Approved by OMB (Office of Management and Budget) 3060-1178

Federal Communications Commission

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility ID: **36912** | Service: **DTV** | Call Sign: **WSAZ-TV** | Channel: **22 (UHF)**

File Number: **0000028915**

FRN: **0018223693** | Date Submitted: **02/27/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
GRAY TELEVISION LICENSEE, LLC Doing Business As: GRAY TELEVISION LICENSEE, LLC	Robert Folliard 4370 Peachtree Road Atlanta, GA 30319 United States	+1 (202) 750-1585	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
Samuel Hariton *Widelity, inc.*	4031 University Dr Suite 100 Fairfax, VA 22030 United States	+1 (339) 222-8107	sam.hariton@widelity.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.	Yes
Briefly describe transition plan	WSAZ will be replacing its main transmission line, antenna, and transmitter, its aux antenna. The station will be installing a broadband main antenna and broadband interim antenna to be shared with WQCW. The station will also be installing an interim XMTR

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-Millenium
	Year	2003
	Type	Inductive Output Tube
	IOT Power Type	Three
	Power Capacity	60 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-72
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	47.2 kW
	Justification for New Transmitter	Existing transmitter cannot be retuned

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	500 kVA
	Rigid Conduit and Wiring	Yes
	Size	4 inches
	Length	200.0 feet
	Other Electrical Service	Yes

	Description	The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractors.
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 leashold 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
Ice Bridge Building Interconnect	Ice Bridge for interconnection between buildings
Pad for Heat Exchangers	Pad for Heat Exchangers behind new Building

BGS	Burk Transmitter Remote WSAZ
Basic Site Survey	Basic site survey by GatesAir for planning transmitter(s) installation

Interim Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Interim
	Description of Use	N/A
	Change Type	Purchase
	Manufacturer	
	Model	ULXTE-30
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	19.2 kW
	Justification for New Transmitter	Interim transmitter needed to broadcast during the transition

Interim Transmitter

Other Transmitter Costs

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

	Description	The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractor.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	20 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold 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
Inside RF System	Is an additional interior RF system required to support this interim transmitter?	No

Interim Transmitter

Other Transmitter Cost Not Listed

Name	Description
Tower to interim building ice bridge	Tower to interim building ice bridge

Building Renovation	Renovate OLD building to install Interim facility
Waveguide Switch for Interim	UHF Inside RF System including switching
Site Prep	Site prep for Construction

Antennas

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

Auxiliary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Backup Antenna
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	No
	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)	724.0 kW

Manufacturer	
Model	TFU-20DSC-R04
Year	2002

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Backup Antenna
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	Yes
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	2
	Number of Panels/Bays	2
	Lower Limit	476.00 MHz
	Upper Limit	530.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	546.0 kW
	Manufacturer	

	Model	SBB-24C170
	Year	2017
	Justification for New Antenna	Needed for interim operations

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	2
	Frequencies of channels supported	Upper and lower frequency
	Frequency	476.0 MHz - 530.0 MHz
	Do you need a combiner output splitter /switcher for dual feed lines?	No
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Broadband
	Feed Line Size	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power 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

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Ice Shield	Ice Shield over Coax into old Building for interim

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?	No
	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	Elliptical
	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)	595.0 kW

Manufacturer	
Model	ATW28H3-ETO-23H Trasar
Year	2010

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?	No
	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	64
	Lower Limit	470.00 MHz
	Upper Limit	698.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	640.0 kW
	Manufacturer	
	Model	PEPSIL60D

	Year	2018
	Justification for New Antenna	Main antenna cannot be retuned, combining with WQCW

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	2
	Frequencies of channels supported	Upper and lower frequency
	Frequency	470.0 MHz - 698.0 MHz
	Do you need a combiner output splitter /switcher for dual feed lines?	No
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Broadband
	Feed Line Size	8 3/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No
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.

Transmission Line

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

Auxiliary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Backup
	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	
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	970 feet per run

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

Facility ID	Call Sign
65130	WQCW

Auxiliary Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Auxiliary (Backup)
	Description of Use	Backup and Interim
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	Broadband
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	960 feet per run
	Justification for New Transmission Line	Needed for interim broadcasting

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Sweep Existing Transmission Line	Sweep of existing transmission line to determine viability on new channel(s)

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?	Yes
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1022 feet per run

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

Facility ID	Call Sign
65130	WQCW

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	8 3/16 inches
	Other Diameter	N/A
	Segment Length	Broadband
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1022 feet per run
	Justification for New Transmission Line	The current line will not support the combined RF power for two full power transmitters.

