

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:	000002	27856	-		
FRN: 0025	636598	Date Submitted:	11/20 /2019		

Applicant Name, Type, and Contact Information

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 Name and Information Reimbursement Contact Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Ontact Name and Information

Contact 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	Add Transmitter Information					
ransmitter	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				
	Manufacturer and Type	Model	Diamond			
		Year	2007			
		Туре	Solid State			
		Solid State Cooling	Air Cooled			
		Solid State Power Capacity	1.8 kW			

Add Transmitter Information

Auxiliary	New Transmitter Costs					
Transmitter	Section	Question	Response			
	New Transmitter	Use	Auxiliary (Backup)			
		Change Type	Purchase New			
		Is this a request for upgraded equipment?	No			
		Manufacturer				
		Model	TMU9			
		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	Other Transmitter Costs					
Transmitter	Section	Question	Response			
	Electrical Service	Service Entrance (3 phases 800A 208V)	No			
		Switchgear (industrial 800 amp)	Yes			
		Transformer (480V)	No			
		Power	N/A			
		Rigid Conduit and Wiring	No			

	Size	N/A
	Length	N/A
	Other Electrical Service	No
	Description	N/A
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Туре	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 Other Transmitter Cost Not Listed

Transmitter Information not provided.

Primary	Existing Transmitter Information					
Transmitter	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				
	Manufacturer and Type	Model	Sigma			
		Year	2007			
		Туре	Inductive Output Tube			
		IOT Power Type	Two			
		Power Capacity	30 kW			

Existing Transmitter Information

Primary	New Transmitter Costs					
Transmitter	Section	Question	Response			
	New Transmitter	Use	Primary (Main)			
		Change Type	Purchase New			
		Is this a request for upgraded equipment?	No			
		Manufacturer				
		Model	THU9EVO- 24			
		Transmitter Type	Solid State			
		Solid State Cooling	Liquid Cooled			
		Solid State Power capacity	37 kW			
		Justification for New Transmitter	The manufacturer of the existing IOT transmitter advises that the transmitter cannot be re- tuned to the assigned channel. Therefore, a new Rohde & Schwarz THU9EVO- 24 is being purchased.			

Primary Other Transmitter Costs

Transmitter	Section	Question	Response
	Electrical Service	Service Entrance (3 phases 800A 208V)	No
		Switchgear (industrial 800 amp)	No

	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	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?	No
	Туре	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	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

Other Transmitter Cost Not Listed

Primary Transmitter

Name

Description

Additional Interior RF System	Interior RF System Existing Transmitter to Interim Transmission line
Transmitter Remote Control	Modification of the transmitter Remote Control system is required for it to interface with the new transmitters.

Antennas Section		Question	Response
Antenna Rela	ated Expenses	Do you have antenna related expenses?	Yes

Auxiliary	Add Antenna Information				
Antenna	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	Class	Full Power		
	Manufacturer and Type	Mounting	Side Mount		
		Antenna position in stack	Not in Stack		
		Polarization	Horizontal		
		Туре	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

Antenna	Section	Question	Response
	New Antenna Description	Use	Auxiliary (Backup)
		Description of Use	Auxiliary
		Change Type	Purchase Nev
		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	Side Mount
		Antenna position in stack	Not in Stack
		Polarization	Elliptical
		Туре	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)	8.6 kW
		Manufacturer	
		Model	TLP-24H(C) VP

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

Other Antenna Costs

Auxiliary Antenna

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	
	Туре	
	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?	No
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?	No

Other Antenna Cost Not Listed

Auxiliary	Other Antenna Cost Not Listed		
Antenna	Name	Description	
	Sweep test of existing antenna	Sweep test of existing antenna	
	UHF Lower Power Side Mount, One station antenna-medium power 50-200 kW, horizontally polarized	UHF Lower Power Side Mount, One station antenna-medium power 50-200 kW, horizontally polarized	

Primary	Existing Antenna Information			
Antenna	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	
		Туре	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

Antenna	Section	Question	Response
	New Antenna	Use	Primary (Main
	Description	Description of Use	N/A
		Change Type	Purchase Nev
		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	Class	Full Power
	Manufacturer and Types	Mounting	Top Mount
		Antenna position in stack	Not in Stack
		Polarization	Elliptical
		Туре	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 Other Antenna Costs

Antenna	Section	Question	Response
	Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
		Туре	
		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)

Transmissior	n Seffien	Question	Response
	Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

Add Transmission Line Transmission Line

ransmissio	n 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
		Туре	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	Other Transmission Line Expenses Not Listed	
Transmissio	n Line	Description
	Sweep Tests	Sweep test to verify performance on

assigned channel.

