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: **53114** | Service: **DTV** | Call Sign: **WDIV-TV** | Channel: **32 (UHF)**

File Number: **0000027867**

FRN: **0002161123** | Date Submitted: **10/16/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
GRAHAM MEDIA GROUP, MICHIGAN, INC. Doing Business As: GRAHAM MEDIA GROUP, MICHIGAN, INC.	Marcus Williams 550 WEST LAFAYETTE BOULEVARD DETROIT, MI 48226 United States	+1 (313) 222-0581	MARCUS@WDIV.COM	Corporation

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
William T Godfrey , Jr. . *Consulting Engineers Kessler and Gehman Associates, Inc.*	William T. Godfrey, Jr. Kessler and Gehman Associates, Inc. 507 NW 60 Street, Suite D Gainesville, FL 32607 United States	+1 (352) 332-3157	jeff@kesslerandgehman.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	Install new main dual transmitter and main antenna while using licensed AUX facility during tower work and throughout the assigned phase. Map and analyze tower; design and modify tower. Install new AUX antenna and AUX transmitter post-transition.

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	Auxiliary
	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	Diamond
	Year	2005
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	7.5 kW

Auxiliary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	UAXTE-12R44
	Transmitter Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power capacity	7.2 kW
	Justification for New Transmitter	The manufacturer of the existing transmitter advises that the transmitter cannot be re-tuned to the assigned channel. See attachment.

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	Disconnect existing transmitter for removal and connect new transmitter after installation.
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

Auxiliary Transmitter

Other Transmitter Cost Not Listed

Information not provided.

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	SigmaCD
	Year	2008
	Type	Inductive Output Tube
	IOT Power Type	Three
	Power Capacity	80 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	ULXTED-100
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	63.4 kW
	Justification for New Transmitter	The existing 80 kW IOT transmitter configuration is equivalent to a magic tee dual transmission system and not the single ULXTE. Therefore, WDIV is budgeting for the ULXTED model. The next step up is a ULXTED-100 which WDIV is budgeting for (see attached)

Primary Transmitter

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	Yes
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	100.0 feet
	Other Electrical Service	No
	Description	N/A
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	0.0 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
Standby Exciter and Switch	Standby Exciter with Automatic Change Over Switch

Installation	Installation
Additional Interior RF System	Interior RF System Existing Transmitter to Interim Transmission line

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	Auxiliary
	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)	973.0 kW

Manufacturer	
Model	TFU-18DSC
Year	2005

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Auxiliary
	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	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)	973.0 kW
	Manufacturer	
	Model	TFU-18DSC-R CT3

Year	2018
Justification for New Antenna	The existing and licensed AUX antenna is a single channel slotted coaxial which cannot accommodate the assigned channel.

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	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
TLSCR	TLSCR

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	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)	872.0 kW

Manufacturer	
Model	TFU-27ETT VP R4C130
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?	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	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	720.0 kW
	Manufacturer	
	Model	TFU-23ETT /VP-R 4C130

Year	2018
Justification for New Antenna	The existing primary antenna is a single channel slotted coaxial which cannot accommodate the assigned channel.

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

Information not provided.

Transmission Line

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

Primary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Dielectric
	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	1232 feet per run

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Sweep Tests	Sweep tests to confirm line is acceptable on assigned channel.
Miscellaneous Parts	Miscellaneous Parts

Auxiliary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Auxiliary (Backup)
	Description of Use	Auxiliary
	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	Dielectric
	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	1110 feet per run

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Sweep Tests	Sweep tests to verify operation on assigned channel

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?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1000830
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	42° 28' 58.0" N-
	Longitude (NAD83)	083° 12' 19.0" W-
	Overall Structure Height	1062.98 feet
	Support Structure Height	980.96 feet
	Ground Elevation Above Mean Sea Level (AMSL)	685.69 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	Graham Media Group, Michigan, Inc.
Date Constructed	01/01/1988

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
9618	WXYT-FM	FM

Primary Tower

Tower Modification Costs

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

Primary Tower

Tower Rigging Costs

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

	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	600
	Explanation	It will be necessary to schedule and coordinate multiple vendors, complete progress reports, and update Schedule 399. 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	No

	Quantity	N/A
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	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	Yes
	RF exposure measurements	Yes
	Additional Field Engineering Service	Yes

Number of Days	30
Justification	It will be necessary to survey the site, plan the equipment, develop specifications for purchasing, and oversee multiple vendor RF projects. Station does not have available personnel or personnel trained in such services.

