



(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility **65943** | Service: **DTV** | Call **WWPB** | Channel: **29 (UHF)** |
ID: | Sign:
File **0000027903**
Number:
FRN: **0003857380** | Date **11/19**
Submitted: **/2020**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
MARYLAND PUBLIC BROADCASTING COMMISSION Doing Business As: Maryland Public Television	Larry D. Unger, President & CEO 11767 Owings Mills Boulevard OWINGS MILLS, MD 21117 United States	+1 (410) 356- 5600	lunger@mpt. org	Government Entity

Reimbursement Contact Information

Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
Samuel Hariton <i>Widely Inc.</i>	Samuel Hariton 4031 University Dr Suite 100 Fairfax, VA 22030 United States	+1 (339) 222-8107	sam.hariton@widely.com

**Broadcaster
Information
and
Transition
Plan**

Question		Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.		No
Briefly describe transition plan		Current transmission system consists of a transmitter feeding a transmission line which connects to an antenna on the tower. Work includes tower study/rehabilitation to support new antenna, mounting antenna, transmission line and connecting to transmitter

Transmitters

Section	Question	Response
Transmitter Related Expenses	Do you have transmitter related expenses?	Yes

**Primary
Transmitter**

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	DCX-2
	Year	1996
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	40.0 kW

**Primary
Transmitter**

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Manufacturer	
	Model	HPTV- PRLX-U18
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	30.0 kW
	Justification for New Transmitter	See attached comparative quotes between solid state and IOT transmitter. IOT is more than \$400,000 higher. Also see Status of MSCD- IOT Production and attached narrative.

**Primary
Transmitter**

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No

	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes
	Description	Electrical contractor to connect transmitter into existing electrical panel and wire heat exchanger into transmitter. Includes material and labor.
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leasehold improvement?	No
	Size	N/A
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

**Primary
Transmitter**

Other Transmitter Cost Not Listed

Name	Description
Rigid Coax Line	Rigid interconnection coax lines from transmitter to CIF mask filter to antenna switch.
Coolant	The coolant used for the transmitter heat exchanger is not included in the transmitter price
Remote Control Interface	License required to interface transmitter into current remote control system
Magic Tee Combiner	Used to combine both transmitters into a single output. Current system has a Magic Tee.
Bag Filters	Bag type water filtration for each heat exchanger system. Current pre-repack cooling system has this filtering.
Site Design and Survey	Incorporates all aspects of the transmitter room design, including power distribution requirements, equipment placement, RF system layout, plumbing, and remote control.
Motorized Switch	Electric actuated switch to switch between transmitter, load and antenna. Current transmitter has this capability but switch cannot be moved as it is in pre-repack service.
CIF Mask Filter	Constant Impedance mask Filter. Current mask filter is a CIF.

Antennas

Section	Question	Response
Antenna Related Expenses	Do you have antenna related expenses?	Yes

Primary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels	N/A
	Design power capacity in use	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	500.0 kW

Manufacturer	
Model	TFU-12DSC-R
Year	2002

Primary
Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	700.0 kW
	Manufacturer	

Model	TFU-25JTH /VP-R 4C150
Year	2018
Justification for New Antenna	See attached narrative regarding antenna.

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	4 1/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

**Primary
Antenna**

Other Antenna Cost Not Listed

Information not provided.

**Interim
Antenna**

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	1
	Number of Panels/Bays	10
	Lower Limit	470.00 MHz
	Upper Limit	698.00 MHz
	Design power capacity in use	10.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	30.0 kW
	Manufacturer	
	Model	TUA-P4-4 /10M-1-R SM

	Year	2018
	Justification for New Antenna	See attached narrative regarding the need for an interim facility.

**Interim
Antenna**

Other Antenna Costs

Section	Question	Response
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

**Interim
Antenna**

Other Antenna Cost Not Listed

Information not provided.