Primary	Existing Transmission Line				
Transmissio	n 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	Manufacturer			
	Line Manufacturer and Type	Туре	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	New Transmission Line				
Transmissio	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		
		Туре	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 Other Transmission Line Expenses Not Listed

Primary Other Transmission Transmission

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

mary	Existing	Tower

Primary	Existing Tower			
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	Do you have a tower registration number?	Yes	
	Registration	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 fee
Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	Graham Media Group, Virginia, LLC
Date Constructed	01/01/1980

Primary Tower Section Qu

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

Brimary Tower Rigging Costs

Primary Tower

Section	Question	Response
Tower Rigging Costs	Complex Tower	Terrain constrained
Helicopter Services Required	Are helicopter services required?	No

Primary	Other Tower Expenses Not Listed	
Tower	Name	Description

Transmission Line Layout	Transmission Line Layout Prior to
	Mobilization

Outside Professional	Section	Question	Response
	I Services Costs Outside Project Management Services	Do you require outside project management services?	Yes
		Number of Hours	500
		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
Services	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	No
	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 Other Professional Services Expenses Not Listed Professional Services Costs

sional	Services Costs	Description	
	Architectural and Engineering	Architectural and Engineering for New Transmission Facility. See Quote attached to Osborn inv 29014	
	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	Section	Question	Response
Expenses	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 Not Listed

Other

Expenses	Name	Description
	Heavy equipment rentals	Required for Decom
	Тах	Тах

Transmitters

Cost Information

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 THU9EVO-24	\$2,781,594.75	\$1,288,344.75		\$1,123,729.25	
Additional Interior RF System	\$140,000.00	\$140,000.00	N/A	\$38,435.00	N/A
Other Building Addition Size: 700.0	\$68,559.25	\$68,559.25	Need concrete pad for new heat exchangers which also require cable trays, conduit and an ice shield due to extreme weather conditions atop the mountain.	\$68,559.25	See attached Osborn Engineering Quote and summary page for additional details.
Other Electrical Service: Additional electrical service needed for the new transmitter and RF plumbing installation.	\$100,000.00	\$100,000.00	N/A	\$57,665.00	See attached Osborn Engineering Quote and summary page for additional details.

Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$24,300.00	N/A	\$4,120.00	N/A
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	\$1,473,000.00	\$701,250.00	\$701,250 is the difference between \$233,750 invoice 9500076219 (which was Forwarded For Payment) for the originally specified IOT transmitter and the remaining balance due for the new THU9EVO- 24 transmitter.	\$701,250.00	N/A
Transmitter Remote Control	\$20,485.50	\$20,485.50	See invoices and quotes	\$19,950.00	N/A

Two IOT system (50 kW)	\$954,000.00	\$233,750.00	***System Notice: Estimate adjusted and locked because line has been superseded. ***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
Auxiliary Transmitter TMU9	\$164,200.00	\$116,865.01		\$89,505.01	
UHF - Air Cooled Solid State Transmitter 1 - 2.5 kW	\$126,000.00	\$80,565.01	N/A	\$80,565.01	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	\$8,940.00	N/A
Sub-total	\$2,945,794.75	\$1,405,209.76	N/A	\$1,213,234.26	N/A
Total for all systems	\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A

Components

Actual Information	
Description	File Name

Additional Interior RF		
System	Component Description:	R&S inv
		#9500092053 Ext
		Heat Exchanger on
		Station Load
		UL20190418jgv1
	Amount:	\$10,050.00
		DAD 0500400000
	Component Description:	R&S 9500102206
	Amount:	v190625jgv1
	Amount:	\$11,560.00
	Component Description:	R&S 9500086411
		v190528jgv1
	Amount:	\$11,300.00
	Component Description:	R&S inv
	Component Description.	#9500092053 CH 30
		Main TX to Magic T
		input
		UL20190418jgv1
	Amount:	\$4,775.00
		Developed a Och for
	Component Description:	Developed a Solution
		for Transmitter & Mask Filter on Now
		Mask Filter on New Channel - Also See
		attached "KGA Quote"
	Amount:	\$750.00
	Anount.	\$750.00

Other Building Addition Size: 700.0	Component Description: Amount:	Inv 1034840 WSLS Professional Services UL20180511jgv1 \$494.50
	Component Description: Amount:	Lionberger 1333-01 v190628jgv1 \$44,801.00
	Component Description: Amount:	Osborn inv #25404R Facility Elec Survey and Condition Assessment UL20190411jgv6 \$11,825.93
	Component Description: Amount:	Osborn inv #28226 Prof Srvs 1-27-18 to 2- 23-18 UL20181101jgv1 \$11,191.82
	Component Description: Amount:	Osborn inv #25404R Facility Building Survey and Condition Assessment UL20190205jgv4 \$5,375.00
	Component Description:	Osborn inv #29392 In house printing UL20181101jgv1
	Amount:	\$246.00

Other Electrical Service: Additional electrical service needed for the new transmitter and RF plumbing installation.	Component Description: Amount:	R&S 9500084015 v190528jgv1 \$57,165.00
	Component Description:	WSLS Osborn inv #29669 Prof Srvs through 7-29-18
	Amount:	UL20180726jgv1 \$60,252.10
	Component Description:	Developed a Solution for Electrical and HVAC on New Channel - Also See attached "KGA Quote
	Amount:	\$500.00
	Component Description:	Osborn inv #25404 Facility Elec Survey and Condition Assessment
		UL20181203jgOsborr inv #25404R Facility Elec Survey and Condition
	Amount:	Assessment UL20190205jgv4 \$6,450.93
Transformer 3 phase		
/480v - 150 KVA	Component Description:	R&S 9500085911 v190528jgv1
	Amount:	\$4,120.00

