



(REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility **13989** | Service: **DTV** | Call **WAVE** | Channel: **36 (UHF)** |  
ID: | Sign:  
File **0000025187**  
Number:  
FRN: **0018223693** | Date **09/30**  
Submitted: **/2020**

## Applicant Information

### Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
<b>GRAY TELEVISION LICENSEE, LLC</b> Doing Business As: WAVE TV	4370 PEACHTREE ROAD, NE ATLANTA, GA 30319 United States	+1 (404) 504-9828	robert. folliard@gray. tv	Limited Liability Company

## 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
The Preparer is same as the reimbursement contact.			

## Broadcaster Information and Transition Plan

Question	Response
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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.	Yes
Briefly describe transition plan	Install interim antenna/ Line Remove top mounted antenna and install new antenna. Connect to existing dual broadband lines Install new main and backup transmitters. Combiner, Line, Antenna and tower systems cost divided 50% with WLKY

## Transmitters

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

**Auxiliary  
Transmitter****Add Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Emergency Backup
	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
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	Ranger
	Year	2009
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	1.1 kW

**Auxiliary  
Transmitter****New Transmitter Costs**

Section	Question	Response
New Transmitter	Use	Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	UAXTE-2R 37
	Transmitter Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power capacity	1.2 kW
	Justification for New Transmitter	Existing transmitter can not be retuned EOL letter attached

**Auxiliary  
Transmitter****Other Transmitter Costs**

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes

	Description	Electrical drawings and other electrical work required for Auxiliary transmitter operation
<b>HVAC Service</b>	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
<b>Transmitter Building Addition/Modification or Leasehold Improvement</b>	Does the Transmitter Building require an addition, modification, other leasehold improvement?	No
	Size	N/A
<b>Channel 14 Costs</b>	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

**Auxiliary  
Transmitter**

**Other Transmitter Cost Not Listed**

Information not provided.

**Primary  
Transmitter**

**Existing Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	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
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	Sigma
	Year	2003
	Type	Inductive Output Tube
	IOT Power Type	Single
	Power Capacity	30 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	ULXTE-50
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	30.05 kW
	Justification for New Transmitter	Existing transmitter can not be retuned Headroom analysis attached

**Primary  
Transmitter**

**Other Transmitter Costs**

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes

	Description	Electrical drawings and other electrical work required for Primary transmitter operation
<b>HVAC Service</b>	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
<b>Transmitter Building Addition/Modification or Leasehold Improvement</b>	Does the Transmitter Building require an addition, modification, other leasehold improvement?	No
	Size	N/A
<b>Channel 14 Costs</b>	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
Transmitter Installation	Primary Transmitter Installation



**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?	Yes
	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	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	2
	Number of Panels	51
	Design power capacity in use	50.0 %
	Lower Limit	545.00 MHz
	Upper Limit	695.00 MHz
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	1000.0 kW

Manufacturer	
Model	ABBP14H4- HTOC5-26 /51
Year	2003

**Facility ID's and Call Signs of  
all stations with whom the  
antenna is shared.**

Facility ID	Call Sign
53939	WLKY

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?	Yes
	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	Broadband Panel
	Number of Stations Supported	2
	Number of Panels/Bays	14
	Lower Limit	470.00 MHz
	Upper Limit	605.00 MHz
	Design power capacity in use	50.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power) .....	890.0 kW
	Manufacturer	

Model	TUM30-AP-S4-14/56H-R-2-T
Year	2019
Justification for New Antenna	Existing antenna can not be retuned Sweep data and ERI response attached

## Primary Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	2
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	Yes
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Broadband
	Feed Line Size	7 3/16 inches inches
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for a high power antenna?	
<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No

<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes
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**Enter a list of RF channel numbers.**

