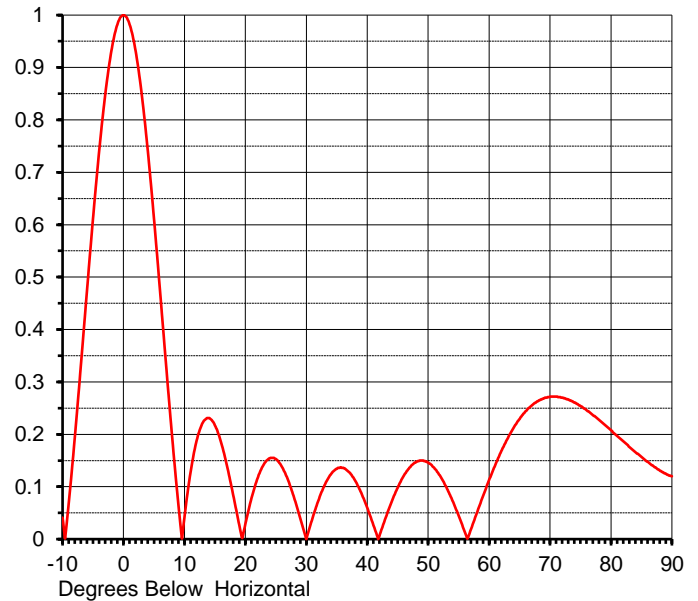
## ELEVATION PATTERN

Proposal No. **C-06783**  
 Date **3-Dec-19**  
 Call Letters **WVBY**

Frequency **91.7 MHz FM**  
 Antenna Type **DCRC6ERD**

RMS Directivity at Main Lobe **6.4 ( 8.06 dB )**  
 RMS Directivity at Horizontal **6.4 ( 8.06 dB )**  
**Calculated**

Beam Tilt **0.00 deg**  
 Pattern Number **FX06X100000**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.041	10.0	0.041	30.0	0.000	50.0	0.146	70.0	0.272
-9.0	0.067	11.0	0.127	31.0	0.039	51.0	0.136	71.0	0.272
-8.0	0.193	12.0	0.188	32.0	0.074	52.0	0.120	72.0	0.270
-7.0	0.331	13.0	0.222	33.0	0.103	53.0	0.099	73.0	0.266
-6.0	0.473	14.0	0.231	34.0	0.123	54.0	0.073	74.0	0.261
-5.0	0.612	15.0	0.217	35.0	0.134	55.0	0.045	75.0	0.254
-4.0	0.740	16.0	0.185	36.0	0.136	56.0	0.014	76.0	0.246
-3.0	0.848	17.0	0.139	37.0	0.128	57.0	0.018	77.0	0.237
-2.0	0.931	18.0	0.084	38.0	0.112	58.0	0.050	78.0	0.228
-1.0	0.982	19.0	0.027	39.0	0.089	59.0	0.082	79.0	0.218
0.0	1.000	20.0	0.029	40.0	0.060	60.0	0.113	80.0	0.208
1.0	0.982	21.0	0.078	41.0	0.027	61.0	0.141	81.0	0.197
2.0	0.931	22.0	0.116	42.0	0.006	62.0	0.168	82.0	0.187
3.0	0.848	23.0	0.142	43.0	0.040	63.0	0.191	83.0	0.176
4.0	0.740	24.0	0.154	44.0	0.071	64.0	0.212	84.0	0.166
5.0	0.612	25.0	0.153	45.0	0.098	65.0	0.229	85.0	0.157
6.0	0.473	26.0	0.138	46.0	0.121	66.0	0.244	86.0	0.148
7.0	0.331	27.0	0.113	47.0	0.137	67.0	0.255	87.0	0.139
8.0	0.193	28.0	0.079	48.0	0.147	68.0	0.263	88.0	0.131
9.0	0.067	29.0	0.040	49.0	0.150	69.0	0.269	89.0	0.125
								90.0	0.120

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## ELEVATION PATTERN

Proposal No. **C-06783**

Date **3-Dec-19**

Call Letters **WVBY**

Frequency **91.7 MHz**

Antenna Type **DCRC6ERD**

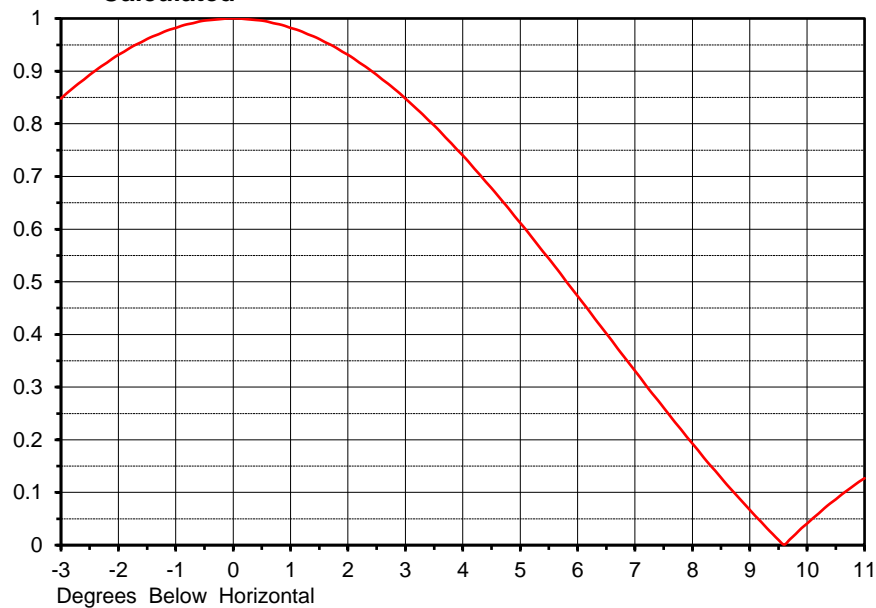
RMS Directivity at Main Lobe **6.40 ( 8.06 dB )**