UHF - Liquid Cooled		
Solid State Transmitter	Component Description:	R&S inv
35 - 50 kW		#9500092024
		THU9EVO-24
		transmitter 50 pct pmt
		2 UL20190111jgv1
		applied to correct
		THU9EVO-24
		component on 190124
	Amount:	\$467,500.00
		D 00.
	Component Description:	R&S inv
		#9500092026
		THU9EVO-24
		transmitter 25 pct final
		pmt UL20190111jgv1
		applied to correct THU9EVO-24
	Amount:	component on 190124 \$233,750.00
	Amount.	\$233,730.00
Transmitter Remote Control		
Control	Component Description:	Bohn inv #200249
		Remote Control
		UL20190118jgv1
	Amount:	\$19,950.00
	Component Description:	Bohn 200190
		v190911pmv1
	Amount:	\$535.50

Two IOT system (50 kW)		
	Component Description:	Inv: WSLS THU9EVO- 24 transmitter 25% down pmt
		UL20180312
	Amount:	\$233,750.00
	Component Description:	R&S inv
		#9500092024
		THU9EVO-24
		transmitter 50 pct pmt
	Amount:	2 UL20190111jgv1 \$467,500.00
	Amount.	φ 4 07,500.00
	Component Description:	R&S inv
	••••••••••••••••••••••••••••••••••••••	#9500092026
		THU9EVO-24
		transmitter 25 pct final
	A	pmt UL20190111jgv1
	Amount:	\$233,750.00
UHF - Air Cooled Solid		
State Transmitter 1 - 2.5	Component Description:	R&S inv
	Component Description:	#9500092025 TMU9-
State Transmitter 1 - 2.5	Component Description:	#9500092025 TMU9- 3 Aux TX 25 pct final
State Transmitter 1 - 2.5		#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1
State Transmitter 1 - 2.5	Component Description: Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final
State Transmitter 1 - 2.5		#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1
State Transmitter 1 - 2.5	Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25
State Transmitter 1 - 2.5	Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt
State Transmitter 1 - 2.5	Amount: Component Description:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313
State Transmitter 1 - 2.5	Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt
State Transmitter 1 - 2.5	Amount: Component Description: Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313
State Transmitter 1 - 2.5	Amount: Component Description:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 \$20,141.25
State Transmitter 1 - 2.5	Amount: Component Description: Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 \$20,141.25 R&S inv
State Transmitter 1 - 2.5	Amount: Component Description: Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 \$20,141.25 R&S inv #9500092027 TMU9- 3 Aux TX 50 pct DP upon delivery
State Transmitter 1 - 2.5	Amount: Component Description: Amount: Component Description:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 \$20,141.25 R&S inv #9500092027 TMU9- 3 Aux TX 50 pct DP upon delivery UL20190117jgv1
State Transmitter 1 - 2.5	Amount: Component Description: Amount:	#9500092025 TMU9- 3 Aux TX 25 pct final pmt UL20190117jgv1 \$20,141.25 Inv: WSLS TMU9-3 aux transmitter 25% down pmt UL20180313 \$20,141.25 R&S inv #9500092027 TMU9- 3 Aux TX 50 pct DP upon delivery

Switchgear - industrial 800 amp		
ooo amp	Component Description:	R&S inv
		#9500092053 WSLS
		Aux TX
		UL20190418jgv1
	Amount:	\$8,940.00

Antennas

Cost Information

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	\$558,570.34		\$476,726.20	
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	\$9,570.00	\$12,383.00	Elbow	\$12,383.00	N/A
complex,			complex is		
single			actually 6-1		
channel, at			/8". See		
antenna			attached		
input, per 4 1/16.			Dielectric		
feedline (if			quote.		
needed)					
needed)					
Sweep test	\$6,730.00	\$6,400.00	N/A	\$3,520.00	N/A
of existing					
antenna					
UHF - High	\$289,500.00	\$355,021.34	Recognizing	\$351,121.30	Please see
Power Top			that e-pol is		invoices
Mount (200-			an upgrade,		and quotes
1000 kW),			the station is		
One			budgeting for		
station			"h-pol only"		
antenna,			which		
elliptically			Dielectric said		
or circularly			is a 15%		
polarized			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%).		
Auxiliary	\$222,039.00	\$57,798.00	(1370).	\$49,369.00	
Auxillary Antenna	<i>\$222,</i> 039.00	φJ1,130.00		φ 4 3,303.00	
TLP-24H(C)					
(\)					

UHF - High Power, Side Mount, basic slot antenna, 8 - 10 kW input, directional,, elliptically or circularly polarized	\$0.00	\$0.00	N/A	\$0.00	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$2,700.00	N/A	\$1,350.00	N/A
Sweep test of existing antenna	\$3,200.00	\$3,200.00	N/A	\$3,200.00	N/A
UHF Lower Power Side Mount, One station antenna- medium power 50- 200 kW, horizontally polarized	\$11,629.00	\$11,629.00	N/A	\$4,550.00	N/A

Total for all	\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A
Sub-total	\$714,005.00	\$616,368.34	N/A	\$526,095.20	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
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$5,107.00	***System Notice: Estimate adjusted and locked because line has been superseded. ***	\$5,107.00	N/A
UHF - Lower Power Side Mount, One station antenna - medium power (50- 200 kW), horizontally polarized	\$89,400.00	\$6,346.00	***System Notice: Estimate adjusted and locked because line has been superseded. ***	\$6,346.00	N/A

