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: **57840** | Service: **DTV** | Call Sign: **WSLS-TV** | Channel: **34 (UHF)**

File Number: **0000027856**

FRN: **0025636598** | Date Submitted: **11/02/2018**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
GRAHAM MEDIA GROUP, VIRGINIA, LLC Doing Business As: d/b/a WSLS-TV	Ricky Williams 401 Third Street SW Roanoke, VA 24011 United States	+1 (540) 512-1542	rwilliams@wsls.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
William T Godfrey , Jr. . *Consulting Engineers Kessler and Gehman Associates, Inc.*	William T. Godfrey, Jr. Kessler and Gehman Associates, Inc. 507-D NW 60th Street 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	Replace main and aux transmitters. Replace old analog antenna system with new antenna system designed for assigned channel. Operate existing main through assigned phase. Replace aux antenna and line. Map and analyze tower; design and modify if needed.

Transmitters

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

Auxiliary Transmitter

Add 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	2007
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	1.8 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	TBD
	Transmitter Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power capacity	1.8 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)	Yes
	Transformer (480V)	Yes
	Power	150 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?	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	Sigma
	Year	2007
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	30 kW

Primary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	DCX Paragon 2
	Transmitter Type	Inductive Output Tube
	IOT Power Type	Two
	Power capacity	50 kW
	Justification for New Transmitter	The manufacturer of the existing IOT transmitter advises that the transmitter cannot be re-tuned to the assigned channel. A new Comark Paragon MSDC IOT transmitter is the basis for a replacement as suggested by the FCC. See attachment.

Primary Transmitter

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	100.0 feet
	Other Electrical Service	Yes
	Description	Additional electrical service needed for the new transmitter and RF plumbing installation.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Heating and Cooling
	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?	Yes
	Size	700.0 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
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

Add 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 this antenna currently shared with any other stations?	No
	Is this antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	Yes
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)	65.0 kW

Manufacturer	
Model	TLP-24H
Year	2001

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?	Yes
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)	65.0 kW
	Manufacturer	
	Model	TBD

Year	2018
Justification for New Antenna	The existing primary 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?	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?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
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

Information not provided.

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?	Yes
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)	1000.0 kW

Manufacturer	
Model	TFU-30DSC-R-C170
Year	2006

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?	Yes
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)	930.0 kW
	Manufacturer	
	Model	TFU-30DSC /VP-R C170

Year	2018
Justification for New Antenna	The existing primary antenna is a single channel slot which cannot accommodate the assigned channel. The proposed antenna is e-pol which is considered an upgrade with a 15% delta in costs according to manufacturer. However, the 399 is budgeted for h-pol.

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	4 1/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Name	Description
Mounting Support Pole	Required for top mounting main antenna (first priority station)

Transmission Line

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

Auxiliary Transmission Line

Add 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 this transmission currently shared with any other stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	ERI
	Type	Flexible Air
	Diameter	Other
	Other Diameter	2 1/4 inches
	Segment Length	N/A
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	200 feet per run

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Sweep Tests	Sweep test to verify performance on assigned channel.

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	4 1/16 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	225 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	270 feet per run
	Justification for New Transmission Line	New longer line for top mount antenna must be larger diameter to achieve assigned ERP. This must be done to recover lost coverage area since the station will receive in excess of 1% interference.

Primary Transmission Line	Other Transmission Line Expenses Not Listed
	Information not provided.

Tower Equipment And Rigging Costs

Section	Question	Response
Tower Equipment or Rigging Costs Changes	Do you have tower equipment or rigging costs changes?	Yes

Primary Tower

Existing Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Is this tower consider Complex?	Terrain Constrained
	Is this tower currently shared with any other stations?	No
	One or more FM, AM or TV radio broadcaster(s)	N/A
	Others Types of Users	N/A
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1024381
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	37° 12' 03.3" N-
	Longitude (NAD83)	080° 08' 52.8" W-
	Overall Structure Height	242.78 feet
	Support Structure Height	170.93 feet

Ground Elevation Above Mean Sea Level (AMSL)	3720.10 feet
Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	Graham Media Group, Virginia, LLC
Date Constructed	01/01/1980

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	Terrain constrained
Helicopter Services Required	Are helicopter services required?	Yes

Primary Tower

Other Tower Expenses Not Listed

Information not provided.