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Other Legal Services	Other Legal Services related to the DTV Repack
Other Engineering Services	Fewer Project Management "PM" tasks are required & Other Engineering Services "OES" are required, therefore the PM total has been reduced to 600 hrs ($90,000 at $150/hr), & a new OES category has been created & funded with the money removed from PM.

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	No
	FCC Special Temporary Authority Application	No
Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
	Does this relocation require Equipment Storage?	Yes
	Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	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 Cost Justification
Primary Transmitter ULXTED-100	**$2,254,511.70**	**$2,260,635.61**		**$2,059,992.00**	
Additional Interior RF System	***$75,000.00***	$75,000.00	N/A	N/A	N/A
Installation	***$1,758.00***	$1,758.00	Fire extinguisher system work	$1,758.00	N/A
Standby Exciter and Switch	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Other -- Building Addition Size: 0.0	***$24,051.00***	$24,051.00	See uploaded PDF titled "WDIV Transmitter Building Preparation for Repack Cost v2.pdf" No building size increase is needed; only building modifications.	N/A	N/A
3" Rigid Conduit and Wiring (Cost per foot)	$5,200.00	$4,900.00	N/A	N/A	N/A

UHF - Liquid Cooled Solid State Transmitter 63.4 kW	***$2,034,102.70***	$2,034,102.70	See attached GatesAir quote for ULXTED-100	$2,033,710.09	N/A
Service entrance 3 phase/800 amp/208 volt	$14,400.00	$24,523.91	Please see attached invoices and quotes	$24,523.91	N/A
Switchgear - industrial 800 amp	$38,200.00	$36,300.00	N/A	N/A	N/A
Transformer 3 phase /480v - 300 KVA	$36,800.00	$35,000.00	N/A	N/A	N/A
Auxiliary Transmitter UAXTE-12R44	**$247,516.02**	**$247,516.02**		**$239,952.02**	
Other Electrical Service: Disconnect existing transmitter for removal and connect new transmitter after installation.	***$5,000.00***	$5,000.00	N/A	N/A	N/A
UHF - Air Cooled Solid State Transmitter 7.2 kW	***$242,516.02***	$242,516.02	See attached quote	$239,952.02	N/A
Sub-total	$2,502,027.72	$2,508,151.63	N/A	$2,299,944.02	N/A
Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information Description	File Name
Additional Interior RF System	Information not provided.
Installation	**Component Description:** MFE 112032 v190805jgv2 **Amount:** $270.00 **Component Description:** MFE 111915 v190805jgv2 **Amount:** $1,488.00
Standby Exciter and Switch	Information not provided.
Other -- Building Addition Size: 0.0	Information not provided.
3" Rigid Conduit and Wiring (Cost per foot)	Information not provided.
UHF - Liquid Cooled Solid State Transmitter 63.4 kW	**Component Description:** Gates US0328131 v190919pmv1 **Amount:** $683,116.43 **Component Description:** Gates JW30004541-2 v190523jgv2 **Amount:** $678,034.23 **Component Description:** Gates inv #JW30004541-1 1 third dp Prim TX UL2018116jgv1 **Amount:** $672,559.43

Service entrance 3 phase /800 amp/208 volt	**Component Description:** **Amount:**	Talbot 10237-01 v190919pmv1 $22,679.91
	Component Description: **Amount:**	Talbot 3894-01 v190705jgv1 $1,844.00
Switchgear - industrial 800 amp	Information not provided.	
Transformer 3 phase/480v - 300 KVA	Information not provided.	
Other Electrical Service: Disconnect existing transmitter for removal and connect new transmitter after installation.	Information not provided.	
UHF - Air Cooled Solid State Transmitter 7.2 kW	**Component Description:** **Amount:**	Gates US0329684 v190919pmv1 $78,274.68
	Component Description: **Amount:**	Gates inv #JW30004542-1 1 third dp Aux TX UL2018119jgv1 $80,838.67
	Component Description: **Amount:**	Gates JW30004542-2 v190529jgv1 $80,838.67

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-23ETT /VP-R 4C130	**$308,530.00**	**$297,383.00**		**$118,248.84**	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$15,983.00	The $3,600.00 "Elbow 6-75 DIGIT 90 DEG 9 X 18" line item is being applied to this component, in addition to the $12,383.00 Elbow Complex line item.	$7,192.35	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$275,000.00	N/A	$108,176.49	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$2,880.00	N/A