Actual Information	
Description	File Name

Mounting Support Pole		
	Component Description:	WSLS Die inv
		#MAN00606 Mt
		pole mod 45 pct
		pmt 1
	Amount:	UL20181105jgv2 \$26,557.20
	Amount.	φ20,337.20
	Component Description:	WSLS Die inv
		#MAN00607 Mt
		pole mod 45 pct
		pmt 2
		UL20181105jgv2
	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	Component Description:	Inv MAN00430
not included in antenna		WSLS Side mt
base cost)		brckts 45 perc pmt
		2 UL20180713jgv1
	Amount:	\$9,787.50

Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	Component Description:	Inv MAN00325 WSLS Elbow Complex
	Amount:	UL20180423jg \$5,572.35
	Component Description: Amount:	Die 325012 v190723pmv1 \$1,238.30
	Component Description:	Inv MAN00430 WSLS Elbox comp 45 perc pmt 2 UL20180713jgv1
	Amount:	\$5,572.35
Sweep test of existing antenna	Component Description:	Die 354022 v190918jgv3
	Amount:	\$640.00
	Component Description:	Inv MAN00430 WSLS Sweep tests 45 perc pmt 2 UL20180713jgv1
	Amount:	\$2,880.00
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	Component Description: Amount:	Die 345005 v190723pmv1 \$6,330.00
	Component Description: Amount:	Die 325012 v190723pmv1 \$742.80

Component Description: Amount:	ERI WSLS-015 v190912pmv1 \$77,440.80
Component Description: Amount:	Inv MAN00430 WSLS Main ant 45 perc pmt 2 UL20180713jgv1 \$80,562.60
Component Description: Amount:	Inv MAN00325 WSLS TFU-30DSC VP-R C170 etc Main Antenna UL20180423jg \$140,030.10
Component Description: Amount:	Die 286003 v190819jgv2 N/A
Component Description: Amount:	R&S inv #9500092053 Main ant to RF Switch connection comps UL20190418jgv1 \$16,280.00
Component Description: Amount:	Die 286003 v190925pmv4 \$29,735.00
Component Description: Amount:	Die 286003 v19104pmv5 \$29,735.00

UHF - High Power, Side Mount, basic slot antenna, 8 - 10 kW input, directional,, elliptically or circularly polarized	Component Description: Amount:	Die 624027 v191015pmv1 N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Component Description: Amount:	Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost) (\$1,350.00)
	Component Description: Amount:	Die inv #274004 TLP-24 aux ant scatter analysis pmt 2 UL20190125jgv1 \$2,700.00
Sweep test of existing antenna	Component Description: Amount:	Die 624027 v191113pmv2 \$3,200.00

UHF Lower Power Side Mount, One station antenna-medium power 50- 200 kW, horizontally polarized	Component Description: Amount:	Die 624027 v191113pmv2 (\$394.00)
	Component Description:	Die 624027
		v191113pmv2
	Amount:	(\$4,131.50)
	Component Description:	Die 624027
		v191113pmv2
	Amount:	(\$2,553.50)
	Component Description:	Die 624027
		v191113pmv2
	Amount:	\$11,629.00
UHF - Lower Power Side		
Mount, One station antenna - medium power	Component Description:	Die inv #274004
(50-200 kW), horizontally		TLP-24 aux ant pmt
polarized		2 UL20190125jgv1
	Amount:	\$5,558.00
	Component Description:	Die inv #274004
		TLP-24 aux ant test
		transition pmt 2
		UL20190125jgv1
	Amount:	\$788.00
Side mount brackets for		
high power antennas (if not included in antenna	Component Description:	Die inv #274004
base cost)		TLP-24 aux ant
,		brackets pmt 2
	Amount:	UL20190125jgv1 \$5,107.00
	Allount.	φ 3, 107.00

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

Transmission Line

Cost Information

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	\$54,046.94		\$53,703.24	
Rigid Transmission Line - copper, 6 1/8"	\$54,540.00	\$54,046.94	N/A	\$53,703.24	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	\$60,446.94	N/A	\$53,703.24	N/A
Total for all systems	\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A

Actual Information	
Description	File Name

Rigid Transmission Line - copper, 6 1/8"	Component Description: Amount:	Die 341010 v190905pmv2 \$343.70
	Component Description: Amount:	Die 341010 v190731pmv1 \$343.70
	Component Description: Amount:	Die 286003 v190819jgv2 N/A
	Component Description:	Inv MAN00430 WSLS Trans line 45 perc pmt 2 UL20180713jgv1
	Amount:	\$20,643.53
	Component Description: Amount:	Die 286003 v190925pmv4 \$3,900.04
	Component Description:	Inv MAN00325 WSLS Transmission Line UL20180423jg
	Amount:	\$20,643.53
	Component Description:	Die 286003 v191002pmv5 \$3,900.04
	Component Description:	Die inv #202001 Nitrogen generator
	Amount:	UL20181102jgv1 \$8,172.44

