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: **41674** | Service: **DTX** | Call Sign: **WNDU-TV** | Channel: **27 (UHF)**

File Number: **0000028730**

FRN: **0018223693** | Date Submitted: **06/03/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
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*	Samuel Hariton 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.	No
Briefly describe transition plan	The station is replacing both the main and aux antenna systems, transmission lines, and transmitters with new hardware.

Transmitters

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

Auxiliary Transmitter

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	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
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	DCX Gen 1
	Year	1998
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	44 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?	Yes
	Manufacturer	
	Model	HPTV-PARLX-U32
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	55 kW
	Justification for New Transmitter	Current Comark DCX Gen 1 from 1998 is not compatible with repack channel 27 and no available parts due to being discontinued

Auxiliary 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 contractors.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	10 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

Auxiliary Transmitter

Other Transmitter Cost Not Listed

Name	Description
Internal RF System	A new internal RF System is necessary for this Auxiliary Transmitter.

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 Generation 1
	Year	1998
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	49 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-PARLX-U32
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	55 kW
	Justification for New Transmitter	Per manufacturer -- Current Comark DCX Gen 1 from 1998 is not compatible with repack channel 27 and no available parts due to being discontinued

Primary 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 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
Renovation	Necessary interior wall work for transmitter building
Ice shield	Fencing extension for Interim heat exchanger
Site Survey	Basic site survey by GatesAir
Transmitter Remote	Remote controls for transmitter

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
	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	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	1
	Number of Panels	32
	Design power capacity in use	100.0 %
	Lower Limit	638.00 MHz
	Upper Limit	644.00 MHz
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	631.0 kW

Manufacturer	
Model	TUP-04-8-1
Year	1995

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Backup
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	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	1
	Number of Panels/Bays	32
	Lower Limit	548.00 MHz
	Upper Limit	644.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	573.0 kW
	Manufacturer	

Model	TUM-04-8 /32L-R-T-1
Year	2017
Justification for New Antenna	Current Dielectric broadband antenna is discontinued and no longer supported starting in 1997-1998

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	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
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?	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

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Top Plate Adapter	Adapter for top of tower to match the bolt pattern of the antenna

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	Other
	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	Travelling Wave Slot
	ERP: (Effective Radiated Power)	800.0 kW

Manufacturer	
Model	ATW33H3-ETO-42H
Year	2012

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?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	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	Other
	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	Travelling Wave Slot
	ERP: (Effective Radiated Power)	650.0 kW
	Manufacturer	

Model	TFU-31ETT /VP-R 04
Year	2017
Justification for New Antenna	Current ERI antenna single channel on Ch 42, not compatible with repack Ch 27

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	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
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	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?	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

Name	Description
Top Plate Adapter	Adapter for the top of the tower to match the bolt pattern of the new antenna

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?	No
	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	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1040 feet per run

Auxiliary Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Auxiliary (Backup)
	Description of Use	Backup
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	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	1040 feet per run
	Justification for New Transmission Line	Current 19.5' sections are not compatible with Ch 27

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

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	6 1/8 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1035 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	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1035 feet per run
	Justification for New Transmission Line	Current 19.5' sections are not compatible with Ch 27

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

Auxiliary Tower

Existing Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Auxiliary (Backup)
	Description of Use	Backup Tower
	Ownership	Owned
	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	Yes
	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	1027597
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	41° 36' 19.2" N-
	Longitude (NAD83)	086° 12' 45.0" W-
	Overall Structure Height	877.94 feet
	Support Structure Height	839.88 feet

Ground Elevation Above Mean Sea Level (AMSL)	845.13 feet
Structure Type	NTOWER - Multiple Structures
Tower Owner	Gray Television Group, Inc.
Date Constructed	06/15/2006

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
70459	WSND-FM	FM
41675	WNDV-FM	FM

Other Types of Users

Users
Amatuer Radio

Auxiliary 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:	Serious Reinforcements needed

Auxiliary Tower

Tower Rigging Costs

Section	Question	Response

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

Auxiliary Tower

Other Tower Expenses Not Listed

Name	Description
Corrosion analysis and ultrasound measurements	Corrosion analysis and ultrasound measurements of lower 480 feet of auxiliary tower
Level 1 Foundation study	Level 1 Foundation study

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?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	Yes
	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	1027596
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	41° 36' 20.0" N-
	Longitude (NAD83)	086° 12' 46.0" W-
	Overall Structure Height	1007.86 feet
	Support Structure Height	946.84 feet
	Ground Elevation Above Mean Sea Level (AMSL)	845.13 feet
	Structure Type	NTOWER - Multiple Structures
	Tower Owner	Gray Television Group, Inc.