Auxiliary Antenna TFU-18DSC-R CT3	**$284,404.00**	**$287,131.00**		**$171,090.00**	
UHF - High Power, Side Mount, basic slot antenna, 973 kW input, directional,, horizontally polarized	***$235,000.00***	$235,000.00	N/A	$134,471.70	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	$16,767.00	The $2,420.00 Trans Test and $1,964.00 Fixed Flange line items are being applied to this component, in addition to the $12,383.00 Elbow Complex line item.	$14,206.50	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$22,000.00	N/A	$15,768.00	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
TLSCR	***$1,964.00***	$1,964.00	N/A	$883.80	N/A
Sub-total	$592,934.00	$584,514.00	N/A	$289,338.84	N/A
Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information Description	**File Name**	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:**	Die inv #MAN00799 Primary elbow pmt 1 UL20190313jgv1 $1,620.00
	Component Description: **Amount:**	Die inv #MAN00799 Primary elbow complex pmt 1 UL20190313jgv1 $5,572.35

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	**Component Description:**	Die inv #MAN00799 Primary fixed flange pmt 1 UL20190313jgv1
	Amount:	$1,255.50
	Component Description:	Die inv #MAN00799 Primary fixed flange pmt 1 UL20190313jgv1
	Amount:	$1,195.20
	Component Description:	Die inv #MAN00799 Primary trans test pmt 1 UL20190313jgv1
	Amount:	$2,469.60
	Component Description:	Die inv #MAN00799 Primary reducer pmt 1 UL20190313jgv1
	Amount:	$1,160.64
	Component Description:	Die inv #MAN00799 Primary ant pmt 1 UL20190313jgv1
	Amount:	$102,095.55
Sweep test of existing antenna	**Component Description:**	Die inv #MAN00799 Primary sweep pmt 1 UL20190313jgv1
	Amount:	$2,880.00

UHF - High Power, Side Mount, basic slot antenna, 973 kW input, directional,, horizontally polarized	**Component Description:** **Amount:**	Die MAN01318 v190919pmv1 $67,235.85
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant pmt 1 UL20190314jgv1 $67,235.85
Sweep test of existing antenna	**Component Description:** **Amount:**	Die MAN01318 v190919pmv1 $2,880.00
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant sweep pmt 1 UL20190314jgv1 $2,880.00

Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:**	Die MAN01318 v190919pmv1 $1,089.00
	Component Description: **Amount:**	Die MAN01318 v190919pmv1 $5,572.35
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant trans test pmt 1 UL20190314jgv1 $1,089.00
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant elbow complex pmt 1 UL20190314jgv1 $5,572.35
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant fixed flange pmt 1 UL20190314jgv1 $883.80
Side mount brackets for high power antennas (if not included in antenna base cost)	**Component Description:** **Amount:**	Die MAN01318 v190919pmv1 $7,884.00
	Component Description: **Amount:**	Die inv #MAN00798 Aux ant side mt brackets pmt 1 UL20190314jgv1 $7,884.00

Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.
TLSCR	**Component Description:** Die MAN01318 v190919pmv1 **Amount:** $883.80

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	**$22,575.61**	**$22,575.61**		**$17,218.81**	
Miscellaneous Parts	***$16,175.61***	$16,175.61	N/A	$13,558.46	N/A
Sweep Tests	***$6,400.00***	$6,400.00	N/A	$3,660.35	N/A
Auxiliary Transmission Line	**$6,400.00**	**$6,400.00**		**$0.00**	
Sweep Tests	***$6,400.00***	$6,400.00	N/A	N/A	N/A
Sub-total	$28,975.61	$28,975.61	N/A	$17,218.81	N/A
Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information Description	File Name

Miscellaneous Parts	**Component Description:** **Amount:**	Die ST579006 v191009pmv2 $550.62
	Component Description: **Amount:**	Die ST592013 v190923pmv1 $216.84
	Component Description: **Amount:**	Die 592013 v190923pmv1 $3,614.00
	Component Description: **Amount:**	Die 579006 v190923pmv1 $9,177.00
Sweep Tests	**Component Description:** **Amount:**	Inv WDIV161202 WDIV Line sweep UL20180423 v2 $3,660.35
Sweep Tests	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	**$381,100.00**	**$562,000.00**		**$140,210.00**	
Structural engineering tower load study for well documented tower	$12,600.00	$12,000.00	N/A	$6,000.00	N/A
Minor tower reinforcement /modifications	$158,000.00	$150,000.00	N/A	N/A	N/A