Tower Equipment and Rigging Costs

Cost Information

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
Primary Tower TOWER	\$1,492,100.00	\$395,416.81		\$294,970.00	
Structural engineering tower load study for well documented tower	\$12,600.00	\$30,470.00	The tower studies and modifications have turned out to be more complicated than originally anticipated (20180815jgv1)	\$30,470.00	The initial tower study was performed, and a potential issue with the top plate on the tower was discovered which required additional analysis.
Serious tower reinforcement /modifications	\$1,052,000.00	\$154,969.81	N/A	\$150,324.31	N/A
Transmission Line Layout	\$6,500.00	\$6,500.00	N/A	\$6,500.00	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$203,477.00	N/A	\$107,675.69	N/A
Sub-total	\$1,492,100.00	\$395,416.81	N/A	\$294,970.00	N/A

Total for all	\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A
systems					

Actual Information Description	File Name	
Structural engineering tower load study for well documented tower	Component Description:	Inv: WSLS Structural Analysis UL20180305
	Amount:	\$4,500.00
	Component Description: Amount:	Malouf 1905084V0 v191120gv2 \$2,500.00
	Component Description:	Inv: WSLS Tower Data Collection UL20180402
	Amount:	\$2,720.00
	Component Description:	WSLS Malouf inv #1805084V4 Structural Analysis UL20180816jg v1
	Amount:	\$7,000.00
	Component Description:	Develop an Upgrade or Replacement
		solution for Tower - Also See Attached "KGA Quote"
	Amount:	\$750.00

Component Description:	Coordinate Tower Modifications - Also See Attached "KGA
Amount:	Quote" \$1,250.00
Component Description: Amount:	WSLS Malouf inv #1805084V3 Structural Analysis UL20180815jg v1 \$3,500.00
Component Description:	Inv 1805084V1 WSLS Mod Design and Structural Analysis UL20180424jg v1
Amount:	\$7,500.00
Component Description:	Coordinate Tower mapping & analyses - Also See Attached "KGA Quote"
Amount:	\$750.00

Serious tower reinforcement/modifications	Component Description: Amount:	Site Res 249553 v190711jgv1 \$2,580.00
	Component Description: Amount:	ERI WSLS-TV- 003A v190912pmv1 \$50,077.25
	Component Description:	ERI inv #WSLS-TV- 003 Tower mods 50 pct pay 1 UL20181102jgv1 \$54,360.00
	Component Description:	ERI inv #WSLS-001 Tower work 50 perc pmt 1
	Amount:	UL20181101jgv1 \$20,642.50
	Component Description:	WSLS ERI inv #WSLS-002 Tower work 50 perc dp UL20180731jgv2
Transmission Line Layout	Amount:	\$22,664.56
	Component Description: Amount:	ERI 52482 v190912pmv1 \$6,500.00

Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Component Description: Amount:	Flash 90215019 v190910pmv1 \$1,603.14
	Component Description:	Flash 90214863 v190910pmv1
	Amount:	\$384.05
	Component Description:	ERI inv #WSLS-001- 1 Ant and line install
		50 pct pmt 1
		UL20181127jgv2
	Amount:	\$105,688.50

Outside Professional Services

Cost Information

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
Outside Professional Services	\$527,595.00	\$503,600.00		\$228,904.84	
Other Legal Services	\$10,000.00	\$10,000.00	Other Legal Services related to the DTV Repack	\$5,700.15	N/A
Other Engineering Services	\$147,500.00	\$147,500.00	Fewer Project Management "PM" tasks are required & Other Engineering Services "OES" are required, therefore the PM total has been reduced to 200 hrs (\$30,000 at \$150/hr), & the OES category has been funded with the money removed from PM.	\$123,460.00	N/A
Architectural and Engineering	\$68,350.00	\$68,350.00	Architectural and Engineering for New Transmission Facility. See Quote attached to Osborn inv 29014	\$8,967.04	N/A

Additional Field Engineering Service, 45 Days	\$90,000.00	\$90,000.00	N/A	\$23,600.00	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$80,000.00	N/A	\$0.00	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
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),	\$5,260.00	\$5,000.00	N/A	N/A	N
Construction					
Permit					
Application					
Prepare	\$4,100.00	\$3,000.00	N/A	N/A	N/
request for					
Special					
Temporary					
Authorization					
RF Consulting	\$1,580.00	\$1,500.00	N/A	N/A	N/
Engineer Fees-					
Aux Antenna:					
Prepare					
engineering					
section of FCC					
Form 2100,					
License to					
Cover					
Application					
Prepare	\$1,580.00	\$1,500.00	N/A	N/A	N
engineering					
section of FCC					
Form 2100					
(main), License					
to Cover					
Application					
RF Consulting	\$2,105.00	\$2,000.00	N/A	N/A	N
Engineer Fees-					
Aux Antenna:					
Prepare					
engineering					
section of FCC					
Form 2100,					
Construction					
Permit					

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

Project management of the transition	\$79,000.00	\$30,000.00	The majority of the PM hours and \$ has been moved to OES and the "Prepare and or review reimbursement form" components.	\$27,349.25	N/A
Prepare and or review reimbursement form	\$2,630.00	\$25,000.00	The station continues to need assistance preparing and submitting its Actual Cost invoices, and the Estimated Cost reflects that.	\$19,278.40	Legal assistanc beyond that originally anticipate has beer requirec
Sub-total	\$527,595.00	\$503,600.00	N/A	\$228,904.84	N/A
Total for all systems	\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A