	Date Constructed	01/01/1969

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
41675	WNDV-FM	FM

Other Types of Users

Users
ATF
FBI

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:	Serious 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

Level II Corrosion Risk Assessment	Level II Corrosion Risk Assessment
Level I Corrosion Risk Assessment	Level I Corrosion Risk Assessment

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	2
	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	No
	Quantity	N/A
	NEPA Section 106 environmental review	Yes
	Environmental Assessment	Yes
	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	Yes
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Attorney Fees and Other Matters	Legal Services

Other Expenses

Section	Question	Response
AM Pattern Disturbance	Is an Impact Study needed?	Yes
	Is Remediation needed?	Yes
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	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

Information not provided.

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 Justificati
Primary Transmitter HPTV-PARLX-U32	**$1,887,343.29**	**$1,332,775.29**		**$495,931.43**	
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	$1,788,000.00	$1,233,432.00	Comark quote P#4034WNDU-PARLX-170530	$436,800.88	N/A
Site Survey	***$15,287.30***	$15,287.30	See attached Comark invoices	$15,287.30	N/A
Ice shield	***$2,634.34***	$2,634.34	N/A	N/A	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 contractors.	***$62,381.00***	$62,381.00	N/A	$32,126.75	N/A
Renovation	***$16,050.00***	$16,050.00	N/A	$11,716.50	N/A
Transmitter Remote	***$2,990.65***	$2,990.65	N/A	$0.00	N/A

Auxiliary Transmitter HPTV-PARLX-U32	**$1,968,900.00**	**$1,524,994.00**		**$1,220,114.33**	
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.	***$2,000.00***	$2,000.00	N/A	N/A	N/A
10 Ton system	$38,900.00	$10,950.00	See quote from Ideal Consolidated Inc. for 10 ton system	N/A	N/A
Internal RF System	***$140,000.00***	$140,000.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	$1,788,000.00	$1,372,044.00	Comark quote P#4034WNDU-DCXP2-170530 Comark quote P#4034WNDU-PARLX-170530	$1,220,114.33	N/A
Sub-total	$3,856,243.29	$2,857,769.29	N/A	$1,716,045.76	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information Description	File Name	
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	**Component Description:** **Amount:**	System, WNDU U32 D27 PH2 $436,800.88
Site Survey	**Component Description:** **Amount:**	Site Survey $7,980.00
	Component Description: **Amount:**	Basic Site Survey $7,307.30
Ice shield	Information not provided.	
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:**	Run code compliant power $6,313.00
	Component Description: **Amount:**	Add 1200A neutral per Quote #S21-1018 $25,813.75
Renovation	**Component Description:** **Amount:**	Trane/American Standard Cooling Units $11,716.50
Transmitter Remote	**Component Description:** **Amount:**	Remote control New 1st Primary Transmitter $2,842.77

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.	Information not provided.
10 Ton system	Information not provided.
Internal RF System	Information not provided.
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	**Component Description:** 306 Commercial Chain Link **Amount:** $875.99 **Component Description:** System, WNDU U32 D42 PH1 **Amount:** $742,248.37 **Component Description:** New Auxiliary Transmitter **Amount:** $476,989.97

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 TFU-31ETT /VP-R 04	**$313,550.00**	**$313,688.00**		**$145,424.38**	
UHF - High Power Top Mount One Station antenna elliptically or circularly polarized	***$275,000.00***	$275,000.00	Catalog Cost	$124,145.98	N/A
Top Plate Adapter	***$19,520.00***	$19,520.00	N/A	$10,736.00	N/A
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$12,768.00	JEHQ1248-02	$7,022.40	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$3,520.00	N/A
Auxiliary Antenna TUM-04-8 /32L-R-T-1	**$329,450.00**	**$196,377.50**		**$127,338.01**	

Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	$13,700.00	$12,768.00	N/A	$10,214.40	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$157,689.50	Updated JEHQ1308 & Radome Addition JEHQ1508	$96,387.61	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$5,120.00	N/A
Top Plate Adapter	***$19,520.00***	$19,520.00	N/A	$15,616.00	N/A
Sub-total	$643,000.00	$510,065.50	N/A	$272,762.39	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information Description	File Name

