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: **73195** | Service: **DTV** | Call Sign: **WKYC** | Channel: **19 (UHF)**

File Number: **0000028022**

FRN: **0024376642** | Date Submitted: **05/30/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
WKYC-TV, LLC	Denise Branson, Sr. Paralegal TEGNA Inc. 8350 Broad Street, Suite 2000 Tysons, VA 22102 United States	+1 (703) 873-6606	dbranson@TEGNA.com	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
Jeffrey Johnson , Johnson . *Vice President Projects* *TEGNA*	Jeffrey Johnson 7950 Jones Branch Drive McLean, VA 22102 United States	+1 (703) 873-6736	jsjohnson@tegna.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	WKYC operates on a shared tower with WVIZ. Each stations has separate transmitters antennas and transmission lines. WKYC Will be replacing the Primary and Aux antenna, transmission line and transmitter.

Transmitters

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

Primary Transmitter

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	PWR60 D2
	Year	2008
	Type	Inductive Output Tube
	IOT Power Type	Two
	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 90
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	56.4 kW
	Justification for New Transmitter	Station has in excess of 10% TPO headroom and is eligible for a 1-Step-Up Allowance. Reimbursable TPO is 49.6 kW based on initial 90-day filing CP. This would require a ULXTE-80. A 1-Step-Up is the ULXTE-90 and is therefore reimbursable.

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	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	100.0 feet
	Other Electrical Service	Yes
	Description	Additional electrical services required for transmitter installation, including heat exchangers, transformers, cooling pumps, etc.
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?	Yes
	Size	900.0 square feet
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
RF Accessories	RF Accessories
Installation and Proof	Installation and Proof
Mask Filter	Mask Filter

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	Use during maintenance or tower work
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels	N/A
	Design power capacity in use	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Other Antenna Type	N/A

ERP: (Effective Radiated Power)	930.0 kW
Manufacturer	
Model	TFU24DSC-R 4C150
Year	2008

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	used during line repair or other tower maintenance
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Slot
	Number of Stations Supported	1
	Number of Panels/Bays	24
	Lower Limit	488.00 MHz
	Upper Limit	494.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	930.0 kW

Manufacturer	
Model	TFU-24WB-R C160
Year	2019
Justification for New Antenna	Station has a licensed AUX facility and must be replaced. It is necessary to keep station on air during primary antenna replacement & for duration of assigned phase. A TFU-24WB cost is equivalent to a single-channel slot AUX antenna.

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?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Shipping	$5,400

Primary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Bottom
	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)	868.0 kW

Manufacturer	
Model	TFU-20EBT-R 4C150
Year	2008

Primary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Bottom
	Polarization	Elliptical
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	911.0 kW
	Manufacturer	

	Model	TFU-20EBT /VP -R 4C150
	Year	2019
	Justification for New Antenna	Licensed top-mount, bottom-stack antenna cannot be re-tuned for new post-transition frequency and must be replaced. The station is opting to Upgrade the antenna changing to Elliptical polarization.

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
Shipping	$9,800
New Top Plate	Existing top-plate and/or bolt pattern may not work for new top-mount 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 for tower work and maintenance
	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	1160 feet per run

Auxiliary Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Auxiliary (Backup)
	Description of Use	Backup for maintenance and tower work
	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	19 3/4 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	875 feet per run
	Justification for New Transmission Line	Existing AUX TX line will not work on new channel assignment. Therefore, station must replace existing AUX TX line with new 19-3/4 ft section line for CH19.

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
TX Line Sweep	Sweep required to verify post-transition channel measures well on new line.

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	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1170 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	1170 feet per run
	Justification for New Transmission Line	Existing 6-1/8" rigid transmission line uses section lengths that are prohibited for post-transition Channel 19. Therefore, station must replace existing line with new 6-1/8" rigid transmission line made up of 20 ft sections.