Transmission Line

Section	Question	Response
Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

**Primary
Transmission Line**

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Type	Rigid
	Diameter	4 1/16 inches
	Other Diameter	N/A
	Segment Length	19 3/4 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	410 feet per run

Primary
Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Type	Rigid
	Diameter	4 1/16 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	410 feet per run
	Justification for New Transmission Line	Not possible to use current line as it is in operation 24 hrs/day. Line needed to construct, test and optimize repack line and antenna for a flash cut on scheduled phase date. See narrative.

Primary Transmission Line	Other Transmission Line Expenses Not Listed
Information not provided.	

Interim **New Transmission Line**
Transmission Line **Section**

	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Flexible Air
	Diameter	1 5/8 inches
	Segment Length	N/A
	Other Segment Length	
	Number of parallel runs	1
	Length	500 feet per run
	Justification for New Transmission Line	See attached narrative regarding interim facility.

Interim **Other Transmission Line Expenses Not Listed**
Transmission Line **Information not provided.**

**Tower
Equipment
And
Rigging
Costs**

Section	Question	Response
Tower Equipment or Rigging Costs Changes	Do you have tower equipment or rigging costs changes?	Yes

**Primary
Tower**

Existing Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Is this tower consider Complex?	No
	Is this tower currently shared with any other stations?	No
	One or more FM, AM or TV radio broadcaster(s)	N/A
	Others Types of Users	N/A
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1036746
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	39° 39' 04.0" N-
	Longitude (NAD83)	077° 58' 14.0" W-
	Overall Structure Height	415.02 feet
	Support Structure Height	363.84 feet
	Ground Elevation Above Mean Sea Level (AMSL)	1439.94 feet
	Structure Type	TOWER - Free Standing or Guyed Structure

	Tower Owner	MD. PUBLIC BROADCASTING COMMISSION
	Date Constructed	01/26/1995

**Primary
Tower**

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for documented tower
Tower Reinforcements	Please select whether tower reinforcements are needed:	Minor Reinforcements needed

**Primary
Tower**

Tower Rigging Costs

Section	Question	Response
Tower Rigging Costs	Complex Tower	N/A
Helicopter Services Required	Are helicopter services required?	No

**Primary
Tower**

Other Tower Expenses Not Listed

Information not provided.

**Outside
Professional Services Costs**

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	350
	Explanation	Applicant has limited internal resources to oversee installing and commissioning this repack project. It will rely on outside services to manage all work required.
Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	Yes

	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	No
	FAA Consultation (including preparation of FAA Form 7460)	No
	Negotiation of Lease and other Matter for Shared Locations	Yes
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	No
RF Field Engineering Services	Comprehensive coverage verification via field study	No
	RF exposure measurements	No
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

Outside

Professional

Other Professional Services Expenses Not Listed

Services Costs

Name

Description

Progress Reporting

Prepare and file 10 required progress reports on FCC Form 2100, Schedule 387 on a quarterly basis with the FCC.

Other Expenses

Section	Question	Response
AM Pattern Disturbance	Is an Impact Study needed?	No
	Is Remediation needed?	No
Facility Expenses	Name	N/A
	Other Distributed Transmission System Expenses Not listed	N/A
	Name	N/A
	Is Notification of a Medical Facility required as a result of DTV broadcasting?	Yes
Permit and Filing Costs	Local Zoning	No
	Non-zoning permits	No
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	No
	FCC Special Temporary Authority Application	No
Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
	Does this relocation require Equipment Storage?	Yes
	Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	No
	Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses	Other Expenses Not Listed Information not provided.
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Cost Information

Transmitters

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Transmitter HPTV-PRLX-U18	\$1,164,029.00	\$1,114,014.00		\$1,067,264.29	
Coolant	<i>\$2,000.00</i>	\$2,000.00	The coolant used for the transmitter heat exchanger is not included in the transmitter price. Price is for two cabinets.	\$1,568.12	N/A
CIF Mask Filter	<i>\$73,735.00</i>	\$73,735.00	Constant Impedance mask Filter. Current mask filter is a CIF.	\$73,735.00	N/A
Motorized Switch	<i>\$13,525.00</i>	\$13,525.00	Electric actuated switch to switch between transmitter, load and antenna. Current transmitter has this capability but switch cannot be moved as it is in pre-repack service.	\$13,525.00	N/A