Primary Transmission Line

Other Transmission Line Expenses Not Listed

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?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1035121
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	38° 30' 36.3" N-
	Longitude (NAD83)	082° 13' 09.5" W-
	Overall Structure Height	1029.84 feet
	Support Structure Height	966.20 feet
	Ground Elevation Above Mean Sea Level (AMSL)	1011.14 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	Gray Television Group, Inc.
Date Constructed	10/27/2014

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:	Major 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

Name	Description
Tower Mapping	Mapping of existing tower.

Outside Professional Services Costs

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	900
	Explanation	Strategic Support
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	Yes
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	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
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	Yes
	For Main Facility	Yes

	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	Yes
	FAA Consultation (including preparation of FAA Form 7460)	Yes
	Negotiation of Lease and other Matter for Shared Locations	No
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
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 Services Costs

Other Professional Services Expenses Not Listed

Information not provided.

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	Yes
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	Yes
	FCC Special Temporary Authority Application	Yes
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?	Yes
	Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses

Other Expenses Not Listed

Name	Description
Tree Removal	Removal of Trees for Tagline Rigging
Security	Security for Site 60 Days

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 Cos Justificatic
Interim Transmitter ULXTE-30	**$835,213.05**	**$713,836.59**		**$447,922.66**	
Tower to interim building ice bridge	***$6,917.55***	$6,917.55	See attached Steel Products and Manufacturing quote #003 for Ice Bridge between tower and analog transmitter building.	$4,345.64	N/A
Site Prep	***$10,600.00***	$10,600.00	N/A	N/A	N/A
Waveguide Switch for Interim	***$50,000.00***	$50,000.00	N/A	N/A	N/A
Building Renovation	***$36,889.00***	$36,889.00	N/A	$36,889.00	N/A
Other -- HVAC Service Type: C Size:20 (Other)	***$44,806.50***	$44,806.50	20 ton split system shared cost with WQCW. Please see Maynard C. Smith Construction Quote WSAZ-HVACRev1	$44,806.50	N/A

Other Electrical Service: The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractor.	***$2,000.00***	$2,000.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	$684,000.00	$562,623.54	N/A	$361,881.52	N/A
Primary Transmitter ULXTE-72	**$1,719,944.50**	**$1,396,694.88**		**$909,120.70**	
Other Electrical Service: The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractors.	***$80,000.00***	$80,000.00	Whitt-Meadows quote	$15,970.33	N/A

Basic Site Survey	***$9,000.00***	$9,000.00	See vendor invoice	$8,538.60	N/A
BGS	***$2,838.00***	$2,838.00	See attached BGS quote	N/A	N/A
Pad for Heat Exchangers	***$74,256.50***	$74,256.50	See Maynard C. Smith Construction Co. Revised Quote WSAZ-SOG101rev3. This is half the cost, other half paid by WQCW	$74,256.50	N/A
4" Rigid Conduit and Wiring (Cost per foot)	$20,200.00	$19,200.00	N/A	N/A	N/A
Transformer 3 phase/480v - 500 KVA	$48,400.00	$46,000.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	$1,473,000.00	$1,153,150.38	Please see attached Gatesair Quote 76749, the estimated costs are $1,153,150.38.	$798,105.27	x
Ice Bridge Building Interconnect	***$12,250.00***	$12,250.00	This is half the cost, other half paid by WQCW. Revised quote uploaded.	$12,250.00	N/A
Sub-total	$2,555,157.55	$2,110,531.47	N/A	$1,357,043.36	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name

Tower to interim building ice bridge	**Component Description:** **Amount:**	Quote #08 WSAZ Ice Bridge Expansion $4,345.64
Site Prep	Information not provided.	
Waveguide Switch for Interim	Information not provided.	
Building Renovation	**Component Description:** **Amount:**	Quote # 01. WSAZ Transmitter - Interior Demolition $36,889.00
Other -- HVAC Service Type: C Size:20 (Other)	**Component Description:** **Amount:**	Quote 04: WSAZ transmitter HVAC101Rev1 $44,806.50
Other Electrical Service: The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractor.	Information not provided.	
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	**Component Description:** **Amount:**	Interim Transmitter - UKLTE-30 Transmitter - 70% $361,881.52