Tall Tower (greater than 500')	$210,500.00	$400,000.00	Rigging must be done twice since WDIV has a licensed AUX facility. First rigging for post-auction AUX build-out while main operates as interim. Second rigging for post-auction Main build-out while AUX operates on post-auction after assigned phase.	$134,210.00	N/A
Sub-total	$381,100.00	$562,000.00	N/A	$140,210.00	N/A
Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information	
Description	**File Name**

Structural engineering tower load study for well documented tower	**Component Description:** **Amount:** **Component Description:** **Amount:**	Inv: WDIV Structural Analysis UL20180329 2 of 2 $1,000.00 Inv: WDIV Structural Analysis UL20180329 1 of 2 $5,000.00
Minor tower reinforcement /modifications	Information not provided.	
Tall Tower (greater than 500')	**Component Description:** **Amount:**	CTC inv #2093 Aux and Prim ant install pmt 1 UL20190308jgv1 $134,210.00

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 Justificatio
Outside Professional Services	**$370,815.00**	**$376,250.00**		**$60,905.10**	
Other Engineering Services	***$60,000.00***	$60,000.00	Fewer Project Management "PM" tasks are required & Other Engineering Services "OES" are required, therefore the PM total has been reduced to 600 hrs ($90,000 at $150/hr), & a new OES category has been created & funded with the money removed from PM.	$22,445.00	N/A
Other Legal Services	***$10,000.00***	$10,000.00	Need	$2,037.60	N/A
Additional Field Engineering Service, 30 Days	***$60,000.00***	$60,000.00	N/A	$6,800.00	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 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

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	$3,000.00	N/A
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$7,000.00	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
Prepare and or review reimbursement form	$2,630.00	$20,000.00	The Estimated Cost reflects the station's ongoing need for outside assistance with preparation and submission of its Actual Cost Repack invoices.	$12,702.50	N/A
Project management of the transition	$94,800.00	$90,000.00	The added complexity of dual mobilization for tower rigging as well as the complexity of this project. $60,000 has been moved from PM to the Other Engineering Services component (181116jg)	$6,920.00	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	$3,680.00	$3,500.00	N/A	N/A	N/A
Sub-total	$370,815.00	$376,250.00	N/A	$60,905.10	N/A

Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information Description	File Name
Other Engineering Services	**Component Description:** KGA 947-191 v190614pmv1 **Amount:** $670.00
	Component Description: KGA 947-189 v190614pmv1c **Amount:** $590.00
	Component Description: KGA 947-192 v190614pmv1 **Amount:** $1,652.50
	Component Description: KGA 947-190 v190614pmv1 **Amount:** $1,267.50
	Component Description: KGA 947-155 v190515pmv1 **Amount:** $675.00
	Component Description: KGA inv #947-62 Other Eng Srvcs Aug - Dec 2017 UL20190226jgv2 **Amount:** $7,665.00
	Component Description: KGA 947-152 v190515pmv1 **Amount:** $675.00

	Component Description:	KGA 947-154 v190515pmv1
	Amount:	$225.00
	Component Description:	KGA inv #947-62 Other Eng Srvcs Aug - Dec 2017 UL2018116jgv1
	Amount:	$7,665.00
	Component Description:	KGA 947-153 v190515pmv1
	Amount:	$2,075.00
	Component Description:	KGA inv #947-114 Other Eng Srvcs July - Oct 2018 UL20190206jgv2
	Amount:	$6,950.00
Other Legal Services		
	Component Description:	C&B 60774447 v190918pmv1
	Amount:	$576.00
	Component Description:	C&B 60855206 v190918pmv1
	Amount:	$177.75
	Component Description:	Covington inv #60836455 Legal services thru 190131 UL20190308jgv1
	Amount:	$328.05

Component Description:	Covington inv #60776173 Various legal UL20190321jgv1
Amount:	$229.05
Component Description:	C&B 60847121 v190610pmv1
Amount:	$71.10
Component Description:	WDIV Covington inv #60812717 Review and file 2018 Q2 Progress Report UL20181019jgv1
Amount:	$34.20
Component Description:	Covington inv #60827773 Legal services thru 181130 UL20190308jgv1
Amount:	$102.60
Component Description:	WDIV Covington inv #60790165 Review and file Progress Report UL20181019jgv1
Amount:	$62.10
Component Description:	Covington inv #60773112 Various legal UL20190321jgv1
Amount:	$456.75