Site Design and Survey	\$15,300.00	\$15,300.00	Incorporates all aspects of the transmitter room design, including power distribution requirements, equipment placement, RF system layout, plumbing, and remote control.	\$15,300.00	N/A
Bag Filters	\$13,950.00	\$13,950.00	Bag type water filtration for each heat exchanger system. Current pre-repack cooling system has this filtering.	\$6,975.00	N/A
Magic Tee Combiner	\$38,220.00	\$38,220.00	Used to combine two transmitter cabinets into one. Current pre-repack facility has this but it is in full time use and for the pre-repack channel.	\$38,220.00	N/A
Remote Control Interface	\$2,205.00	\$2,205.00	License required to interface transmitter into current remote control system	N/A	N/A
Rigid Coax Line	\$4,144.00	\$4,144.00	Rigid interconnection coax lines from transmitter to filter to antenna switch.	N/A	N/A

Other Electrical Service: Electrical contractor to connect transmitter into existing electrical panel and wire heat exchanger into transmitter. Includes material and labor.	\$28,400.00	\$28,400.00	Electrical contractor to connect transmitter into existing electrical panel and wire heat exchanger into transmitter. Includes material and labor to connect two cabinets. See attached quote per cabinet.	\$14,890.00	N/A
Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$24,300.00	N/A	\$4,816.17	N/A
UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW	\$947,000.00	\$898,235.00	Please see Estimated Cost Justification WWPB-110-1st Primary Transmitter - UHF Liquid Cooled Solid State, 21-31 kW v0	\$898,235.00	N/A
Sub-total	\$1,164,029.00	\$1,114,014.00	N/A	\$1,067,264.29	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information	
Description	File Name
Coolant	<p>Component Description: 55 Gallon Drum</p> <p>Amount: \$1,568.12</p>

CIF Mask Filter	<table> <tr> <td data-bbox="707 98 1114 322">Component Description:</td><td data-bbox="1114 98 1426 322">WWPB-110-1st Primary Transmitter - CIF Mask Filter</td></tr> <tr> <td data-bbox="707 322 1114 367">Amount:</td><td data-bbox="1114 322 1426 367">\$33,180.75</td></tr> <tr> <td data-bbox="707 456 1114 680">Component Description:</td><td data-bbox="1114 456 1426 680">WWPB-110-1st Primary Transmitter - CIF Mask Filter</td></tr> <tr> <td data-bbox="707 680 1114 725">Amount:</td><td data-bbox="1114 680 1426 725">\$3,686.75</td></tr> <tr> <td data-bbox="707 770 1114 860">Component Description:</td><td data-bbox="1114 770 1426 860">CIF Mask Filter</td></tr> <tr> <td data-bbox="707 860 1114 904">Amount:</td><td data-bbox="1114 860 1426 904">\$36,867.50</td></tr> </table>	Component Description:	WWPB-110-1st Primary Transmitter - CIF Mask Filter	Amount:	\$33,180.75	Component Description:	WWPB-110-1st Primary Transmitter - CIF Mask Filter	Amount:	\$3,686.75	Component Description:	CIF Mask Filter	Amount:	\$36,867.50
Component Description:	WWPB-110-1st Primary Transmitter - CIF Mask Filter												
Amount:	\$33,180.75												
Component Description:	WWPB-110-1st Primary Transmitter - CIF Mask Filter												
Amount:	\$3,686.75												
Component Description:	CIF Mask Filter												
Amount:	\$36,867.50												
Motorized Switch	<table> <tr> <td data-bbox="707 904 1114 1173">Component Description:</td><td data-bbox="1114 904 1426 1173">WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch</td></tr> <tr> <td data-bbox="707 1173 1114 1218">Amount:</td><td data-bbox="1114 1173 1426 1218">\$6,086.25</td></tr> <tr> <td data-bbox="707 1308 1114 1397">Component Description:</td><td data-bbox="1114 1308 1426 1397">Motorized Switch</td></tr> <tr> <td data-bbox="707 1397 1114 1442">Amount:</td><td data-bbox="1114 1397 1426 1442">\$6,762.50</td></tr> <tr> <td data-bbox="707 1487 1114 1688">Component Description:</td><td data-bbox="1114 1487 1426 1688">WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch</td></tr> <tr> <td data-bbox="707 1688 1114 1733">Amount:</td><td data-bbox="1114 1688 1426 1733">\$676.25</td></tr> </table>	Component Description:	WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch	Amount:	\$6,086.25	Component Description:	Motorized Switch	Amount:	\$6,762.50	Component Description:	WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch	Amount:	\$676.25
Component Description:	WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch												
Amount:	\$6,086.25												
Component Description:	Motorized Switch												
Amount:	\$6,762.50												
Component Description:	WWPB-110-1st Primary Transmitter - Motorized Coaxial Switch												
Amount:	\$676.25												