UHF - High Power Top Mount One Station antenna elliptically or circularly polarized	**Component Description:** **Amount:** **Component Description:** **Amount:**	UHF-High Power Top Mount (200-1000KW) $67,715.99 UHF- High Power Top Mount (200-1000KW) $56,429.99
Top Plate Adapter	**Component Description:** **Amount:** **Component Description:** **Amount:**	Top plate adapter, New Primary Antenna $5,856.00 Top Plate Adapter New Primary Antenna $4,880.00
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:** **Component Description:** **Amount:**	Elbow complex, New Primary Antenna $3,830.40 Elbow Complex New Primary Antenna $3,192.00

Sweep test of existing antenna	**Component Description:** **Amount:** **Component Description:** **Amount:**	Sweep Test New Primary Antenna $1,600.00 Sweep test, New Primary Antenna $1,920.00
Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:** **Component Description:** **Amount:** **Component Description:** **Amount:**	Auxiliary/Interim Antenna - Elbow Complex $3,192.00 Auxiliary/Interim Antenna Elbow Complex $3,830.40 Auxiliary/Interim Antenna - Elbow Complex $3,192.00

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	**Component Description:** **Amount:**	New Auxiliary Antenna $30,121.13
	Component Description: **Amount:**	New Auxiliary Antenna $30,121.13
	Component Description: **Amount:**	UHF Broadband Panel Top mount Aux/Interim TV Antenna $36,145.35
Sweep test of existing antenna	**Component Description:** **Amount:**	Auxiliary/Interim Antenna Sweep Test $1,600.00
	Component Description: **Amount:**	Auxiliary/Interim Antenna Sweep Test $1,600.00
	Component Description: **Amount:**	Sweep Test Auxiliary/Interim Antenna $1,920.00

Top Plate Adapter	**Component Description:**	Auxiliary/Interim Antenna Top Plate Adapter
	Amount:	$4,880.00
	Component Description:	Auxiliary/Interim Antenna Top Plate Adapter
	Amount:	$4,880.00
	Component Description:	Auxiliary/Interim Antenna Top Plate Adapter
	Amount:	$5,856.00

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	**$209,070.00**	**$152,101.30**		**$83,655.69**	
Rigid Transmission Line - copper, 6 1/8"	$209,070.00	$152,101.30	N/A	$83,655.69	N/A
Auxiliary Transmission Line	**$241,280.00**	**$190,905.35**		**$151,763.50**	
Rigid Transmission Line - copper, 6 1 /8" broadband	$241,280.00	$190,905.35	N/A	$151,763.50	N/A
Sub-total	$450,350.00	$343,006.65	N/A	$235,419.19	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information Description	File Name
Rigid Transmission Line - copper, 6 1/8"	**Component Description:** New Primary Transmission Line **Amount:** $45,630.38 **Component Description:** New Primary Transmission Line **Amount:** $38,025.31

Rigid Transmission Line - copper, 6 1/8" broadband	**Component Description:**	Auxiliary/Interim Transmission Line
	Amount:	$47,426.09
	Component Description:	Interim Transmission Line
	Amount:	$56,911.32
	Component Description:	Auxiliary/Interim Transmission Line
	Amount:	$47,426.09

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 NTOWER	**$1,280,600.00**	**$1,214,087.50**		**$97,721.25**	
Serious tower reinforcement /modifications	$1,052,000.00	$1,000,000.00	N/A	$86,383.75	N/A
Level II Corrosion Risk Assessment	***$4,750.00***	$4,750.00	N/A	$2,750.00	N/A
Level I Corrosion Risk Assessment	***$750.00***	$750.00	N/A	N/A	N/A
Tall Tower (greater than 500')	$210,500.00	$200,000.00	N/A	N/A	N/A
Structural engineering tower load study for well documented tower	$12,600.00	$8,587.50	N/A	$8,587.50	N/A
Auxiliary Tower NTOWER	**$1,281,650.00**	**$1,214,250.00**		**$309,581.25**	
Tall Tower (greater than 500')	$210,500.00	$200,000.00	N/A	$180,500.00	N/A
Serious tower reinforcement /modifications	$1,052,000.00	$1,000,000.00	N/A	$115,581.25	N/A