RF Channel Number
14
36

**Primary  
Antenna**

**Other Antenna Cost Not Listed**  
Information not provided.

**Interim  
Antenna**

**New Antenna Costs**

Section	Question	Response
<b>New Antenna Description</b>	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	Yes
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
<b>New Antenna Manufacturer and Type</b>	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Slot
	Number of Stations Supported	2
	Number of Panels/Bays	24
	Lower Limit	470.00 MHz
	Upper Limit	680.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power) .....	680.0 kW
	Manufacturer	
	Model	TFU-WB24
	Year	2019

	Justification for New Antenna	Transition side mount antenna needed to enable removal of existing top mount antenna and installation of new repack channel capable antenna.
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## Interim Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	No
	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
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for an antenna?	No
<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No



<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes
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**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	Utilize Existing
	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?	Yes
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Andrew
	Type	Rigid
	Diameter	7 3/16 inches
	Other Diameter	N/A
	Segment Length	Broadband
	Other Segment Length	N/A
	Number of parallel runs	2
	Length	1000 feet per run

**Facility ID's and Call Signs of all stations with whom the transmission line is shared.**

Facility ID	Call Sign
53939	WLKY

**Primary Transmission Line** **Other Transmission Line Expenses Not Listed**

Name	Description
Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line	Nitrogen required to dry transmission line

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

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	6 1/8 inches
	Segment Length	Broadband
	Other Segment Length	
	Number of parallel runs	1
	Length	950 feet per run
	Justification for New Transmission Line	Interim during new antenna installation

**Interim Transmission Line** **Other Transmission Line Expenses Not Listed**

Name	Description
Interim Transmission Line Other Expenses	Other expenses required for operation of interim transmission line

**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	Leased
	Is this tower consider Complex?	No
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	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	1230057
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	38° 22' 08.4" N-
	Longitude (NAD83)	085° 49' 47.6" W-
	Overall Structure Height	960.95 feet
	Support Structure Height	899.92 feet
	Ground Elevation Above Mean Sea Level (AMSL)	982.93 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	P & B Towers LLC
Date Constructed	03/11/2015

**FM, AM or TV radio  
broadcasters. Facility ID's,  
Call Signs and Services of  
other broadcast stations with  
whom the tower is shared**

Facility ID	Call Sign	Service
53939	WLKY	DTV

## 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?	Yes

**Primary  
Tower**

**Other Tower Expenses Not Listed**  
Information not provided.

**Outside  
Professional Services Costs**

Section	Question	Response
<b>Outside Project Management Services</b>	Do you require outside project management services?	Yes
	Number of Hours	595
	Explanation	Pattern analysis Antenna Spec Transmitter Spec Building drawings Installation Supervision Accounting Internal Legal
<b>Outside RF consulting Engineering Services</b>	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	Yes
	Quantity	1
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A

<b>Attorney and Other Outside Consulting Services</b>	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	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	No
	Address transition timing and coordination issues w/ other stations and wireless providers	No
<b>RF Field Engineering Services</b>	Comprehensive coverage verification via field study	Yes
	RF exposure measurements	No
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A



**Outside Other Professional Services Expenses Not Listed**  
**Professional Services Costs** Services not provided.

## Other Expenses

Section	Question	Response
<b>AM Pattern Disturbance</b>	Is an Impact Study needed?	No
	Is Remediation needed?	No
<b>Facility Expenses</b>	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
<b>Permit and Filing Costs</b>	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
<b>Other Miscellaneous Expenses</b>	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?	Yes
	Does this relocation require MVPD Notification of a Channel Change?	Yes

**Other  
Expenses**

**Other Expenses Not Listed**

Name	Description
Security	Armed security provided by vendor to the equipment shelter site

## 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 ULXTE-50	\$1,049,550.50	\$1,092,662.75		\$980,993.99	
Transmitter Installation	<i>\$37,988.00</i>	\$37,988.00	Please see WAVE Primary Transmitter - Installation Budget Revision Justification Letter	\$37,228.24	N/A
Other Electrical Service: Electrical drawings and other electrical work required for Primary transmitter operation	<i>\$812.50</i>	\$812.50	Please see WAVE Primary Transmitter - Other Electrical Service Budget Revision Justification Letter	N/A	N/A

Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$6,368.46	Per Estimated Cost Justification WAVE-110- 1st Primary Transmitter - 3 Phase, 480 V, 150 KVA Transformer v0 Per GatesAir Quote Q- 73547 (estimates is the quoted amount minus the amount already reimbursed under the primary transmitter category)	\$6,368.46	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW	\$947,000.00	\$1,011,193.79	see Estimated Cost Justification WAVE-110- 1st Primary Transmitter - UHF Liquid Cooled Solid State, 21-31 kW v0	\$937,397.29	N/A
<b>Auxiliary Transmitter UAXTE-2R 37</b>	<b>\$190,562.50</b>	<b>\$121,679.30</b>		<b>\$55,884.20</b>	

Other Electrical Service: Electrical drawings and other electrical work required for Auxiliary transmitter operation	<b>\$812.50</b>	\$812.50	Please see WAVE Auxiliary Transmitter - Other Electrical Service Budget Revision Justification Letter	N/A	N/A
Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$24,300.00	N/A	N/A	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	N/A	N/A
UHF - Air Cooled Solid State Transmitter 1 - 2.5 kW	\$126,000.00	\$60,266.80	Quote attached (GA-00021721)	\$55,884.20	N/A
<b>Sub-total</b>	\$1,240,113.00	\$1,214,342.05	N/A	\$1,036,878.19	N/A
<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A

## Components

Actual Information	
Description	File Name
Transmitter Installation	<p><b>Component Description:</b> Labor, Material and Equipment.</p> <p><b>Amount:</b> \$37,228.24</p>
Other Electrical Service: Electrical drawings and other electrical work required for Primary transmitter operation	Information not provided.

Transformer 3 phase/480v - 150 KVA	<div> <div> <b>Component Description:</b>   WAVE-110-1st  Primary  Transmitter - 3  Phase, 480 V, 300  KVA Transformer </div> <div> <b>Amount:</b>   \$3,883.21 </div> </div> <div> <div> <b>Component Description:</b>   WAVE-110-1st  Primary  Transmitter - 3  Phase, 480 V, 150  KVA Transformer </div> <div> <b>Amount:</b>   \$2,485.25 </div> </div>
Switchgear - industrial 800 amp	Information not provided.

UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW	<b>Component Description:</b> <b>Amount:</b>	ULXTE-40 Transmitter per Quote Q-73547 \$131,575.06
	<b>Component Description:</b> <b>Amount:</b>	Transmitter \$434,479.84
	<b>Component Description:</b> <b>Amount:</b>	Transmitter, Mask Filter Saystem \$210,382.52
	<b>Component Description:</b> <b>Amount:</b>	WAVE-110-1st Primary Transmitter - UHF Liquid Cooled Solid State, 21-31 kW \$2,960.19
	<b>Component Description:</b> <b>Amount:</b>	ULXTE-40 \$70,282.97
	<b>Component Description:</b> <b>Amount:</b>	ULXTE-40 per Quote Q-73547 \$87,716.71
	<b>Component Description:</b> <b>Amount:</b>	Percent of contract amount \$37,228.24
Other Electrical Service: Electrical drawings and other electrical work required for Auxiliary transmitter operation	Information not provided.	
Transformer 3 phase/480v - 150 KVA	Information not provided.	