Site Design and Survey	Component Description:	SYSTEM DESIGN SERVICES
	Amount:	\$15,300.00
	Component Description:	Site Survey for FCC repacking
	Amount:	\$2,150.55
Bag Filters	Component Description:	WWPB-110-1st Primary Transmitter - Bag Filters
	Amount:	\$3,138.75
	Component Description:	WWPB-110-1st Primary Transmitter - Bag Filters
	Amount:	\$348.75
	Component Description:	Bag Filters
	Amount:	\$3,487.50

Magic Tee Combiner	Component Description: Magic Tee Amount: \$19,110.00
	Component Description: WWPB-110-1st Primary Transmitter - Magic Tee Combiner Amount: \$1,911.00
	Component Description: WWPB-110-1st Primary Transmitter - Magic Tee Combiner Amount: \$17,199.00
Remote Control Interface	Information not provided.
Rigid Coax Line	Information not provided.
Other Electrical Service: Electrical contractor to connect transmitter into existing electrical panel and wire heat exchanger into transmitter. Includes material and labor.	Component Description: Total Proposal: 2020-07 R15P0600194 Amount: \$14,890.00
Transformer 3 phase/480v - 150 KVA	Component Description: Transformers Amount: \$4,816.17

UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW		
	Component Description:	PARALLAX - 30kw RMS, ATSC Digital UHF Liquid Cooled Transmitter
	Amount:	\$44,911.75
	Component Description:	TV Transmitter Installation
	Amount:	\$449,117.50
	Component Description:	Parallax 30kw RMS, ATSC Digital UHF Liquid Cooled Transmitter
	Amount:	\$404,205.75

Cost Information

Antennas

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Antenna TUA-P4-4 /10M-1-R SM	\$80,115.00	\$69,760.00		\$69,760.00	
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$13,125.00	Per WWPB Dielectric quote 700219CMZ-1	\$13,125.00	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,400.00	N/A
UHF “ Broadband Panel, Side Mount Auxiliary /Interim, 30 horizontally polarized	\$50,235.00	\$50,235.00	see Estimated Cost Justification WWPB-280-Interim Antenna - UHF Broadband Panel, Side Mount, H-POL v0	\$50,235.00	N/A
Primary Antenna TFU-25JTH /VP-R 4C150	\$305,800.00	\$234,351.00		\$212,726.00	
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,400.00	N/A

Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	\$9,570.00	\$8,378.00	Per Dielectric Quote 700093CMZ-6	\$8,378.00	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	\$289,500.00	\$219,573.00	Per Dielectric Quote 700093CMZ-6	\$197,948.00	N/A
Sub-total	\$385,915.00	\$304,111.00	N/A	\$282,486.00	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information	
Description	File Name

Side mount brackets for high power antennas (if not included in antenna base cost)

Component Description:

WWPB-280-
Interim Antenna -
Side Mount
Brackets for High
Power Antenna

Amount:

\$232.32

Component Description:

WWPB-280-
Interim Antenna -
Side Mount
Brackets for High
Power Antenna

Amount:

\$5,906.25

Component Description:

SIDE MOUNT
BRACKETS FOR
TAPERED
TOWER WWPB

Amount:

\$1,080.18

Component Description:

WWPB-280-
Interim Antenna -
Side Mount
Brackets for High
Power Antenna

Amount:

\$5,906.25

Sweep test of existing antenna	Component Description:	WWPB-280-Interim Antenna - Sweep Test
	Amount:	\$640.00
	Component Description:	Sweep Test
	Amount:	\$2,880.00
	Component Description:	WWPB-280-Interim Antenna - Sweep Test
	Amount:	\$2,880.00
UHF 30" Broadband Panel, Side Mount Auxiliary/Interim, 30 horizontally polarized	Component Description:	INCLUDES ONE FIELD ENGINEER ON-SITE FOR ONE DAY
	Amount:	\$4,600.50
	Component Description:	WWPB-280-Interim Antenna - UHF Broadband Panel, Side Mount, H-POL
	Amount:	\$4,230.00
	Component Description:	UHF - LOW POWER SIDE MOUNT
	Amount:	\$20,702.25
	Component Description:	UHF - Low power side mount
	Amount:	\$20,702.25

Sweep test of existing antenna	<div> Component Description: WWPB-210-Primary Antenna - Sweep Test </div> <div> Amount: \$2,880.00 </div>
	<div> Component Description: WWPB-210-Primary Antenna - Sweep Test </div> <div> Amount: \$2,880.00 </div>
	<div> Component Description: WWPB-210-Primary Antenna - Sweep Test </div> <div> Amount: \$640.00 </div>
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	<div> Component Description: WWPB-210-Primary Antenna - Elbow Complex, 4 1/16" </div> <div> Amount: \$837.80 </div>
	<div> Component Description: WWPB-210-Primary Antenna - Elbow Complex, 4 1/16" </div> <div> Amount: \$3,770.10 </div>
	<div> Component Description: WWPB-210-Primary Antenna - Elbow Complex, 4 1/16" </div> <div> Amount: \$3,770.10 </div>

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	Component Description:		OTHER
	Amount:		\$829.62
	Component Description:		UHF - High Power Top Mount
	Amount:		\$86,151.60
	Component Description:		UHF - High Power top mount
	Amount:		\$86,151.60
	Component Description:		UHF - High Power Top Mount
	Amount:		\$18,315.18
	Component Description:		Per VTS Proposal 20046MD- FCC Repack Phase 9 WWPB
	Amount:		\$6,500.00

Cost
Information

Transmission Line

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Transmission Line	\$16,500.00	\$12,602.36		\$12,556.73	
Flexible Air Transmission Line - dielectric, 1 5 /8"	\$16,500.00	\$12,602.36	N/A	\$12,556.73	N/A
Primary Transmission Line	\$58,220.00	\$60,847.44		\$60,847.43	
Rigid Transmission Line - copper, 4 1 /16"	\$58,220.00	\$60,847.44	see Estimated Cost Justification WWPB-310-Primary Transmission Line - 4 1_16 Rigid Copper v1	\$60,847.43	N/A
Sub-total	\$74,720.00	\$73,449.80	N/A	\$73,404.16	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information Description	File Name
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Flexible Air Transmission Line - dielectric, 1 5/8"	Component Description:	WWPB-380-Interim Transmission Line - 1 5/8" Flexible Air Dielectric
	Amount:	\$927.17
	Component Description:	OTHER
	Amount:	\$3,285.00
	Component Description:	WWPB-380-Interim Transmission Line - 1 5/8" Flexible Air Dielectric
	Amount:	\$4,172.28
	Component Description:	WWPB-380-Interim Transmission Line - 1 5/8" Flexible Air Dielectric
	Amount:	\$4,172.28
Rigid Transmission Line - copper, 4 1/16"	Component Description:	TRANSMISSION LINE
	Amount:	\$2,730.00
	Component Description:	Freight and Shipping
	Amount:	\$47.48
	Component Description:	WWPB-310-Primary Transmission Line - 4 1/16" Rigid Copper
	Amount:	\$24,187.90

Component Description:	EIA LENGTH 15' TO 20' FIXED FLG
Amount:	\$1,365.00

Component Description:	WWPB-310-Primary Transmission Line - 4 1/16" Rigid Copper
Amount:	\$1,280.09