Other Electrical Service: The new transmitter will require reconfiguration of the electrical service on site. The electrical work cost has been estimated based on verbal guidance from local electrical contractors.	**Component Description:** **Amount:** **Component Description:** **Amount:** **Component Description:** **Amount:**	Professional services $3,644.00 Demo install new lights underground conduits $5,064.64 Set tranfer switch-stored material, hours labor $7,261.69
Basic Site Survey	**Component Description:** **Amount:**	Field Engineering Fees $8,538.60
BGS	Information not provided.	
Pad for Heat Exchangers	**Component Description:** **Amount:**	Quote #2 WSAZ SOG101Rev5 $74,256.50
4" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	
Transformer 3 phase/480v - 500 KVA	Information not provided.	
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	**Component Description:** **Amount:**	ULXTE-72 Transmitter $798,105.27

Ice Bridge Building Interconnect	**Component Description:**	Quote #03 WSAZ Ice Bridge Rev 3
	Amount:	$12,250.00

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
Primary Antenna PEPSIL60D	**$877,880.00**	**$427,200.00**		**$67,477.20**	
Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)	$18,950.00	$9,000.00	WSAZ's half of the cost	N/A	N/A
New combiner, cost per channel (without antenna)	$84,200.00	$50,000.00	WSAZ's half of the cost	N/A	N/A
UHF - High Power Top Mount (200-1000 kW), Two Station broadband panel antenna, elliptically or circularly polarized	$768,000.00	$365,000.00	WSAZ's half of the cost	$66,517.20	N/A
Sweep test of existing antenna	$6,730.00	$3,200.00	N/A	$960.00	N/A
Auxiliary Antenna SBB-24C170	**$220,375.63**	**$225,194.72**		**$132,343.31**	

Ice Shield	***$16,960.00***	$16,960.00	WSAZ's half of the cost	$10,654.35	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$11,000.00	WSAZ's half of the cost	N/A	N/A
Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	$13,700.00	$6,500.00	WSAZ's half of the cost	N/A	N/A
New combiner, cost per channel (without antenna)	$84,200.00	$111,899.09	WSAZ's half of the cost per quote Q-76353r1	$78,329.36	X
UHF â€“ Broadband Panel, Side Mount Auxiliary /Interim, 546 horizontally polarized	***$75,635.63***	$75,635.63	Per DTVPros quote JEHQ1438. This cost is split 50/50 with WQCW	$41,599.60	N/A
Sweep test of existing antenna	$6,730.00	$3,200.00	WSAZ's half of the cost	$1,760.00	N/A
Sub-total	$1,098,255.63	$652,394.72	N/A	$199,820.51	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name
Elbow complex, broadband, at antenna input, per 8 3 /16. feedline (if needed)	Information not provided.
New combiner, cost per channel (without antenna)	Information not provided.
UHF - High Power Top Mount (200-1000 kW), Two Station broadband panel antenna, elliptically or circularly polarized	**Component Description:** New primary antenna UHF High Power Top Mount (200-1000kW) **Amount:** $66,517.20
Sweep test of existing antenna	**Component Description:** Sweep Test **Amount:** $960.00
Ice Shield	**Component Description:** Ice shield New Auxillary Antenn **Amount:** $10,654.35
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.
Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	Information not provided.
New combiner, cost per channel (without antenna)	**Component Description:** Interim Channel Combiner **Amount:** $78,329.36

UHF â€“ Broadband Panel, Side Mount Auxiliary /Interim, 546 horizontally polarized	**Component Description:** **Amount:** **Component Description:** **Amount:**	UHF - Broadband Panel, Side Mount Aux/Interim Antenna $18,908.91 UHF - BROADBAND PANEL, SIDE MOUNT AUX /INTERIM $22,690.69
Sweep test of existing antenna	**Component Description:** **Amount:** **Component Description:** **Amount:**	WSAZ-Sweep Test New Auxiliary Antenna $800.00 Sweep test New Auxiliary Antenna $960.00