Level 1 Foundation study	***$750.00***	$750.00	N/A	$0.00	N/A
Corrosion analysis and ultrasound measurements	***$5,800.00***	$5,800.00	See attached invoice and purchase order 072617TD	$5,800.00	N/A
Structural engineering tower load study for well documented tower	$12,600.00	$7,700.00	Additional official stamped tower analysis required because of the addition of radomes to aux antenna, radomes required to reduce wind loading and meet tower loading.	$7,700.00	N/A
Sub-total	$2,562,250.00	$2,428,337.50	N/A	$407,302.50	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information	
Description	**File Name**

Serious tower reinforcement /modifications	**Component Description:**	Perform sub-surface soil evaluation on towers - Mobilization
	Amount:	$5,696.50
	Component Description:	Tower reinforcement. /Modifications- Primary Tower
	Amount:	$18,761.31
	Component Description:	Perform sub-surface soil evaluation on towers - Laboratory Services
	Amount:	$2,892.00
	Component Description:	Tower reinforcement & design drawings Existing Primary Tower
	Amount:	$2,750.00
	Component Description:	75% costs of Tower Reinforcement /Modification on 945ft Tower (Primary)
	Amount:	$56,283.94

Level II Corrosion Risk Assessment	**Component Description:** **Amount:**	Corrosion inspection and Ultrasound measurements $2,750.00
Level I Corrosion Risk Assessment	Information not provided.	
Tall Tower (greater than 500')	Information not provided.	
Structural engineering tower load study for well documented tower	**Component Description:** **Amount:** **Component Description:** **Amount:** **Component Description:** **Amount:**	Structural Engineering Tower Load study $1,000.00 Take measurements for tower modifications and record elevations $2,137.50 Structural Engineering Tower Load study - Primary Tower $5,450.00

Tall Tower (greater than 500')	**Component Description:** **Amount:**	Aux TWR Rigging, Antenna & Complete Feedline Removal $133,000.00
	Component Description: **Amount:**	AUX TWR Rigging, Antenna & Complete feedline removal $47,500.00
Serious tower reinforcement /modifications	**Component Description:** **Amount:**	75% costs Tower Reinforcement /Modification on 840ft Tower (Auxiliary) $79,771.50
	Component Description: **Amount:**	Tower Reinforcement /Modification of Auxiliary Tower $26,590.50
	Component Description: **Amount:**	Tower Resocket on Level 6 B&C anchor points Auxiliary Tower $6,469.25
	Component Description: **Amount:**	Tower reinforcement & design drawings Existing Auxiliary Tower $2,750.00
Level 1 Foundation study	Information not provided.	

Corrosion analysis and ultrasound measurements	**Component Description:**	Corrosion inspection and Ultrasound measurements - Primary Tower
	Amount:	$2,900.00
	Component Description:	Corrosion inspection and Ultrasound measurements of tower legs in preparation for design and application of reinforcing required for re-pack tower modifications.
	Amount:	$2,900.00
Structural engineering tower load study for well documented tower	**Component Description:**	Structural Analysis
	Amount:	$2,250.00
	Component Description:	Structural Analysis of Auxiliary Tower
	Amount:	$5,450.00

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	**$222,925.00**	**$210,910.00**		**$77,867.20**	
Attorney Fees and Other Matters	***$1,660.00***	$1,660.00	N/A	N/A	N/A
RF Exposure Measurements	$21,050.00	$20,000.00	N/A	N/A	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	$325.00	N/A
ASR modification (prepare FCC Form 854)	$2,105.00	$2,000.00	N/A	N/A	N/A
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	$10,520.00	$10,000.00	N/A	N/A	N/A
NEPA Section 106 environmental review, if needed	$6,310.00	$6,000.00	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	$1,327.50	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	$4,100.00	$3,000.00	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	$800.00	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, License to Cover Application	$1,580.00	$1,500.00	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	$1,625.00	N/A
Project management of the transition	$142,200.00	$135,000.00	N/A	$69,058.20	N/A
Prepare and or review reimbursement form	$2,630.00	$2,500.00	N/A	$1,660.00	N/A
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$2,875.00	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
Sub-total	$222,925.00	$210,910.00	N/A	$77,867.20	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information Description	File Name	
Attorney Fees and Other Matters	Information not provided.	
RF Exposure Measurements	Information not provided.	
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	**Component Description:** **Amount:**	Provide response to FAA project status request $325.00
ASR modification (prepare FCC Form 854)	Information not provided.	
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	Information not provided.	
NEPA Section 106 environmental review, if needed	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	**Component Description:** **Amount:**	Professional Services $1,327.50
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	Complete and file 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, Construction Permit Application	**Component Description:** **Amount:**	Develop final technical parameters for auxiliary antenna $800.00
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, License to Cover Application	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	FCC CP application $1,625.00
Project management of the transition	**Component Description:** **Amount:**	Project Management $28.20