Component Description:	WWPB-310-Primary Transmission Line - 4 1/16"" Rigid Copper
Amount:	\$24,187.90

Component Description:	Flange 4-50 MECH FIELD UNFL TL
Amount:	\$946.66

Component Description:	Rigid Transmission Line - Copper
Amount:	\$4,965.59

Component Description:	ELBOW 4-50 EIA 6.00 X 12.00 CU REI
Amount:	\$5,772.00

Component Description:	FREIGHT AND SHIPPING
Amount:	\$330.40

Cost
Information

Tower Equipment and Rigging Costs

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower TOWER	\$254,800.00	\$483,054.00		\$80,260.00	
Short Tower (less than 500')	\$84,200.00	\$288,362.00	See attached tower quote.	\$66,260.00	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$180,692.00	See attached tower quote.	N/A	N/A
Structural engineering tower load study for well documented tower	\$12,600.00	\$14,000.00	see Estimated Cost Justification WWPB-410- Existing Primary Tower - Tower Load Study, Documented Tower v0	\$14,000.00	N/A
Sub-total	\$254,800.00	\$483,054.00	N/A	\$80,260.00	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information	
Description	File Name

Short Tower (less than 500')	Component Description: Antenna and Line Replacement Amount: \$41,200.00
	Component Description: Enlarge top plate hole for new antenna input at WWPB Clearspring - Total Contract \$116,000 Line Item F Amount: \$13,000.00
	Component Description: Dialight Beacon (used) Amount: \$1,760.00
	Component Description: Per VTS Proposal 19148MD Rev 1 Antenna & Line Replacement - 10% upon award of contract \$103,000 Amount: \$10,300.00
Minor tower reinforcement /modifications	Information not provided.

Structural engineering tower load study for well documented tower		
	Component Description:	STNLSA STNL
	Amount:	Structural Analysis \$4,500.00
	Component Description:	STNLSA STNL
	Amount:	Structural Analysis \$4,500.00
	Component Description:	Structural analysis hagerstown
	Amount:	\$2,500.00
	Component Description:	Structural analysis Hagerstown WWPB Deposit
	Amount:	\$2,500.00

Cost Information

Outside Professional Services

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	\$122,645.00	\$116,265.25		\$61,887.30	
Project management of the transition	\$55,300.00	\$56,700.25	The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time.	\$56,700.25	The estimated cost has been adjusted to include invoice submitted for reimbursement at this time.
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	\$2,105.00	\$1,041.25	Please see WWPB Attorney - Construction Permit Application (Aux) Budget Revision Justification Letter	\$0.00	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$3,680.00	\$1,763.75	Please see The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time.	\$892.50	Please see submitted invoice

Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$510.00	The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time.	\$510.00	invoice received
Progress Reporting	\$35,000.00	\$35,000.00	Prepare and file 10 required progress reports on FCC Form 2100, Schedule 387 on a quarterly basis with the FCC.	\$521.50	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	\$635.50	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A

Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$2,150.55	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	\$477.00	N/A
Sub-total	\$122,645.00	\$116,265.25	N/A	\$61,887.30	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information	
Description	File Name
Project management of the transition	Component Description: Project Management
	Amount: \$3,660.05
	Component Description: Project Management
	Amount: \$6,425.55
	Component Description: Project Management
	Amount: \$3,240.85

Component Description:	Project Management
Amount:	\$3,551.15

Component Description:	Project Management
Amount:	\$9,345.25

Component Description:	Project Management
Amount:	\$2,122.85

Component Description:	Project Management
Amount:	\$66.20

Component Description:	Project Management
Amount:	\$2,734.65

Component Description:	Project Management
Amount:	\$247.35

Component Description:	Project Management
Amount:	\$3,656.60

Component Description:	Project Management
Amount:	\$1,801.80

Component Description:	Project Management
Amount:	\$2,797.80

	Component Description:	Project Management
	Amount:	\$2,797.80
	Component Description:	Project Management
	Amount:	\$4,621.40
	Component Description:	Project Management
	Amount:	\$616.65
	Component Description:	Project Management
	Amount:	\$8,889.10
	Component Description:	Project Management
	Amount:	\$2,923.00
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	Component Description:	WMPB-550-Attorney - Construction Permit Application (Aux)
	Amount:	\$1,041.25