Outside Professional Services Costs

Section	Question	Response
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	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	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	Yes
	RF exposure measurements	Yes
	Additional Field Engineering Service	Yes

Number of Days	45
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 Engineering Services	Fewer Project Management "PM" tasks are required & Other Engineering Services "OES" are required, therefore the PMthe 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 Legal Services	Other Legal Services related to the DTV Repack

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	Yes
	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 Cost Justification
Primary Transmitter DCX Paragon 2	**$1,373,450.00**	**$1,801,470.00**		**$258,923.83**	
Additional Interior RF System	***$140,000.00***	$140,000.00	N/A	$750.00	N/A
Other -- Building Addition Size: 700.0	***$50,000.00***	$50,000.00	Need pad for new heat exchangers and beam supplies and also need ice shield.	$17,307.32	See attached Osborn Engineering Quote and summary page for additional details.
10 Ton system	$60,500.00	$57,500.00	N/A	N/A	N/A
Other Electrical Service: Additional electrical service needed for the new transmitter and RF plumbing installation.	***$100,000.00***	$100,000.00	N/A	$7,116.51	See attached Osborn Engineering Quote and summary page for additional details.
3" Rigid Conduit and Wiring (Cost per foot)	$5,200.00	$4,900.00	N/A	N/A	N/A

Two IOT system (50 kW)	$954,000.00	$1,388,470.00	This is the cost for a new 2-tube, DCX Paragon-2 MSDC-IOT digital UHF transmitter from the most recent Comark price list.	$233,750.00	N/A
Switchgear - industrial 800 amp	$38,200.00	$36,300.00	N/A	N/A	N/A
Transformer 3 phase /480v - 150 KVA	$25,550.00	$24,300.00	N/A	N/A	N/A
Auxiliary Transmitter TBD	**$194,950.00**	**$185,500.00**		**$20,141.25**	
3" Rigid Conduit and Wiring (Cost per foot)	$5,200.00	$4,900.00	N/A	N/A	N/A
Transformer 3 phase /480v - 150 KVA	$25,550.00	$24,300.00	N/A	N/A	N/A
Switchgear - industrial 800 amp	$38,200.00	$36,300.00	N/A	N/A	N/A
UHF - Air Cooled Solid State Transmitter 1 - 2.5 kW	$126,000.00	$120,000.00	N/A	$20,141.25	N/A
Sub-total	$1,568,400.00	$1,986,970.00	N/A	$279,065.08	N/A
Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Actual Information Description	File Name	
Additional Interior RF System	**Component Description:**	Developed a Solution for Transmitter & Mask Filter on New Channel - Also See attached "KGA Quote"
	Amount:	$750.00
Other -- Building Addition Size: 700.0	**Component Description:**	Inv 1034840 WSLS Professional Services UL20180511jgv1
	Amount:	$494.50
	Component Description:	Facility Building Survey and Condition Assessment for WSLS (See Osborn Engineering Quote)
	Amount:	$5,375.00
	Component Description:	Osborn inv #29392 In house printing UL20181101jgv1
	Amount:	$246.00
	Component Description:	Osborn inv #28226 Prof Srvs 1-27-18 to 2-23-18 UL20181101jgv1
	Amount:	$11,191.82
10 Ton system	Information not provided.	

Other Electrical Service: Additional electrical service needed for the new transmitter and RF plumbing installation.	**Component Description:** **Amount:**	Facility Electrical Survey and Condition Assessment for WSLS (See Osborn Engineering Quote) $6,616.51
	Component Description: **Amount:**	Developed a Solution for Electrical and HVAC on New Channel - Also See attached "KGA Quote" $500.00
	Component Description: **Amount:**	WSLS Osborn inv #29669 Prof Srvs through 7-29-18 UL20180726jgv1 $60,252.10
3" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	
Two IOT system (50 kW)	**Component Description:** **Amount:**	Inv: WSLS THU9EVO-24 transmitter 25% down pmt UL20180312 $233,750.00
Switchgear - industrial 800 amp	Information not provided.	
Transformer 3 phase/480v - 150 KVA	Information not provided.	
3" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	

Transformer 3 phase/480v - 150 KVA	Information not provided.	
Switchgear - industrial 800 amp	Information not provided.	
UHF - Air Cooled Solid State Transmitter 1 - 2.5 kW	**Component Description:** **Amount:**	Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 $20,141.25