Switchgear - industrial 800 amp	Information not provided.	
UHF - Air Cooled Solid State Transmitter 1 - 2.5 kW	<b>Component Description:</b> <b>Amount:</b>	Transmitter \$27,229.71
	<b>Component Description:</b> <b>Amount:</b>	UAXTE-2-E Transmitter \$15,501.79
	<b>Component Description:</b> <b>Amount:</b>	UAXTE-2-E \$5,261.08
	<b>Component Description:</b> <b>Amount:</b>	Transmitter, Mask Filter Saystem, Electrical, Installation & Proof \$7,891.62

## 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
<b>Interim Antenna TFU-WB24</b>	<b>\$157,180.00</b>	<b>\$156,850.00</b>		<b>\$6,400.00</b>	
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,400.00	N/A
UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 680 kW input, directional,, horizontally polarized	<i>\$150,450.00</i>	\$150,450.00	Dielectric quote attached	N/A	N/A
<b>Primary Antenna TUM30-AP-S4-14/56H-R-2-T</b>	<b>\$1,001,780.00</b>	<b>\$1,189,820.47</b>		<b>\$378,126.78</b>	
Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	\$16,850.00	\$28,620.00	Please see Dielectric quote 700083CMZ-3	N/A	N/A

Combiner output splitting /switching for dual feed lines, if applicable	\$126,000.00	\$139,350.00	Quote attached	N/A	N/A
New combiner, cost per channel (without antenna)	\$84,200.00	\$495,700.47	Please see Estimated Cost Justification WAVE-210- Primary Antenna - New Combiner v0	\$378,126.78	N/A
UHF - High Power Top Mount (200- 1000 kW), Two Station broadband panel antenna, elliptically or circularly polarized	\$768,000.00	\$519,750.00	Please see WAVE Primary Antenna revised 700083CMZ- 3.pdf	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
<b>Sub-total</b>	\$1,158,960.00	\$1,346,670.47	N/A	\$384,526.78	N/A
<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A

## Components

**Actual Information**  
**Description**

**File Name**

Sweep test of existing antenna	<div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Repack Sweep  \$6,400.00 </div>
UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 680 kW input, directional,, horizontally polarized	Information not provided.
Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	Information not provided.
Combiner output splitting /switching for dual feed lines, if applicable	Information not provided.
New combiner, cost per channel (without antenna)	<div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Combiner RF Accessories  Stage 2,3,5  Services  \$162,690.74 </div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Combiner  \$162,690.74 </div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Combiner  \$52,745.30 </div>
UHF - High Power Top Mount (200-1000 kW), Two Station broadband panel antenna, elliptically or circularly polarized	Information not provided.
Sweep test of existing antenna	Information not provided.

## 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
<b>Interim Transmission Line</b>	<b>\$220,650.00</b>	<b>\$141,561.80</b>		<b>\$2,308.77</b>	
Rigid Transmission Line - copper, 6 1/8" broadband	\$220,400.00	\$141,311.80	Quote attached	\$2,058.77	N/A
Interim Transmission Line Other Expenses	<i>\$250.00</i>	\$250.00	Please see WAVE Interim Transmission Line Other Expenses Budget Revision Justification Letter	\$250.00	N/A
<b>Primary Transmission Line</b>	<b>\$23,086.38</b>	<b>\$23,086.38</b>		<b>\$285.38</b>	
Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line	<i>\$23,086.38</i>	\$23,086.38	see Estimated Cost Justification WAVE-310-Primary Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line v2	\$285.38	Invoices
<b>Sub-total</b>	<b>\$243,736.38</b>	<b>\$164,648.18</b>	N/A	<b>\$2,594.15</b>	N/A

<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A
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## Components

Actual Information	
Description	File Name
Rigid Transmission Line - copper, 6 1/8" broadband	<b>Component Description:</b> RG-223/U 50 OHM COAX-BTACKJEACKE
	<b>Amount:</b> \$1,620.00
	<b>Component Description:</b> Acetylene IND
	<b>Amount:</b> \$173.51
	<b>Component Description:</b> Nitrogen Industrial 200 CGA 580
	<b>Amount:</b> \$163.82
	<b>Component Description:</b> Cylinder Rental (acetylene, nitrogen, oxygen, other)
	<b>Amount:</b> \$36.88
	<b>Component Description:</b> Rent Cyl Ind Large Acetylene
	<b>Amount:</b> \$33.54
	<b>Component Description:</b> Invoice moved to correct budget category.
	<b>Amount:</b> N/A
	<b>Component Description:</b> Rent Cyl Ind Large Acetylene
	<b>Amount:</b> \$31.02