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
Primary Transmission Line	**$407,778.00**	**$193,669.00**		**$44,950.93**	
Rigid Transmission Line - copper, 8 3 /16" broadband	$407,778.00	$193,669.00	WSAZ's half of the cost	$44,950.93	N/A
Auxiliary Transmission Line	**$225,720.00**	**$153,921.02**		**$44,146.87**	
Sweep Existing Transmission Line	***$3,000.00***	$3,000.00	See vendor invoice	$2,643.60	N/A
Rigid Transmission Line - copper, 6 1 /8" broadband	$222,720.00	$150,921.02	WSAZ's half of the cost, per quote	$41,503.27	N/A
Sub-total	$633,498.00	$347,590.02	N/A	$89,097.80	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name	
Rigid Transmission Line - copper, 8 3/16" broadband	**Component Description:** **Amount:**	New Primary Transmission Line $44,950.93

Sweep Existing Transmission Line	**Component Description:** **Amount:**	Sweep test of transmission line and antenna $2,643.60
Rigid Transmission Line - copper, 6 1/8" broadband	**Component Description:** **Amount:** **Component Description:** **Amount:**	New Auxiliary Transmission Line $22,638.15 Rigid Transmission Line - Copper $18,865.12

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	**$661,060.00**	**$629,960.00**		**$43,560.00**	
Structural engineering tower load study for well documented tower	$12,600.00	$13,000.00	Includes state and local taxes; Hodge Proposal 2019-Gray-WSAZ-Geotech-0102-N	$13,000.00	N/A
Tower Mapping	***$16,960.00***	$16,960.00	N/A	$12,110.00	N/A
Major tower reinforcement /modifications	$421,000.00	$400,000.00	N/A	$5,950.00	N/A
Tall Tower (greater than 500')	$210,500.00	$200,000.00	N/A	$12,500.00	N/A
Sub-total	$661,060.00	$629,960.00	N/A	$43,560.00	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name

Structural engineering tower load study for well documented tower	**Component Description:**	Engineering Evaluation, Level 1 Corrosion Risk Analysis
	Amount:	$4,000.00
	Component Description:	GeoTech Survey Foundation Analysis
	Amount:	$9,000.00
Tower Mapping	**Component Description:**	Tower mapping Existing Primary Tower
	Amount:	$4,500.00
	Component Description:	Tower Mapping
	Amount:	$7,610.00
Major tower reinforcement /modifications	**Component Description:**	Phase 1. Provide plan view of the antenna power divider installed withi the WSAZ tower.
	Amount:	$3,450.00
	Component Description:	Install antennas and lines on Existing Primary Tower
	Amount:	$2,500.00

Tall Tower (greater than 500')	**Component Description:**	Professional Engineering Services
	Amount:	$12,500.00
	Component Description:	Install antennas and lines on Existing Primary Tower
	Amount:	$41,056.25

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	**$185,015.00**	**$175,250.00**		**$64,801.35**	
Project management of the transition	$142,200.00	$135,000.00	N/A	$60,317.85	N/A
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	$2,105.00	$2,000.00	N/A	N/A	N/A
ASR modification (prepare FCC Form 854)	$2,105.00	$2,000.00	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 - 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 - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	$4,210.00	$4,000.00	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	$196.50	N/A
Prepare request for Special Temporary Authorization	$2,050.00	$1,500.00	N/A	N/A	N/A
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	$1,580.00	$1,500.00	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

RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	$2,105.00	$2,000.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	$3,155.00	$3,000.00	N/A	$1,862.50	N/A
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$2,424.50	N/A
Address transition timing and coordination issues w/ other stations and wireless	$2,630.00	$2,500.00	N/A	N/A	N/A
Prepare and or review reimbursement form	$2,630.00	$2,500.00	N/A	N/A	N/A
Sub-total	$185,015.00	$175,250.00	N/A	$64,801.35	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name	
Project management of the transition	**Component Description:** **Amount:**	Project management $2,231.90
	Component Description: **Amount:**	Project Management $2,270.10
	Component Description: **Amount:**	Project Mgt $839.75
	Component Description: **Amount:**	Project Management $2,270.60
	Component Description: **Amount:**	Project Management $3,016.15
	Component Description: **Amount:**	Project Management $4,989.45
	Component Description: **Amount:**	Project Management $5,979.40
	Component Description: **Amount:**	Project Mgt $733.30
	Component Description: **Amount:**	Project Mgt $1,326.45

Component Description: Project Management
Amount: $2,285.40

Component Description: Transition Related Project Management Costs
Amount: $1,500.00