Component Description:	Project management
Amount:	$2,817.65
Component Description:	Project Management
Amount:	$2,022.10
Component Description:	Transition Related Project Management Costs
Amount:	$4,050.00
Component Description:	Project Management
Amount:	$2,668.05
Component Description:	Project Management
Amount:	$2,471.50
Component Description:	Project Management
Amount:	$4,104.40
Component Description:	Project Management
Amount:	$3,752.30
Component Description:	Project Management
Amount:	$2,403.10
Component Description:	Project management
Amount:	$2,471.90

Component Description:	Project managment
Amount:	$1,553.55
Component Description:	Project Management
Amount:	$3,645.85
Component Description:	Project Management
Amount:	$2,411.25
Component Description:	Project Management
Amount:	$3,558.10
Component Description:	Project Management
Amount:	$755.80
Component Description:	Project Management
Amount:	$2,813.80
Component Description:	Project Management
Amount:	$1,813.95
Component Description:	Project Management
Amount:	$3,129.40
Component Description:	Project Management
Amount:	$4,083.75

	Component Description: **Amount:**	Project Management $2,876.70
	Component Description: **Amount:**	Project Management $2,725.85
	Component Description: **Amount:**	Project Management $2,461.65
	Component Description: **Amount:**	Project Management $3,593.55
	Component Description: **Amount:**	Project Management $3,495.95
	Component Description: **Amount:**	Project Management $802.25
	Component Description: **Amount:**	Project Management $2,547.60
Prepare and or review reimbursement form	**Component Description:** **Amount:**	WNDU-TV (FID 41674) South Bend, IN Repack $1,660.00

Perform engineering study for new channel assignment and antenna development	**Component Description:** **Amount:**	Perform engineering study for new channel assignment $1,950.00
	Component Description: **Amount:**	Engineering Study for New Channel Assignment $800.00
	Component Description: **Amount:**	Review technical details of alternate antenna proposal from RFS regarding top-mount on repack Ch-27. $125.00
Address transition timing and coordination issues w/ other stations and wireless	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 Cos Justificati
Other Expenses	**$112,822.00**	**$103,577.00**		**$17,116.98**	
MVPD Notification of Channel Change	***$1,500.00***	$1,500.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	***$11,500.00***	$11,500.00	N/A	N/A	N/A
Equipment Storage	***$6,140.00***	$6,140.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	***$8,929.00***	$8,929.00	N/A	$3,125.15	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$43,733.00***	$43,733.00	See attached Comark quote P#4034WNDU-PARLX-170530 for disposal costs for existing main and auxiliary transmitters See attached TecServ quote for removal & disposal of transmitter coolant	$10,000.20	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	$4,260.00	N/A	N/A	N/A
AM Pattern Disturbance -- Impact study	$7,890.00	$7,000.00	A study will be require for each tower, the auxiliary tower and the primary tower @ $3,500 per study.	$3,991.63	N/A
AM Pattern Disturbance -- Remedy	$21,050.00	$20,000.00	N/A	N/A	N/A
Sub-total	$112,822.00	$103,577.00	N/A	$17,116.98	N/A
Total for all systems	$7,847,590.29	$6,453,665.94	N/A	$2,726,514.02	N/A

Components

Actual Information Description	File Name
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:** **Amount:**	Equipment Delivery and Handling Charges $3,125.15
Disposal Costs (for equipment and other waste, net of any salvage value)	**Component Description:** **Amount:**	Disposal Costs (for equipment and other waste, net of any salvage value) $10,000.20
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.	
AM Pattern Disturbance -- Impact study	**Component Description:** **Amount:** **Component Description:** **Amount:**	As part of the construction Permit for WNDU $1,846.32 Check phase monitor and power, measure the daytime MP's, measure the nighttime MP's, report $2,145.31
AM Pattern Disturbance -- Remedy	Information not provided.	

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$7,847,590.29	$6,453,665.94	$2,726,514.02

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 J. Folliard , III .** *Assistant Secretary* 06/03/2019

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 J. Folliard , III .** *Assistant Secretary* 06/03/2019

Attachments