Interim Transmission Line Other Expenses	<div> <b>Component Description:</b> Other         </div> <div> <b>Amount:</b> \$250.00         </div>
Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line	<div> <b>Component Description:</b> Nitrogen Industrial 200         </div> <div> <b>Amount:</b> \$84.43         </div>
	<div> <b>Component Description:</b> WAVE-310-Primary Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line         </div> <div> <b>Amount:</b> \$40.46         </div>
	<div> <b>Component Description:</b> "WAVE-310- Primary Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line-"         </div> <div> <b>Amount:</b> \$63.09         </div>
	<div> <b>Component Description:</b> Rent Cyl Ind Large Nitrogen         </div> <div> <b>Amount:</b> \$70.91         </div>
	<div> <b>Component Description:</b> "WAVE-310- Primary Transmission Line - Other Expenses Not Listed - Nitrogen for Transmission Line"         </div> <div> <b>Amount:</b> \$26.49         </div>

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 GTOWER	\$495,100.00	\$661,776.00		\$465,438.50	
Structural engineering tower load study for well documented tower	\$12,600.00	\$12,000.00	N/A	\$5,662.50	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$150,000.00	N/A	N/A	N/A
Tower Helicopter Lift	<i>\$114,000.00</i>	\$114,000.00	Please see attached Tower King II, Inc. Proposal C-19-010-2	\$114,000.00	N/A
Tall Tower (greater than 500')	\$210,500.00	\$385,776.00	Please See Estimated Cost Justification WAVE-410-Existing Primary Tower - Tower Rigging, Tall Tower v0	\$345,776.00	N/A
Sub-total	\$495,100.00	\$661,776.00	N/A	\$465,438.50	N/A
Total for all systems	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A

Components



Actual Information		
Description	File Name	
Structural engineering tower load study for well documented tower	Component Description:	WAVE-410-Existing Primary Tower - Structural Engineering Tower Load Study
	Amount:	\$162.50
	Component Description:	Tower Service - Mapping of WAVE Tower for Repack
	Amount:	\$5,500.00
	Information not provided.	
	Minor tower reinforcement /modifications	
Tower Helicopter Lift	Component Description:	WAVE-410-Existing Primary Tower - Helicopter Lift-
	Amount:	\$28,450.00
	Component Description:	WAVE-410-Existing Primary Tower - Helicopter Lift-
	Amount:	\$43,500.00
	Component Description:	WAVE-410-Existing Primary Tower - Helicopter Lift
	Amount:	\$42,050.00

Tall Tower (greater than 500')	<b>Component Description:</b> <b>Amount:</b>	Tower Service \$71,550.00
	<b>Component Description:</b>  <b>Amount:</b>	Customer deposit for Repack Interim Antenna Installation Services \$34,925.00
	<b>Component Description:</b>  <b>Amount:</b>	Interim Antenna Installation \$29,851.00
	<b>Component Description:</b> <b>Amount:</b>	Tower Service \$102,950.00
	<b>Component Description:</b> <b>Amount:</b>	Tower service \$106,500.00

## 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
<b>Outside Professional Services</b>	<b>\$207,870.00</b>	<b>\$248,896.00</b>		<b>\$106,057.50</b>	
Project management of the transition	\$94,010.00	\$144,675.00	Widelity Strategic Support Quote	\$98,357.33	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$80,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$3,680.00	\$3,500.00	N/A	N/A	N/A
Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$471.00	Please see WAVE Attorney Other Matters Budget Revision Justification Cover Letter	\$471.00	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	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	\$0.00	N/A
Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	N/A	\$800.00	N/A
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	N/A	\$370.83	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	\$2,950.00	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$3,108.34	N/A
<b>Sub-total</b>	\$207,870.00	\$248,896.00	N/A	\$106,057.50	N/A
<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A