Actual Information Description	File Name	
Other Legal Services		
	Component Description:	Covington inv #60827770 Legal services thru 181130 UL20190308jgv1
	Amount:	\$102.60
	Component Description:	C&B 60847118 v190610pmv1
	Amount:	\$71.10

	Component Description: Amount:	Cov 60850674 v190810jgv1 \$3,122.10
	Component Description: Amount:	Cov 60859434 v191015jgv1 \$213.30
	Component Description: Amount:	C&B 60842539 v190704jgv1 \$71.10
	Component Description: Amount:	Cov 60855208 v191015jgv1 \$1,944.90
	Component Description: Amount:	Covington inv #60836450 Legal services thru 190131 UL20190308jgv1 \$106.65
	Component Description: Amount:	C&B inv #60836450 Various legal UL20190405jgv1 \$106.65
	Component Description:	WSLS Covington inv #60812707 Review and file 2018 Q2 Progress Report UL20181019jgv1
Services	Amount:	\$68.40

Other Engineering Services

Component Description: Amount:	KGA 947-187 v190614pmv1 \$4,155.00
Component Description: Amount:	KGA inv #947-117 2018 Q4 387 UL20190212jgv1 \$300.00
Component Description: Amount:	KGA inv #947-151 OES by WTG Jan 2019 UL20190308jgv1 \$2,725.00
Component Description:	KGA inv #947-150 OES by WTG Dec 2018 UL20190308jgv1
Amount:	\$5,225.00
Component Description: Amount:	KGA 947-186 v190614pmv1 \$2,152.50
Component Description:	KGA inv #947-148 OES by WTG 181022-181031
Amount:	UL20190308jgv1 \$1,600.00
Component Description: Amount:	KGA 947-185 v190614pmv1 \$3,135.00
Component Description: Amount:	KGA 947-188 v190614pmv1 \$6,427.50

Compo Amoun	nent Description: t:	KGA 947-204 v191015jgv1 \$7,375.00
Compo Amoun	nent Description: t:	KGA 947-187 v190704jgv1 \$4,155.00
Compo	nent Description:	KGA inv #947-136 Actual Cost invoices Nov 18 UL20190212jgv1
Amoun	t:	\$2,775.00
Compo Amoun	nent Description: t:	KGA 947-186 v190704jgv1 \$2,152.50
Compo	nent Description:	KGA inv #947-116 Site Visit Dec 2018 UL20190212jgv1
Amoun	t:	\$5,400.00
Compo	nent Description:	Inv 947-88 WSLS OES Jan18 - Jun18 UL20180720jgv1
Amoun	t:	\$44,325.00
Compo	nent Description:	KGA inv #947-134 Actual Cost invoices Sept 18
Amoun	t:	UL20190212jgv1 \$125.00

Component Description: Amount:	KGA inv #947-149 OES by WTG Nov 2018 UL20190308jgv1 \$5,350.00
Component Description: Amount:	KGA 947-185 v190704jgv1 \$3,135.00
Component Description: Amount:	Inv 947-75 WSLS Actual Cost UL20180705jgv1 \$1,687.50
Component Description:	KGA inv #947-135 Actual Cost invoices Oct 18 UL20190212jgv1
Amount:	\$100.00
Component Description:	KGA inv #947-113 OES Jul18 - Oct18 UL20180720jgv1
Amount:	\$27,400.00
Component Description:	KGA 947-188 v190704jgv1
Amount:	\$6,427.50
Component Description:	KGA inv #947-104 Actual Cost invs 180607 - 180905 UL20180720jgv1
Amount:	\$2,227.50

	Component Description:	KGA inv #947-137 Actual Cost invoices Dec 18 UL20190212jgv1 \$975.00
Architectural and		<i>Q</i> (1)
Engineering	Component Description:	Osborn inv #29014 Prof Srvs thru 4-27- 18 UL20181105jgv1
	Amount:	\$8,967.04

Additional Field
Engineering Service, 45
Days

Component Description: Amount:	KGA inv #167-60 Site visit UL20190308jgv1 \$5,400.00
Component Description: Amount:	Inv: WSLS R&S manufacturer visit UL20180316 \$1,800.00
Component Description: Amount:	KGA inv #947-49 Site visit UL20181204jgv2 \$5,400.00
Component Description: Amount:	KGA inv #947-38 GatesAir manufacturer visit UL20181211jgv2 \$1,800.00
Component Description:	Additional Field Engineering Services (On Site Equipment inventory & facilities survey) - Also see Attached "KGA Quote"
Amount:	\$5,400.00
Component Description:	KGA inv #947-69 Field Eng Services
Amount:	UL20190212jgv1 \$3,800.00

Comprehensive coverage verification via field study, if needed	Component Description:	Partial Completion of Comprehensive coverage verification via field study - see "KGA Quote" for fixed price fee. \$38,200.00
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.	
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 engineering section of FCC Form 2100 (main), Construction Permit Application	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. \$3,000.00
	Component Description:	Engineering Portion of 1% Expansion CP application for Initial 90-Day Filing Window - Also see "KGA Quote". \$3,000.00