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-30DSC /VP-R C170	**$491,966.00**	**$443,549.00**		**$344,319.30**	
Mounting Support Pole	***$163,016.00***	$163,016.00	Required for top mount support (refer to attached quote). The site's access road cannot accommodate the 70' top mount pole, which required cutting it in half; see attached Change Order included with Dielectric inv MAN00606	$99,914.40	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$21,750.00	N/A	$9,787.50	N/A

Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	$9,570.00	$12,383.00	Elbow complex is actually 6-1 /8". See attached Dielectric quote.	$11,144.70	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$240,000.00	Recognizing that e-pol is an upgrade, the station is budgeting for "h-pol only" which Dielectric said is a 15% delta. Therefore, the estimated cost for an h-pol antenna is only $240,000 instead of the estimated cost of $275,000 for an e-pol antenna (15%).	$220,592.70	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$2,880.00	N/A
Auxiliary Antenna TBD	**$213,940.00**	**$147,216.00**		**$28,816.00**	

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
UHF - Lower Power Side Mount, One station antenna - medium power (50-200 kW), horizontally polarized	$89,400.00	$85,000.00	N/A	N/A	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	N/A	N/A

UHF - Lower Power Side Mount, One station antenna - medium power (50-200 kW), horizontally polarized	$89,400.00	$28,816.00	***System Notice: Estimate adjusted and locked because line has been superseded. ***	$28,816.00	N/A
Sub-total	$705,906.00	$590,765.00	N/A	$373,135.30	N/A
Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Actual Information Description	File Name	
Mounting Support Pole	**Component Description:**	WSLS Die inv #MAN00606 Mt pole mod 45 pct pmt 1 UL20180815jgv1
	Amount:	$26,557.20
	Component Description:	WSLS Die inv #MAN00607 Mt pole mod 45 pct pmt 2 UL20180815jgv1
	Amount:	$26,557.20
	Component Description:	Inv MAN00430 WSLS Support pole 45 perc pmt 2 UL20180713jgv1
	Amount:	$46,800.00

Side mount brackets for high power antennas (if not included in antenna base cost)	**Component Description:** **Amount:**	Inv MAN00430 WSLS Side mt brckts 45 perc pmt 2 UL20180713jgv1 $9,787.50
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	**Component Description:** **Amount:** **Component Description:** **Amount:**	Inv MAN00325 WSLS Elbow Complex UL20180423jg $5,572.35 Inv MAN00430 WSLS Elbox comp 45 perc pmt 2 UL20180713jgv1 $5,572.35
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	**Component Description:** **Amount:** **Component Description:** **Amount:**	Inv MAN00430 WSLS Main ant 45 perc pmt 2 UL20180713jgv1 $80,562.60 Inv MAN00325 WSLS TFU-30DSC VP-R C170 etc Main Antenna UL20180423jg $140,030.10
Sweep test of existing antenna	**Component Description:** **Amount:**	Inv MAN00430 WSLS Sweep tests 45 perc pmt 2 UL20180713jgv1 $2,880.00

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.
UHF - Lower Power Side Mount, One station antenna - medium power (50-200 kW), horizontally polarized	Information not provided.
Sweep test of existing antenna	Information not provided.
UHF - Lower Power Side Mount, One station antenna - medium power (50-200 kW), horizontally polarized	**Component Description:** Inv: WSLS TLP-24H (C)VP aux antenna 50 percent down pmt UL20180316 **Amount:** $28,816.00

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	**$54,540.00**	**$51,840.00**		**$41,287.06**	
Rigid Transmission Line - copper, 6 1/8"	$54,540.00	$51,840.00	N/A	$41,287.06	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	$60,940.00	$58,240.00	N/A	$41,287.06	N/A
Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Actual Information Description	File Name	
Rigid Transmission Line - copper, 6 1/8"	**Component Description:**	Inv MAN00430 WSLS Trans line 45 perc pmt 2 UL20180713jgv1
	Amount:	$20,643.53
	Component Description:	Inv MAN00325 WSLS Transmission Line UL20180423jg
	Amount:	$20,643.53