## Components

Actual Information	
Description	File Name
Project management of the transition	

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$48.76

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$2,713.15

<b>Component Description:</b>	Project management
<b>Amount:</b>	\$3,142.70

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$415.80

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,748.75

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$84.70

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,158.70

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$3,158.80

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$5,274.65

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$338.81

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$2,963.45

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$43.63

<b>Component Description:</b>	SYSTEM, WNDU U32 D42 PH1
<b>Amount:</b>	\$110.36

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$3,614.95

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$6,348.90

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,188.25

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,897.00

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$3,176.20

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$2,145.70

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$3,777.30

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$1,965.45

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,222.05

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$87.26

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$110.36

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$4,216.85

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$5,507.15

<b>Component Description:</b>	Project Management
<b>Amount:</b>	\$3,544.40

	<b>Component Description:</b> Project management <b>Amount:</b> \$8,223.05
	<b>Component Description:</b> Project Management <b>Amount:</b> \$6,604.75
	<b>Component Description:</b> Project Management <b>Amount:</b> \$2,678.35
	<b>Component Description:</b> Project Management <b>Amount:</b> \$1,463.00
	<b>Component Description:</b> Repack Engineering <b>Amount:</b> \$795.15
	<b>Component Description:</b> Project Management <b>Amount:</b> \$4,384.10
Comprehensive coverage verification via field study, if needed	Information not provided.
Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.
Attorney Fees - Negotiation of lease and other matters for shared locations	<b>Component Description:</b> Total Professional Services <b>Amount:</b> \$471.00
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Information not provided.



Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	Information not provided.	
Prepare request for Special Temporary Authorization	<b>Component Description:</b>  <b>Amount:</b>	Consulting Engineer \$800.00
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	<b>Component Description:</b>  <b>Amount:</b>	WAVE-530-RF Eng - License To Cover Application (Main) \$120.83
	<b>Component Description:</b>  <b>Amount:</b>	WAVE-530-RF Eng - License To Cover Application \$250.00
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	<b>Component Description:</b>  <b>Amount:</b>	WAVE-530-RF Eng - Construction Permit Application \$700.00
	<b>Component Description:</b>  <b>Amount:</b>	FCC Form 2100 Construction Permit Application \$2,250.00
Perform engineering study for new channel assignment and antenna development	<b>Component Description:</b>  <b>Amount:</b>	Review various materials \$1,200.00

<b>Component Description:</b>	WAVE-530-RF Eng - Engineering Study for New Channel Assignment
<b>Amount:</b>	\$116.67

<b>Component Description:</b>	WAVE-530-RF Eng - Engineering Study for New Channel Assignment
<b>Amount:</b>	\$158.34

<b>Component Description:</b>	Engineering study work for new channel assignment and antenna development
<b>Amount:</b>	\$125.00

<b>Component Description:</b>	Engineering study work for new channel assignment and antenna development;
<b>Amount:</b>	\$250.00

<b>Component Description:</b>	Engineering study work for new channel assignment and antenna development
<b>Amount:</b>	\$1,375.00

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## 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
<b>Other Expenses</b>	<b>\$89,470.37</b>	<b>\$81,670.37</b>		<b>\$31,601.12</b>	
Equipment Delivery and Handling Charges	<i>\$38,772.03</i>	\$38,772.03	see Estimated Cost Justification WAVE-610-Equipment Delivery and Handling v4	\$17,566.95	N/A
Security	<i>\$3,386.26</i>	\$3,386.26	Armed security provided by vendor to the equipment shelter site. Please see multiple invoices.	\$3,386.26	N/A
MVPD Notification of Channel Change	<i>\$0.00</i>	\$0.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	<i>\$2,850.00</i>	\$2,850.00	estimate for on air rescan announcement production. Quote attached	N/A	N/A
Equipment Storage	<i>\$30,500.00</i>	\$30,500.00	Estimate for Dielectric on site antenna storage Dielectric letter attached	\$5,842.20	N/A