Perform engineering study for new channel		
assignment and antenna development	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
	Component Description:	1% Expansion Engineering Studies and Coordination for Initial 90-CP application - Also see "KGA Quote".
	Amount:	\$7,000.00
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
Project management of the transition		
	Component Description:	Inv: WSLS 2017Q3 387 UL20180302
	Amount:	\$300.00
	Component Description:	Inv 947-81 WSLS 2018Q2 387 UI 20180713iov1
	Component Description: Amount:	
		2018Q2 387 UL20180713jgv1
	Amount:	2018Q2 387 UL20180713jgv1 \$300.00

Component Description: Amount:	Inv 947-65 WSLS Proj Mgt 2017 Aug - Dec UL20180625jgv2 \$20,190.00
Component Description: Amount:	Inv 947-57 WSLS 2018Q1 387 UL20180622jgv1 \$300.00
Component Description: Amount:	KGA 947-163 v190704jgv1 \$300.00
Component Description: Amount:	Inv: WSLS 2017Q4 387 UL20180302 \$300.00
Component Description: Amount:	Project Management - Also see attached "KGA Quote" Hours: 23-1 /3 Rate: \$150/hr Time Period: 8/1/17 - 8/31/17 \$3,500.00
Component Description: Amount:	KGA inv #947-109 Form 387 2018 Q3 UL20180720jgv1 \$300.00
Component Description: Amount:	Inv 60768465 WSLS Various legal UL20180514 jgv1 \$1,559.25

	Component Description:	KGA inv #947-81 Form 387 2018 Q2
	Amount:	UL20180720jgv1 \$300.00
Prepare and or review		
reimbursement form	Component Description:	KGA inv #947-138
		Actual Cost prep &
		submit by JG Jan
		2019
		UL20190308jgv1
	Amount:	\$3,325.00
	Component Description:	KGA inv #947-158
		Actual Cost prep &
		submit by JG Feb
		2019
		UL20190308jgv1
	Amount:	\$625.00
	Component Description:	KGA 947-167
		v190704jgv1
	Amount:	\$1,412.50
	Component Description:	KGA 947-172
	••••••••••••••••••••••••••••••••••••••	v190704jgv1
	Amount:	\$1,620.00
	Component Description:	KGA 947-176
		v190704jgv1
	Amount:	\$1,475.00
	Component Description:	KGA 947-197
	Amount:	v191015jgv1 \$1,665.00
		51 bbb (III)

Component Description: Amount:	KGA 947-203 v191015jgv1 \$3,265.00
Component Description: Amount:	KGA 947-208 v191015jgv1 \$610.00
Component Description: Amount:	Inv: WSLS Reimburse review etc UL20180305 \$513.00
Component Description: Amount:	Prepared FCC 399 reimbursement form (Initial Filing) - Also see attached "KGA Quote" \$2,500.00
Component Description:	Covington inv #60781604 Various legal UL20181127jgv2
Amount: Component Description:	\$1,070.00 Covington inv
Amount:	#60775905 Various legal UL20181120jgv3 \$1,197.90
Component Description:	Inv: WSLS Various legal UL20180329 rev'd 20180329jg
Amount:	\$1,197.90

Other Expenses

Cost Information

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	\$280,807.20	\$280,202.20		\$126,529.14	
Тах	\$2,777.20	\$2,777.20	Tax	\$2,777.20	N/A
Heavy equipment rentals	\$5,440.00	\$5,440.00	N/A	\$5,440.00	N/A
MVPD Notification of Channel Change	\$2,000.00	\$2,000.00	N/A	\$1,685.00	N/A
Equipment Storage	\$10,000.00	\$10,000.00	N/A	\$6,396.26	N/A
Equipment Delivery and Handling Charges	\$50,000.00	\$50,000.00	N/A	\$22,830.68	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	\$87,400.00	\$87,400.00	See attached Rohde Schwarz USA Quote & Invoice 9500092053 plus Rohde and Schwarz Quote No. 188820.0 (\$52,000 + 6,810 + \$7,270 + \$21,320)	\$87,400.00	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