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
TX Line Sweep	Sweep required to verify post-transition channel measures well on new 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	Owned
	Is this tower consider Complex?	
	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?	No
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1265403
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	41° 23' 09.9" N-
	Longitude (NAD83)	081° 41' 20.7" W-
	Overall Structure Height	912.06 feet
	Support Structure Height	912.06 feet
	Ground Elevation Above Mean Sea Level (AMSL)	1040.01 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	6600 Broadview LLC
Date Constructed	06/05/2009

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
18753	WVIZ	DTV

Primary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for undocumented /poorly 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	Other
Helicopter Services Required	Are helicopter services required?	No

	Other Tower Expenses Not Listed
Primary Tower	Information not provided.

Outside Professional Services Costs

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	1000
	Explanation	It will be necessary to schedule and coordinate multiple vendors, complete progress reports, and update Schedule 399s. Station does not have available personnel or personnel trained in project management for such complex projects.
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	Yes
	Quantity	2
	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	Yes
	RF exposure measurements	Yes
	Additional Field Engineering Service	Yes

Number of Days	20
Justification	$2,500 per site visit including expenses x 20 days. It is necessary to survey the site, plan the equipment, develop specifications for purchasing, & oversee multiple vendor RF projects. Station does not have available personnel trained in such services.

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Installation Services	This cost originally listed under installation services. Relocated per FCC staff instructions.
Pre filing site review	outside engineering firm to review facilities before filling
Other Legal Services	Other Legal Services related to the DTV Repack

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	Yes
	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
Internal labor	Local and Corporate Labor

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 90	**$2,870,377.21**	**$2,468,685.20**		**$1,442,800.85**	
Mask Filter	***$70,609.60***	$70,609.60	Per instructions of FCC staff, station is breaking out cost of Mask Filter.	$35,304.79	N/A
Installation and Proof	***$82,198.75***	$82,198.75	See Gates Air ULXTE-90 quote	$40,845.25	N/A
RF Accessories	***$52,893.86***	$52,893.86	Please see Gates Air ULXTE-90 quote	$24,864.97	N/A
Other -- Building Addition Size: 900.0	***$809,675.00***	$809,675.00	900 square foot expansion for new transmitter, including professional fees. See attached WKYC Building justification.	$617,647.72	N/A

Other Electrical Service: Additional electrical services required for transmitter installation, including heat exchangers, transformers, cooling pumps, etc.	***$25,000.00***	$25,000.00	Additional electrical services required for transmitter installation, including heat exchangers, transformers, cooling pumps, etc.	$14,190.00	N/A
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	$1,788,000.00	$1,408,541.50	Replacement per Gates Air quote. Includes TAX	$704,210.93	N/A
Transformer 3 phase /480v - 300 KVA	$36,800.00	$14,866.49	N/A	$5,737.19	N/A
3" Rigid Conduit and Wiring (Cost per foot)	$5,200.00	$4,900.00	N/A	N/A	N/A
Sub-total	$2,870,377.21	$2,468,685.20	N/A	$1,442,800.85	N/A
Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	File Name

Mask Filter	**Component Description:**	Gates inv #JW30004450-1A TX Mask Filter 1 6th dp UL20190214jgv1
	Amount:	$11,768.26
	Component Description:	Inv JW30004450-1 WKYC TX Mask Filter 1 3rd dp UL20180713jg v1
	Amount:	$23,536.53
Installation and Proof	**Component Description:**	Inv JW30004450-1 WKYC TX Install 1 3rd dp UL20180713jg v1
	Amount:	$27,230.17
	Component Description:	Gates inv #JW30004450-1A TX Install 1 6th dp UL20190214jgv1
	Amount:	$13,615.08
RF Accessories	**Component Description:**	Inv JW30004450-1 WKYC TX RF accessories 1 3rd dp UL20180713jg v1
	Amount:	$16,576.65
	Component Description:	Gates inv #JW30004450-1A TX RF accessories 1 6th dp UL20190214jgv1
	Amount:	$8,288.32