Attorney Fees - Prepare and File request for Special Temporary Authorization	<div> Component Description: Review WWPB STA to operate with 1/2 power </div> <div> Amount: \$552.50 </div>
	<div> Component Description: Television Repacking Services - WWPB </div> <div> Amount: \$871.25 </div>
	<div> Component Description: WWPB-550-Attorney - STA </div> <div> Amount: \$340.00 </div>
Attorney Fees - Negotiation of lease and other matters for shared locations	<div> Component Description: Television Repacking Services </div> <div> Amount: \$85.00 </div>
	<div> Component Description: WWPB-550-Attorney-Negotiate Lease and Other Matters </div> <div> Amount: \$42.50 </div>
	<div> Component Description: Check status of transition for WWPB </div> <div> Amount: \$170.00 </div>
	<div> Component Description: Television Repacking Services </div> <div> Amount: \$212.50 </div>

Progress Reporting

Component Description: Legal fees for
Progress
Reporting for
Repacking Project
Amount: \$79.50

Component Description: Legal fees for
Progress
Reporting for
Repacking Project
Amount: \$104.50

Component Description: Professional
Services
Amount: \$42.50

Component Description: Legal fees for
Progress
Reporting for
Repacking Project
Amount: \$104.50

Component Description: Legal fees for
Progress
Reporting for
Repacking Project
Amount: \$159.00

Component Description: Legal fees for
Progress
Reporting for
Repacking Project
Amount: \$31.50

<p>Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application</p>	<table> <tr> <td data-bbox="713 174 1023 210">Component Description:</td><td data-bbox="1157 174 1372 327">WWPB-550-Attorney - License to Cover Application (Main)</td></tr> <tr> <td data-bbox="713 338 826 367">Amount:</td><td data-bbox="1157 338 1254 367">\$467.50</td></tr> <tr> <td data-bbox="713 477 1023 512">Component Description:</td><td data-bbox="1157 477 1337 629">Legal fees associated with the repacking project</td></tr> <tr> <td data-bbox="713 636 826 665">Amount:</td><td data-bbox="1157 636 1254 665">\$168.00</td></tr> </table>	Component Description:	WWPB-550-Attorney - License to Cover Application (Main)	Amount:	\$467.50	Component Description:	Legal fees associated with the repacking project	Amount:	\$168.00
Component Description:	WWPB-550-Attorney - License to Cover Application (Main)								
Amount:	\$467.50								
Component Description:	Legal fees associated with the repacking project								
Amount:	\$168.00								
<p>Prepare engineering section of FCC Form 2100 (main), Construction Permit Application</p>	<p>Information not provided.</p>								
<p>Prepare engineering section of FCC Form 2100 (main), License to Cover Application</p>	<p>Information not provided.</p>								
<p>Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application</p>	<p>Information not provided.</p>								
<p>Perform engineering study for new channel assignment and antenna development</p>	<table> <tr> <td data-bbox="713 1346 1023 1382">Component Description:</td><td data-bbox="1157 1346 1372 1738">engineering study for site survey - Please note, there are several invoices uploaded, each one has additional information to support the questions asked</td></tr> <tr> <td data-bbox="713 1749 826 1778">Amount:</td><td data-bbox="1157 1749 1275 1778">\$2,150.55</td></tr> </table>	Component Description:	engineering study for site survey - Please note, there are several invoices uploaded, each one has additional information to support the questions asked	Amount:	\$2,150.55				
Component Description:	engineering study for site survey - Please note, there are several invoices uploaded, each one has additional information to support the questions asked								
Amount:	\$2,150.55								

Prepare and or review
reimbursement form

Component Description:

items that are
FCC related for
Hagerstown
WWPB

Amount:

\$56.25

Component Description:

There are other
charges on this
invoice that either
relate to other
locations or do not
relate to the FCC
repacking.

Amount:

\$285.00

Component Description:

see attached
spreadsheet for
charge. Additional
items on invoice
for other locations
as well some
items not related
to the fcc
repacking.