Non-zoning permits\$10,000.00N/AN/AN/ADTV Medical Facility Notification\$11,550.00\$11,000.00N/AN/AN/AFees - Form 2100 minor change CP application\$1,110.00\$1,070.00A minor change of CP application may be required after structural analysis results are received.N/AN/AFCC Filing rees - Form 2100 license to cover application\$335.00\$325.00A license application may be required after structural analysis results are received.N/AN/AFCC Filing rees - Form 2100 license to cover application\$335.00\$325.00A license application may be required after structural analysis results are received.N/AN/ADevelop and air announcement of upcoming channel change\$100,000.00It is expected mod application airing the required announcements.N/AN/ASub-total\$280,807.20\$280,202.20N/A\$126,529.14N/ATotal for all systems\$6,021,241.95\$3,261,244.05N/A\$2,43,436.68N/A						
Facility NotificationS1,110.00\$1,070.00A minor change of CP application may be required after structural analysis results are received.N/AN/AFCC Filing Pees - Form 2100 minor change CP application\$335.00\$325.00A license application may be required after structural analysis results are received.N/AN/AFCC Filing Fees - Form 2100 license to cover application\$335.00\$325.00A license application may be required after structural analysis results are received which would require a CP mod application.N/AN/ADevelop and air announcement of upcoming channel change\$100,000.00It is expected that the station airing the required announcements.N/AN/ASub-total\$280,807.20\$280,202.20N/A\$126,529.14N/ATotal for all\$6,021,241.95\$3,261,244.05N/A\$2,443,436.68N/A		\$10,000.00	\$10,000.00	N/A	N/A	N/A
Fees - Form 2100 minor change CP applicationof CP application may be required analysis results are received.N/AN/AFCC Filing Fees - Form 2100 license to cover application\$335.00\$325.00A license application may be required after structural analysis results are received.N/AN/AFCC Filing Fees - Form 2100 license to cover application\$335.00\$325.00A license application may be required after structural analysis results are received which would require a CP mod application.N/AN/ADevelop and air announcement of upcoming channel change\$100,000.00It is expected that the station airing the required announcements.N/AN/ASub-total\$280,807.20\$280,202.20N/A\$126,529.14N/ATotal for all\$6,021,241.95\$3,261,244.05N/A\$2,443,436.68N/A	Facility	\$11,550.00	\$11,000.00	N/A	N/A	N/A
Fees - Form 2100 license to cover applicationapplication may be required after structural analysis results are received which would require a CP mod application and then the license application.N/AN/ADevelop and air announcement of upcoming channel change\$100,000.00 \$100,000.00It is expected that the station will spend at least \$100,000 developing and airing the required announcements.N/AN/ASub-total\$280,807.20\$280,202.20N/A\$126,529.14N/ATotal for all\$6,021,241.95\$3,261,244.05N/A\$2,443,436.68N/A	Fees - Form 2100 minor change CP	\$1,110.00	\$1,070.00	of CP application may be required after structural analysis results	N/A	N/A
air announcement of upcoming channel changethat the station will spend at least \$100,000 developing and airing the required announcements.that the station will spend at least \$100,000 developing and airing the required announcements.N/ASub-total\$280,807.20\$280,202.20N/A\$126,529.14N/ATotal for all\$6,021,241.95\$3,261,244.05N/A\$2,443,436.68N/A	Fees - Form 2100 license to cover	\$335.00	\$325.00	application may be required after structural analysis results are received which would require a CP mod application and then the license	N/A	N/A
Total for all \$6,021,241.95 \$3,261,244.05 N/A \$2,443,436.68 N/A	air announcement of upcoming channel	\$100,000.00	\$100,000.00	that the station will spend at least \$100,000 developing and airing the required	N/A	N/A
	Sub-total	\$280,807.20	\$280,202.20	N/A	\$126,529.14	N/A
		\$6,021,241.95	\$3,261,244.05	N/A	\$2,443,436.68	N/A

Components

Actual Information	
Description	File Name

Тах		
	Component Description:	R&S 9500102206
	Amount:	v190625jgv1 \$2,777.20
	Amount.	φ2,777.20
Heavy equipment rentals		
	Component Description:	R&S 9500102206
		v190625jgv1
	Amount:	\$5,440.00
MVPD Notification of		
Channel Change	Component Description:	KGA 947-168
		v190704jgv1
	Amount:	\$1,685.00
Equipment Storage		
	Component Description:	PODS
		Z13000008776
		v190916pmv1
	Amount:	\$191.26
	Component Description:	Die 650019
		v191114pmv1
	Amount:	\$6,205.00
		. ,

Equipment Delivery and		
Handling Charges	Component Description:	Die 341010
		v190905pmv2
	Amount:	\$19,286.18
	Component Description:	Die 201015
		v190730pmv1
	Amount:	\$102.00
	Component Description:	Die 650019
		v191114pmv1
	Amount:	\$3,442.50
	Component Description:	Die 341010
		v190731pmv1
	Amount:	\$19,286.18
Disposal Costs (for		
equipment and other	Component Description:	R&S 9500102206
waste, net of any salvage value)		v190625jgv1
aue)	Amount:	\$7,270.00
	Component Description:	R&S 9500102206
		v190625jgv1
	Amount:	\$21,320.00
	Component Description:	R&S 9500102206
		v190625jgv1
	Amount:	\$6,810.00
	Component Description:	R&S inv
		#9500092053
		Decommissioning
		Sigma
		UL20190418jgv1
	Amount:	\$52,000.00

C Filing Fees - Special nporary Authorization uest	Information not provided.
n-zoning permits	Information not provided.
V Medical Facility ification	Information not provided.
C Filing Fees - Form 00 minor change CP olication	Information not provided.
C Filing Fees - Form 00 license to cover olication	Information not provided.
velop and air nouncement of coming channel change	Information not provided.
	nporary Authorization uest h-zoning permits / Medical Facility ification C Filing Fees - Form 0 minor change CP olication C Filing Fees - Form 0 license to cover olication // elop and air

Cost Information	Grand Total				
		Predetermined Cost Estimate	Estimated Cost	Actual Cost	
	Total for all systems	\$6,021,241.95	\$3,261,244.05	\$2,443,436.68	

Reimbursem	entestiatus	Response
	The facility has ceased operating on its pre- auction channel.	Yes
	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.	
		 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
	11/20/2019

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).	
		 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).
- 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.

	The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 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.	
an au name	are, under penalty of perjury, that I am thorized representative of the above- d applicant for the Authorization(s) fied above.	Jeffrey C Gehman Engineering Associate
		11/20/2019

Attachments