Other -- Building Addition Size: 900.0	**Component Description:**	WKYC Osborn inv #29267 Civil Eng UL20180801jg v2
	Amount:	$3,909.60
	Component Description:	Donleys inv #1105-02 TX Bldg Addition pmt 2 UL20190130jgv1
	Amount:	$241,164.27
	Component Description:	Donleys inv #1105-01 TX Bldg Addition UL20181106jgv1
	Amount:	$119,311.20
	Component Description:	Vocon inv #265447 Design Devel UL20181026jg v1
	Amount:	$5,476.41
	Component Description:	Inv 265370 WKYC Design Devel UL20180705jg v1
	Amount:	$2,884.87
	Component Description:	Donleys inv #1105-03 TX Bldg Addition pmt 3 UL20190402jgv1
	Amount:	$242,920.58
	Component Description:	WKYC Osborn inv #29512 Civil Eng UL20180815jg v1
	Amount:	$7,457.20

Other Electrical Service: Additional electrical services required for transmitter installation, including heat exchangers, transformers, cooling pumps, etc.	**Component Description:** **Amount:**	Vocon inv #267251 Tech Eng Srvcs UL20190222jgv1 $14,190.00
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	**Component Description:** **Amount:** **Component Description:** **Amount:**	Inv JW30004450-1 WKYC Transmitter 1 3rd dp UL20180713jg v1 $469,473.96 Gates inv #JW30004450-1A Transmitter 1 6th dp UL20190214jgv1 $234,736.97
Transformer 3 phase/480v - 300 KVA	**Component Description:** **Amount:** **Component Description:** **Amount:**	Inv JW30004450-1 WKYC TX Electrical 1 3rd dp UL20180713jg v1 $3,824.80 Gates inv #JW30004450-1A TX Electrical 1 6th dp UL20190214jgv1 $1,912.39
3" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	

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-20EBT /VP -R 4C150	**$340,330.00**	**$313,570.00**		**$252,330.74**	
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$263,670.00	N/A	$237,303.00	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$5,760.00	N/A
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$11,700.00	N/A	$9,267.74	N/A
New Top Plate	***$25,000.00***	$25,000.00	Existing top-plate and/or bolt pattern may not work for new top-mount antenna	N/A	N/A

Shipping	***$6,800.00***	$6,800.00	N/A	N/A	N/A
Auxiliary Antenna TFU-24WB-R C160	**$214,720.00**	**$212,280.00**		**$142,103.34**	
Shipping	***$5,400.00***	$5,400.00	N/A	$938.34	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	$5,260.00	$5,000.00	N/A	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$22,000.00	N/A	N/A	N/A
Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	$13,700.00	$13,000.00	N/A	N/A	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$5,760.00	N/A

UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 930 kW input, directional,, horizontally polarized	***$160,480.00***	$160,480.00	N/A	$135,405.00	N/A
Sub-total	$555,050.00	$525,850.00	N/A	$394,434.08	N/A
Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	File Name	
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	**Component Description:**	Die inv #MAN00845 Primary ant 45 pct pmt 1 UL20190412jgv3
	Amount:	$118,651.50
	Component Description:	Die inv #MAN01146 Primary ant 45 pct pmt 2 UL20190418jgv1
	Amount:	$118,651.50

Sweep test of existing antenna	**Component Description:** **Amount:**	Die inv #MAN01146 Sweep 45 pct pmt 2 UL20190418jgv1 $2,880.00
	Component Description: **Amount:**	Die inv #MAN00845 Sweep 45 pct pmt 1 UL20190412jgv3 $2,880.00
	Component Description: **Amount:**	Die inv #MAN00845 Sweep 45 pct pmt 1 UL20190123jgv1 $2,880.00
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:**	Die inv #MAN01146 Elbow complex 45 pct pmt 2 UL20190418jgv1 $4,633.87
	Component Description: **Amount:**	Die inv #MAN00845 Elbow complex 45 pct pmt 1 UL20190412jgv3 $4,633.87
	Component Description: **Amount:**	Die inv #MAN00845 Elbow complex 45 pct pmt 1 UL20190123jgv1 $4,633.87
New Top Plate	Information not provided.	
Shipping	Information not provided.	