Beam Tilt **0.00 deg**

RMS Directivity at Horizontal **6.40 ( 8.06 dB )**

Drawing Number **FX06X100000**

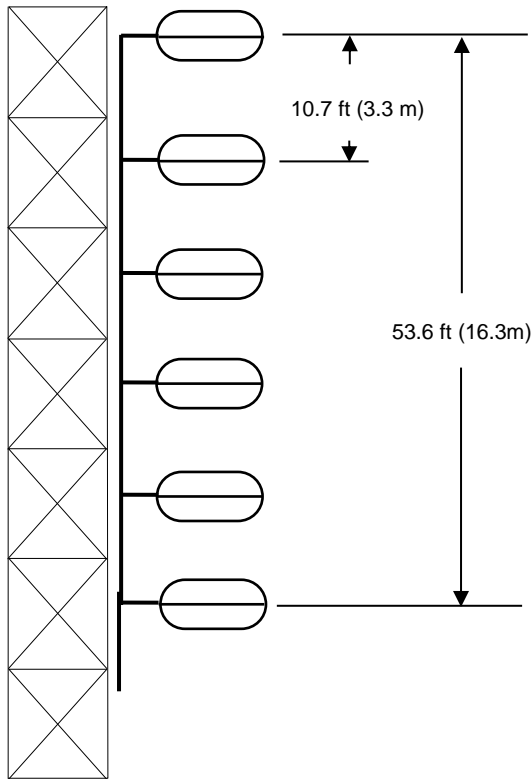
**Calculated**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.041	10.0	0.041	30.0	0.000	50.0	0.146	70.0	0.272
-9.0	0.067	11.0	0.127	31.0	0.039	51.0	0.136	71.0	0.272
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-7.0	0.331	13.0	0.222	33.0	0.103	53.0	0.099	73.0	0.266
-6.0	0.473	14.0	0.231	34.0	0.123	54.0	0.073	74.0	0.261
-5.0	0.612	15.0	0.217	35.0	0.134	55.0	0.045	75.0	0.254
-4.0	0.740	16.0	0.185	36.0	0.136	56.0	0.014	76.0	0.246
-3.0	0.848	17.0	0.139	37.0	0.128	57.0	0.018	77.0	0.237
-2.0	0.931	18.0	0.084	38.0	0.112	58.0	0.050	78.0	0.228
-1.0	0.982	19.0	0.027	39.0	0.089	59.0	0.082	79.0	0.218
0.0	1.000	20.0	0.029	40.0	0.060	60.0	0.113	80.0	0.208
1.0	0.982	21.0	0.078	41.0	0.027	61.0	0.141	81.0	0.197
2.0	0.931	22.0	0.116	42.0	0.006	62.0	0.168	82.0	0.187
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9.0	0.067	29.0	0.040	49.0	0.150	69.0	0.269	89.0	0.125
								90.0	0.120

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## MECHANICAL SPECIFICATIONS



Proposal No. **C-06783**  
 Date **3-Dec-19**  
 Call Letters **WVBY**  
 Frequency **91.7 MHz FM**  
 Antenna Type **DCRC6ERD**

### Preliminary Specifications

#### Side Mounted

#### With ice TIA-222-G

Height AGL(z) 340 ft (103.6 m)  
 Basic Wind Speed 90 m/h (144.8 km/h)

Structure Class II  
 Exposure Category C  
 Topography Category 1

Design Ice 0.5 in  $t_{iz} = 1.26$  in  
 Wind Speed w/Ice 40 m/h (64.4 km/h)

#### Mechanical Specifications

		without ice	with ice	
Height	H2	53.6 ft (16.3m)		
Height of Center of Radiation	H3	26.8 ft (8.2m)		
Effective Projected Area	(EPA) <sub>A</sub>	39.7 ft <sup>2</sup> (3.7m <sup>2</sup> )	91.8 ft <sup>2</sup> (8.5m <sup>2</sup> )	Mounts Excluded
Weight	W	600 lb (0.3t)	2100 lb (1t)	Mounts Excluded

Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA-222-G

Prepared by: CAB      Date: 3-Dec-19      ME: *CTS*      EE:

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