Component Description: Project Management
Amount: $2,006.25

Component Description: Project management
Amount: $1,328.55

Component Description: Project Management
Amount: $3,958.55

Component Description: Project Mgt
Amount: $3,488.80

Component Description: Project Management
Amount: $1,968.10

Component Description: Project Management
Amount: $1,930.60

Component Description: Project Mgt
Amount: $28.20

	Component Description: Cost Reconciliation **Amount:** $3,501.45 **Component Description:** Project Management **Amount:** $2,265.25 **Component Description:** Project Management **Amount:** $2,452.40 **Component Description:** Project Mgt **Amount:** $2,942.30 **Component Description:** Project Management **Amount:** $4,329.75 **Component Description:** Project management **Amount:** $2,675.15
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	Information not provided.
ASR modification (prepare FCC Form 854)	Information not provided.
Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Information not provided.

Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	Information not provided.	
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	Complete and file initial repack CP application. $196.50
Prepare request for Special Temporary Authorization	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:** **Component Description:** **Amount:**	RF Consulting Fees $1,487.50 support response to review of reimbursement form 399 provide summaries of additional antenna $375.00

Perform engineering study for new channel assignment and antenna development	**Component Description:** **Amount:**	Perform engineering study for new channel assignment $812.50
	Component Description: **Amount:**	Consulting Engineer $425.00
	Component Description: **Amount:**	Review proposed antenna specifications from additional vendor, discuss vendor and prompt recalculation of gain required TPO. $125.00
	Component Description: **Amount:**	Engineering Study for New Channel Assignment $1,062.00
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
Prepare and or review reimbursement form	Information not provided.	

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	**$185,171.00**	**$176,656.15**		**$15,111.50**	
Security	***$9,000.00***	$9,000.00	Cost shared between stations	N/A	N/A
Tree Removal	***$12,349.00***	$12,349.00	N/A	$12,349.00	Sub-total equals Estimated Cost
MVPD Notification of Channel Change	***$1,272.00***	$1,272.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	***$10,000.00***	$10,000.00	N/A	N/A	N/A
Equipment Storage	***$21,400.00***	$21,400.00	Storage Rates Central Van and Storage quote	N/A	N/A
Equipment Delivery and Handling Charges	***$21,200.00***	$21,200.00	N/A	$2,762.50	N/A

Disposal Costs (for equipment and other waste, net of any salvage value)	***$86,210.00***	$86,210.00	Maynard C. Smith Construction Co., Inc. quote WSAZ Demo Safety Klean Disposal Quote	N/A	N/A
Non-zoning permits	***$11,660.00***	$11,660.00	N/A	N/A	N/A
FCC Filing Fees - Special Temporary Authorization request	$195.00	$190.00	N/A	N/A	N/A
FCC Filing Fees - Form 2100 license to cover application	$335.00	$325.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$3,050.15	N/A	N/A	N/A
Sub-total	$185,171.00	$176,656.15	N/A	$15,111.50	N/A
Total for all systems	$5,318,157.18	$4,092,382.36	N/A	$1,769,434.52	N/A

Components

Actual Information Description	File Name
Security	Information not provided.

Tree Removal	**Component Description:** Trees cut X3 - pin oak - left side of tower **Amount:** $4,452.00 **Component Description:** Clear cut NE corner **Amount:** $1,908.00 **Component Description:** Barker Ridge - clear cut back side of Tower site **Amount:** $5,300.00 **Component Description:** Tree removal - SE corner **Amount:** $689.00
MVPD Notification of Channel Change	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.
Equipment Storage	Information not provided.
Equipment Delivery and Handling Charges	**Component Description:** Rental of a TL642D Telehandler **Amount:** $620.50 **Component Description:** 2073000 TH255 TELEHANDLER **Amount:** $2,142.00
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
Non-zoning permits	Information not provided.

FCC Filing Fees - Special Temporary Authorization request	Information not provided.
FCC Filing Fees - Form 2100 license to cover application	Information not provided.
DTV Medical Facility Notification	Information not provided.

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$5,318,157.18	$4,092,382.36	$1,769,434.52

Reimbursement Status

Question	Response
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	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.	
	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.

	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** *Assistant Secretary* 02/27/2019

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 IMPRISIONMENT (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).	
	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.

	8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 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.	
	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** *Assistant Secretary* 02/27/2019

Attachments