Disposal Costs (for equipment and other waste, net of any salvage value)	<b>\$2,412.08</b>	\$2,412.08	see Estimated Cost Justification WAVE-610-Disposal Costs v1	\$1,055.71	N/A
DTV Medical Facility Notification	\$11,550.00	\$3,750.00	Group quote attached	\$3,750.00	N/A
<b>Sub-total</b>	\$89,470.37	\$81,670.37	N/A	\$31,601.12	N/A
<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07	N/A	\$2,027,096.24	N/A

## Components

Actual Information	
Description	File Name
Equipment Delivery and Handling Charges	<p><b>Component Description:</b> 10K 55' CAB SHOOTING BOOM FORKLIFT</p> <p><b>Amount:</b> \$3,380.07</p> <p><b>Component Description:</b> 15' Single Manlift S/P</p> <p><b>Amount:</b> \$914.64</p> <p><b>Component Description:</b> 10K 55' shooting boom forklift</p> <p><b>Amount:</b> \$3,638.06</p> <p><b>Component Description:</b> 1 Waste Container 6 Cu Yd</p> <p><b>Amount:</b> \$700.57</p> <p><b>Component Description:</b> 15' SINGLE MANLIFT S/P</p> <p><b>Amount:</b> \$460.44</p>

	<b>Component Description:</b> 25-26' ELECT SCISSOR NARROW <b>Amount:</b> \$1,188.34
	<b>Component Description:</b> 10K 55' CAB Shooting Boom Forklift <b>Amount:</b> \$4,061.01
	<b>Component Description:</b> Single Manlift <b>Amount:</b> \$1,166.28
	<b>Component Description:</b> 15' Single Manlift S/P <b>Amount:</b> \$1,198.89
	<b>Component Description:</b> 15' SINGLE MANLIFT S/P <b>Amount:</b> \$858.65
Security	<b>Component Description:</b> Security Services <b>Amount:</b> \$1,625.40
	<b>Component Description:</b> Guard Services <b>Amount:</b> \$1,760.86
MVPD Notification of Channel Change	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.

Equipment Storage	<b>Component Description:</b> Sale 40 SC 1-Tripper <b>Amount:</b> \$5,842.20
Disposal Costs (for equipment and other waste, net of any salvage value)	<b>Component Description:</b> 1 Waste Container 8 Cu Yd, 2 Lifts Per Week <b>Amount:</b> \$361.31  <b>Component Description:</b> 1 Waste Container <b>Amount:</b> \$711.08  <b>Component Description:</b> VACUUM FEE WITH NO SOLIDS <b>Amount:</b> \$694.40
DTV Medical Facility Notification	<b>Component Description:</b> Medical Notification Mailing <b>Amount:</b> \$3,750.00

<b>Cost Information</b>	<b>Grand Total</b>		
		<b>Predetermined Cost Estimate</b>	<b>Estimated Cost</b>
			<b>Actual Cost</b>
	<b>Total for all systems</b>	\$3,435,249.75	\$3,718,003.07
			\$2,027,096.24

<b>Reimbursement Status</b>	<b>Question</b>	<b>Response</b>
	The facility has ceased operating on its pre-auction channel.	No
	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"> <li>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.</li> <li>2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> <li>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.</li> </ol>	



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.

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.

I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.

**Robert  
Folliard , III**  
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*Assistant  
Secretary*

09/30/2020

Certification	Section	Question	Response
	Submission of Actual Cost Documentation Statements	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).	
		<ol style="list-style-type: none"> <li>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.</li> <li>2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct.</li> <li>3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> </ol>	

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><b>Robert Folliard , III</b> . <i>Assistant Secretary</i></p> <p>09/30/2020</p>

## Attachments