Amount:

\$135.75

Cost Information

Other Expenses

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Other Expenses	\$61,450.00	\$56,900.00		\$17,618.54	
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$20,000.00</i>	\$20,000.00	Applicant will be required to dispose of the current transmission line and transmitter and heavy oil filled high voltage power supplies. These cannot be disposed of in a typical landfill.	\$0.00	N/A
MVPD Notification of Channel Change	<i>\$1,000.00</i>	\$1,000.00	Notification will need to be made to MVPD's as required. Applicant to explore using an outside firm to determine which facilities will need to be notified and send the appropriate notification letters.	N/A	N/A

Equipment Storage	\$4,640.00	\$4,640.00	Station may receive antenna and transmission line prior to tower crew availability. No on-site storage is available. Obtained estimate from manufacturer for 60 days of storage.	\$4,120.00	N/A
Equipment Delivery and Handling Charges	\$24,260.00	\$24,260.00	See attached transmitter quote for shipping and unloading options. Estimate \$10,000 for shipping of antenna and line.	\$8,048.54	N/A
DTV Medical Facility Notification	\$11,550.00	\$7,000.00	N/A	\$5,450.00	N/A
Sub-total	\$61,450.00	\$56,900.00	N/A	\$17,618.54	N/A
Total for all systems	\$2,063,559.00	\$2,147,794.05	N/A	\$1,582,920.29	N/A

Components

Actual Information	
Description	File Name
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.

MVPD Notification of Channel Change	Information not provided.	
Equipment Storage	Component Description: Amount:	FREIGHT AND SHIPPING \$4,120.00
Equipment Delivery and Handling Charges	Component Description: Amount:	WWPB-610-Equipment Delivery and Handling \$6,232.05
	Component Description: Amount:	FREIGHT AND SHIPPING \$817.49
	Component Description: Amount:	Truck rental \$196.26
	Component Description: Amount:	FREIGHT AND SHIPPING \$802.74
DTV Medical Facility Notification	Component Description: Amount:	Notification Mailing Complete per FCC repack \$1,200.00
	Component Description: Amount:	Medical Notification Mailing \$4,250.00

**Cost
Information**

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$2,063,559.00	\$2,147,794.05	\$1,582,920.29

Reimbursement Status

Question	Response
The facility has ceased operating on its pre-auction channel.	Yes
Construction of final facilities or all necessary modifications are complete.	No
All receipts for reimbursement have been submitted no further costs are expected to be incurred. Note this will lock the Form 399 from further editing and begin close-out procedures with the Fund Administrator.	No

Certification	Section	Question	Response
	Submission of Estimated Expenses Statements	<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), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.</p>	
		<ol style="list-style-type: none"> 1. The Authorized Person signing below certifies that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount. 	

4. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (broadcasters) or to continue to carry the signal of a broadcaster that changes channels (MVPD).
5. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
6. The above-named entity certifies that it will maintain and provide to the Commission detailed records, including receipts, of all costs eligible for reimbursement actually incurred.
7. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.

<p>8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.</p>	
<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p>Carl R Wolfe <i>Director, Transmission and Distribution</i></p> <p>11/19/2020</p>

Certification	Section	Question	Response
	Submission of Actual Cost Documentation Statements	<p>WILLFUL FALSE, FRAUDULENT, OR FICTITIOUS 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), AND ANY FALSE AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).</p>	
		<ol style="list-style-type: none"> 1. The Authorized Person signing below certifies and represents that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct. 3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 	

4. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.
5. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (full power and Class A stations) and/or otherwise modify a television station's facility as a result of the spectrum repack (LPTV/TV Translator stations); or to minimize service disruption resulting from a repacked television station (FM stations); or to continue to carry the signal of a broadcaster that changes channels (MVPD) .
6. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
7. The above-named entity certifies that the cost information /documents submitted reflect costs actually incurred.

<p>8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.</p> <p>9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.</p>	
<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p>Carl R Wolfe <i>Director, Transmission and Distribution</i></p> <p>11/19/2020</p>

Attachments