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 Justificatior
Primary Tower TOWER	**$1,735,600.00**	**$1,377,970.00**		**$231,325.56**	
Serious tower reinforcement /modifications	$1,052,000.00	$700,000.00	N/A	$97,667.06	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$400,000.00	N/A	$105,688.50	N/A
Tower Helicopter Lift	***$250,000.00***	$250,000.00	N/A	N/A	N/A
Structural engineering tower load study for well documented tower	$12,600.00	$27,970.00	The tower studies and modifications have turned out to be more complicated than originally anticipated (20180815jgv1)	$27,970.00	The initial tower study was performed, and a potential issue with the top plate on the tower was discovered which required additional analysis.
Sub-total	$1,735,600.00	$1,377,970.00	N/A	$231,325.56	N/A

Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Actual Information Description	File Name	
Serious tower reinforcement/modifications	**Component Description:** **Amount:**	ERI inv #WSLS-TV-003 Tower mods 50 pct pay 1 UL20181102jgv1 $54,360.00
	Component Description: **Amount:**	WSLS ERI inv #WSLS-002 Tower work 50 perc dp UL20180731jgv2 $22,664.56
	Component Description: **Amount:**	ERI inv #WSLS-001 Tower work 50 perc pmt 1 UL20181101jgv1 $20,642.50
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	**Component Description:** **Amount:**	ERI inv #WSLS-001-01 Ant and line install 50 pct pmt 1 UL20181102jgv1 $105,688.50
Tower Helicopter Lift	Information not provided.	
Structural engineering tower load study for well documented tower	**Component Description:** **Amount:**	Inv: WSLS Tower Data Collection UL20180402 $2,720.00

Component Description:	WSLS Malouf inv #1805084V4 Structural Analysis UL20180816jg v1
Amount:	$7,000.00
Component Description:	Coordinate Tower mapping & analyses - Also See Attached "KGA Quote"
Amount:	$750.00
Component Description:	Inv: WSLS Structural Analysis UL20180305
Amount:	$4,500.00
Component Description:	WSLS Malouf inv #1805084V3 Structural Analysis UL20180815jg v1
Amount:	$3,500.00
Component Description:	Coordinate Tower Modifications - Also See Attached "KGA Quote"
Amount:	$1,250.00
Component Description:	Develop an Upgrade or Replacement solution for Tower - Also See Attached "KGA Quote"
Amount:	$750.00

Component Description:	Inv 1805084V1 WSLS Mod Design and Structural Analysis UL20180424jg v1
Amount:	$7,500.00

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	**$453,925.00**	**$547,250.00**		**$103,293.15**	
Other Legal Services	***$1,000.00***	$1,000.00	Other Legal Services related to the DTV Repack	$68.40	N/A
Other Engineering Services	***$97,500.00***	$97,500.00	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.	$46,012.50	N/A
Additional Field Engineering Service, 45 Days	***$90,000.00***	$90,000.00	N/A	$7,200.00	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	$550.00	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 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
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	$6,000.00	$3,000 for the 1% expansion initial 90-day CP application and $3,000 for expansion facilities in the 1st priority filing window pursuant to DA 17-106 where costs reasonably incurred in the 1st priority window for expanded facilities will be reimbursed.	$6,000.00	N/A

Perform engineering study for new channel assignment and antenna development	$7,360.00	$14,000.00	$7,000 for the 1% expansion initial 90-day CP application and $7,000 for expansion facilities in the 1st priority filing window pursuant to DA 17-106 where costs reasonably incurred in the 1st priority window for expanded facilities will be reimbursed.	$14,000.00	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	$2,500.00	N/A	$3,013.00	Legal assistance beyond that originally anticipated has been required.
Project management of the transition	$94,800.00	$187,500.00	N/A	$26,449.25	N/A

Prepare request for Special Temporary Authorization	$4,100.00	$3,000.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	$84,200.00	$80,000.00	N/A	$0.00	N/A
Sub-total	$453,925.00	$547,250.00	N/A	$103,293.15	N/A
Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Actual Information Description	File Name	
Other Legal Services	**Component Description:**	WSLS Covington inv #60812707 Review and file 2018 Q2 Progress Report UL20181019jgv1
	Amount:	$68.40
Other Engineering Services	**Component Description:**	Inv 947-88 WSLS OES Jan18 - Jun18 UL20180720jgv1
	Amount:	$44,325.00
	Component Description:	Inv 947-75 WSLS Actual Cost UL20180705jgv1
	Amount:	$1,687.50