Additional Field Engineering Service, 30 Days	**Component Description:** **Amount:**	Inv: WDIV Addl Fld Eng Srv TX Mask Fltr Elec HVAC Solution UL20180403 $1,250.00
	Component Description: **Amount:**	Inv: WDIV Antenna Repurposing Study, Transmission Line Repurposing Study, Transmitter Repurposing Study & Parameter Review UL20180403 $2,800.00
	Component Description: **Amount:**	Inv: WDIV Outside Prof Svcs 1) CAS planning procuremnt & oversight, coord twr mapping & analyses 2) CAS planning procuremnt, oversight & develop an upgrade or replacement solution for twr 3) CAS planning procuremnt, oversight & coord twr mods UL20180403 $2,750.00
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 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.
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:**	Inv: WDIV Outside Prof Svcs - Prepare eng section of Form FCC Const Permit App for Main Facility UL20180403 $3,000.00
Perform engineering study for new channel assignment and antenna development	**Component Description:** **Amount:**	Inv: WDIV Outside Prof Svcs - Perform eng study for new ch assignment and antenna development UL20180403 $7,000.00
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
Prepare and or review reimbursement form	**Component Description:** **Amount:** **Component Description:** **Amount:** **Component Description:** **Amount:** **Component Description:** **Amount:**	KGA 947-139 v190515pmv1 $200.00 KGA 947-159 v190515pmv1 $350.00 KGA 947-164 v190515pmv1 $2,122.50 KGA 947-202 v190916jgv1 $1,550.00

Component Description:	KGA 947-206 v190916jgv1
Amount:	$250.00
Component Description:	KGA 947-175 v190704jgv1
Amount:	$3,045.00
Component Description:	KGA 947-196 v190916jgv1
Amount:	$665.00
Component Description:	KGA 947-132 v190515pmv1
Amount:	$1,225.00
Component Description:	KGA 947-171 v190704jgv1
Amount:	$95.00
Component Description:	KGA 947-130 v190515pmv1
Amount:	$50.00
Component Description:	Inv: WDIV Outside Prof Svcs - Prepare and or Review Reimbursement Form UL20180403
Amount:	$2,500.00
Component Description:	KGA 947-133 v190515pmv1
Amount:	$500.00

	Component Description:	KGA 947-131 v190515pmv1
	Amount:	$150.00
Project management of the transition	**Component Description:**	Inv 947-21 WDIV Project Management through Aug 2017 UL20180504jgv3
	Amount:	$3,500.00
	Component Description:	KGA inv #947-110 Form 387 2018 Q3 UL2018116jgv1
	Amount:	$300.00
	Component Description:	KGA 947-200 v190916jgv1
	Amount:	$300.00
	Component Description:	Inv: WDIV 2017Q3 387 UL20180403
	Amount:	$300.00
	Component Description:	KGA 947-118 v190515jgv1
	Amount:	$300.00
	Component Description:	KGA inv #947-56 Form 387 2018 Q1 UL2018116jgv1
	Amount:	$300.00

	Component Description: KGA inv #947-58 Actual Cost invs 180403 UL2018116jgv1 **Amount:** $720.00 **Component Description:** KGA 947-162 v190515jgv1 **Amount:** $300.00 **Component Description:** Inv: WDIV 2017Q4 387 UL20180403 **Amount:** $300.00 **Component Description:** KGA inv #947-82 Form 387 2018 Q2 UL2018116jgv1 **Amount:** $300.00 **Component Description:** KGA inv #947-59 Actual Cost invs 180329 UL2018116jgv1 **Amount:** $300.00
Attorney Fees - Prepare and File request for Special Temporary Authorization	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	**$138,550.00**	**$138,000.00**		**$2,863.10**	
Equipment Delivery and Handling Charges	***$25,000.00***	$25,000.00	N/A	$2,863.10	N/A
MVPD Notification of Channel Change	***$2,000.00***	$2,000.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Equipment Storage	***$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
Non-zoning permits	***$25,000.00***	$25,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	N/A	N/A	N/A
Sub-total	$138,550.00	$138,000.00	N/A	$2,863.10	N/A
Total for all systems	$4,014,402.33	$4,197,891.24	N/A	$2,810,479.87	N/A

Components

Actual Information Description	File Name
Equipment Delivery and Handling Charges	**Component Description:** FRAZA L28672 v190924pmv1 **Amount:** $1,370.58 **Component Description:** Die 580017 v191016pmv1 **Amount:** $964.93 **Component Description:** Die 597044 v191016pmv1 **Amount:** $469.70 **Component Description:** Die ST580017 v191016pmv1 **Amount:** $57.89
MVPD Notification of Channel Change	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.
Equipment Storage	Information not provided.
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
Non-zoning permits	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	$4,014,402.33	$4,197,891.24	$2,810,479.87

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* 10/16/2019

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* 10/16/2019

Attachments