Shipping	**Component Description:** **Amount:**	Die inv #464003 Freight for Sales Order 1696505 UL20190418jgv1 $938.34
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.	
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.	
Sweep test of existing antenna	**Component Description:** **Amount:** **Component Description:** **Amount:**	Die inv #MAN00880 Aux sweep 45 pct pmt 2 UL20180706jgv1 $2,880.00 Die inv #MAN00841 Aux sweep 45 pct pmt 1 UL20190124jgv1 $2,880.00

UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 930 kW input, directional,, horizontally polarized	**Component Description:**	Die inv #MAN00880 Aux TX ant 45 pct pmt 2 UL20180706jgv1
	Amount:	$67,702.50
	Component Description:	Die inv #MAN00841 Aux TX ant 45 pct pmt 1 UL20190124jgv1
	Amount:	$67,702.50

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	**$242,740.00**	**$161,636.90**		**$140,541.54**	
TX Line Sweep	***$6,400.00***	$6,400.00	N/A	N/A	N/A
Rigid Transmission Line - copper, 6 1/8"	$236,340.00	$155,236.90	Dielectric's transmission line prices increased.	$140,541.54	N/A
Auxiliary Transmission Line	**$183,150.00**	**$168,493.40**		**$145,884.06**	
Rigid Transmission Line - copper, 6 1/8"	$176,750.00	$162,093.40	Dielectric's transmission line prices increased.	$145,884.06	N/A
TX Line Sweep	***$6,400.00***	$6,400.00	N/A	N/A	N/A
Sub-total	$425,890.00	$330,130.30	N/A	$286,425.60	N/A
Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	File Name
TX Line Sweep	Information not provided.

Rigid Transmission Line - copper, 6 1/8"	**Component Description:** **Amount:**	Die inv #444012 Cut TX line pc freight UL20190328jgv1 $828.32
	Component Description: **Amount:**	Die inv #MAN00845 Main line 45 pct pmt 1 UL20190123jgv1 $69,856.61
	Component Description: **Amount:**	Die inv #MAN01146 Main line 45 pct pmt 2 UL20190418jgv1 $69,856.61
	Component Description: **Amount:**	Die inv #MAN00845 Main line 45 pct pmt 1 UL20190412jgv3 $69,856.61
Rigid Transmission Line - copper, 6 1/8"	**Component Description:** **Amount:**	Die inv #MAN00880 Aux line 45 pct pmt 2 UL20180706jgv1 $72,942.03
	Component Description: **Amount:**	Die inv #MAN00841 Aux line 45 pct pmt 1 UL20190124jgv1 $72,942.03
TX Line Sweep	Information not provided.	

Cost Information

Tower Equipment and Rigging Costs

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower TOWER	**$868,300.00**	**$825,000.00**		**$233,792.45**	
Major tower reinforcement /modifications	$421,000.00	$400,000.00	N/A	$233,792.45	N/A
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$25,000.00	N/A	N/A	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$400,000.00	N/A	N/A	N/A
Sub-total	$868,300.00	$825,000.00	N/A	$233,792.45	N/A
Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	File Name

Major tower reinforcement /modifications	**Component Description:** **Amount:**	Warmus 17975 v190514jgv1 $233,792.45
Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	Information not provided.	
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.	

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 Cos Justificatic
Outside Professional Services	**$487,088.55**	**$470,543.55**		**$34,720.80**	
Other Legal Services	***$10,000.00***	$10,000.00	Other Legal Services related to the DTV Repack	$279.38	N/A
Pre filing site review	***$20,000.00***	$20,000.00	N/A	N/A	N/A
Installation Services	***$95,293.55***	$95,293.55	N/A	N/A	N/A
Additional Field Engineering Service, 20 Days	***$50,000.00***	$50,000.00	$2,500 per site visit including expenses x 20 days. It is necessary to survey the site, plan the equipment, develop specifications for purchasing, & oversee multiple vendor RF projects. Station does not have available personnel trained in such services.	N/A	N/A

RF Exposure Measurements	$21,050.00	$20,000.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	$84,200.00	$80,000.00	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	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	$7,360.00	$7,000.00	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	N/A	N/A

Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	$5,260.00	$5,000.00	N/A	N/A	N/A
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, 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 and or review reimbursement form	$2,630.00	$2,500.00	N/A	N/A	N/A

Project management of the transition	$158,000.00	$150,000.00	It will be necessary to schedule and coordinate multiple vendors, complete progress reports, and update Schedule 399s. Station does not have available personnel or personnel trained in project management for such complex projects.	$34,441.42	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
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	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	N/A	N/A
Sub-total	$487,088.55	$470,543.55	N/A	$34,720.80	N/A

Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	File Name
Other Legal Services	**Component Description:** Covington 60805585 v190513pmv1 **Amount:** $34.53 **Component Description:** Covington 60801032 v190530jgv2 **Amount:** $70.43 **Component Description:** Covington 60801029 v190513pmv1 **Amount:** $164.44 **Component Description:** Covington 60801032 v190510pmv1 **Amount:** $77.00 **Component Description:** Covington inv #60796723 Various Legal UL20181024jgv1 **Amount:** $174.42
Pre filing site review	Information not provided.
Installation Services	Information not provided.
Additional Field Engineering Service, 20 Days	Information not provided.

RF Exposure Measurements	Information not provided.
Comprehensive coverage verification via field study, if needed	Information not provided.
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	Information not provided.
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 and or review reimbursement form	Information not provided.

Project management of the transition	**Component Description:** Osborn inv #28588 Proj Mgt thru March 30, 2018 UL20180815jgv1 **Amount:** $975.00 **Component Description:** Inv 29214 WKYC Proj Mgt 180428-180525 UL20180706jg v1 **Amount:** $4,350.00 **Component Description:** Osborn inv #29833 Prof srvcs 180526 - 180629 UL20190207jgv1 **Amount:** $7,842.50 **Component Description:** Osborn inv #28997 Proj Mgt March 31, 2018 - April 27, 2018 UL20190212jgv1 **Amount:** $6,725.00 **Component Description:** Osborn inv #26015 Prof srvcs 170530 - 170728 UL20181107jg v1 **Amount:** $14,548.92
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.
Perform engineering study for new channel assignment and antenna development	Information not provided.

Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	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	**$168,451.00**	**$166,446.00**		**$3,637.20**	
MVPD Notification of Channel Change	***$6,000.00***	$6,000.00	to notify all MVPD's op up coming testing and transition plans for the market.	N/A	N/A
Develop and air announcement of upcoming channel change	***$6,000.00***	$6,000.00	To create informational spot to notify public of the upcoming change.	$3,270.00	N/A
AM Pattern Disturbance -- Impact study	$7,890.00	$7,500.00	N/A	N/A	N/A
AM Pattern Disturbance -- Remedy	$21,050.00	$20,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	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
FCC Filing Fees - Special Temporary Authorization request	$195.00	$190.00	N/A	N/A	N/A

Local Zoning	***$1,200.00***	$1,200.00	Local construction permit.	N/A	N/A
Non-zoning permits	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Equipment Storage	***$15,000.00***	$15,000.00	2 flat bed trailers for 6 Months to store equipment.	$367.20	N/A
Internal labor	***$24,231.00***	$24,231.00	N/A	N/A	N/A
Sub-total	$168,451.00	$166,446.00	N/A	$3,637.20	N/A
Total for all systems	$5,375,156.76	$4,786,655.05	N/A	$2,395,810.98	N/A

Components

Actual Information Description	**File Name**	
MVPD Notification of Channel Change	Information not provided.	
Develop and air announcement of upcoming channel change	**Component Description:** **Amount:**	2C Media inv #203806 Creation of channel change announcement UL20181016jgv1 $3,270.00

AM Pattern Disturbance -- Impact study	Information not provided.
AM Pattern Disturbance -- Remedy	Information not provided.
DTV Medical Facility Notification	Information not provided.
FCC Filing Fees - Form 2100 license to cover application	Information not provided.
FCC Filing Fees - Special Temporary Authorization request	Information not provided.
Local Zoning	Information not provided.
Non-zoning permits	Information not provided.
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
Equipment Delivery and Handling Charges	Information not provided.
Equipment Storage	**Component Description:** PMF 269251 v190510jgv1 **Amount:** $367.20
Internal labor	Information not provided.

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$5,375,156.76	$4,786,655.05	$2,395,810.98

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.	**Jeffrey C Gehman** *Engineering Associate* 05/30/2019

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.	**Jeffrey C Gehman** *Engineering Associate* 05/30/2019

Attachments