Additional Field Engineering Service, 45 Days	**Component Description:** **Amount:**	Additional Field Engineering Services (On Site Equipment inventory & facilities survey) - Also see Attached "KGA Quote" $5,400.00
	Component Description: **Amount:**	Inv: WSLS GatesAir manufacturer visit UL20180316 $1,800.00
	Component Description: **Amount:**	Inv 947-49 WSLS CAS planning procurement and oversight; site visit UL20180412jg $5,400.00
	Component Description: **Amount:**	Inv: WSLS R&S manufacturer visit UL20180316 $1,800.00
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:**	Inv 947-71 WSLS FAA 7460 UL20180531jgv1 $550.00
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 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.
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:**	Engineering Portion of 1% Expansion CP application for Initial 90-Day Filing Window - Also see "KGA Quote".
	Amount:	$3,000.00
	Component Description:	Expanded Facilities - Prepare engineering section of Form 301 FCC First Priority Filing Window CP Application to compensate for IX in excess of 1%. Reimbursable pursuant to DA 17-106.
	Amount:	$3,000.00

Perform engineering study for new channel assignment and antenna development	**Component Description:**	1% Expansion Engineering Studies and Coordination for Initial 90-CP application - Also see "KGA Quote".
	Amount:	$7,000.00
	Component Description:	Expanded Facilities - Performed engineering studies for increased coverage and antenna development in 1st Priority Filing Window to compensate for IX in excess of 1%. Reimbursable pursuant to DA 17-106.
	Amount:	$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:**	Inv: WSLS Various legal UL20180305
	Amount:	$1,295.00
	Component Description:	Inv: WSLS Various legal UL20180329 rev'd 20180329jg
	Amount:	$1,197.90
	Component Description:	Inv: WSLS Reimburse review etc UL20180305
	Amount:	$513.00
	Component Description:	Prepared FCC 399 reimbursement form (Initial Filing) - Also see attached "KGA Quote"
	Amount:	$2,500.00

Project management of the transition	**Component Description:**	Inv 60768465 WSLS Various legal UL20180514 jgv1
	Amount:	$1,559.25
	Component Description:	Inv 947-65 WSLS Proj Mgt 2017 Aug - Dec UL20180625jgv2
	Amount:	$20,190.00
	Component Description:	Inv 947-81 WSLS 2018Q2 387 UL20180713jgv1
	Amount:	$300.00
	Component Description:	Inv: WSLS 2017Q4 387 UL20180302
	Amount:	$300.00
	Component Description:	Project Management - Also see attached "KGA Quote" Hours: 23-1 /3 Rate: $150/hr Time Period: 8/1/17 - 8/31/17
	Amount:	$3,500.00
	Component Description:	Inv 947-57 WSLS 2018Q1 387 UL20180622jgv1
	Amount:	$300.00
	Component Description:	Inv: WSLS 2017Q3 387 UL20180302
	Amount:	$300.00

Prepare request for Special Temporary Authorization	Information not provided.	
Comprehensive coverage verification via field study, if needed	**Component Description:** **Amount:**	Partial Completion of Comprehensive coverage verification via field study - see "KGA Quote" for fixed price fee. $38,200.00

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 Co Justificat
Other Expenses	**$195,190.00**	**$194,585.00**		**$0.00**	
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	***$100,000.00***	$100,000.00	It is expected that the station will spend at least $100,000 developing and airing the required announcements.	N/A	N/A
Equipment Storage	***$10,000.00***	$10,000.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	***$50,000.00***	$50,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$10,000.00***	$10,000.00	N/A	N/A	N/A
FCC Filing Fees - Special Temporary Authorization request	$195.00	$190.00	An STA will be required for interim operation while the main facility is being built-out.	N/A	N/A

FCC Filing Fees - Form 2100 license to cover application	$335.00	$325.00	A license application may be required after structural analysis results are received which would require a CP mod application and then the license application.	N/A	N/A
FCC Filing Fees - Form 2100 minor change CP application	$1,110.00	$1,070.00	A minor change of CP application may be required after structural analysis results are received.	N/A	N/A
Non-zoning permits	***$10,000.00***	$10,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	N/A	N/A	N/A
Sub-total	$195,190.00	$194,585.00	N/A	$0.00	N/A
Total for all systems	$4,719,961.00	$4,755,780.00	N/A	$1,028,106.15	N/A

Components

Information not provided.

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$4,719,961.00	$4,755,780.00	$1,028,106.15

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* 11/02/2018

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* 11/02/2018

Attachments