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: **69328** | Service: **DTV** | Call Sign: **WLED-TV** | Channel: **23 (UHF)**

File Number: **0000027752**

FRN: **0021895115** | Date Submitted: **07/11/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
NEW HAMPSHIRE PUBLIC BROADCASTING Doing Business As: NEW HAMPSHIRE PUBLIC BROADCASTING	Dawn DeAngelis 268 MAST ROAD DURHAM, NH 03824 United States	+1 (603) 868-4304	ddeangelis@nhpbs.org	Not-for-Profit

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
Ryan C Wilhour *ConsultingEngineer* *Kessler and Gehman Associates, Inc.*	507 NW 60th ST STE D Gainesville, FL 32607 United States	+1 (352) 332-3157	ryan@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 transmitter and antenna using existing transmission line. Acquire interim antenna and line for continued operation during line replacement and duration of the assigned phase. Map and analyze tower; design and implement modifications if required.

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	NV7250
	Year	2001
	Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power Capacity	4 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	MPTV-PRLX-U3
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	5 kW
	Justification for New Transmitter	The manufacturer of the existing transmitter advises that the transmitter cannot be re-tuned to the assigned channel. See attachment.

Auxiliary Transmitter

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	No
	Power	N/A
	Rigid Conduit and Wiring	No

	Size	N/A
	Length	N/A
	Other Electrical Service	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	AT7105K0
	Year	2011
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	5 kW

Primary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Manufacturer	
	Model	MPTV-PRLX-U3
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	5.2 kW
	Justification for New Transmitter	The manufacturer of the existing transmitter advises that the transmitter cannot be re-tuned to the assigned channel. See attachment.

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	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

Primary Transmitter

Other Transmitter Cost Not Listed

Name	Description
Additional Interior RF System	Interior RF System Existing Transmitter to Interim Transmission line
Standby Exciter and Switch	Standby Exciter with Automatic Change Over Switch

Antennas

Section	Question	Response
Antenna Related Expenses	Do you have antenna related expenses?	Yes

Primary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	No
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	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)	108.0 kW

Manufacturer	
Model	TFU-28GTH-RO4 DC
Year	2001

Primary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	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)	77.3 kW
	Manufacturer	
	Model	ATW20H4-HTO10-23L

	Year	2019
	Justification for New Antenna	The existing primary antenna is a single channel slotted coaxial which cannot accommodate the assigned channel. ERP is based on 1% expansion.

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?	No

Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Information not provided.

Interim Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side 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)	108.0 kW
	Manufacturer	
	Model	i230ECW-16-23/48
	Year	2019

	Justification for New Antenna	An interim antenna is necessary to keep station on the air during primary antenna replacement and for the duration of the assigned phase. Station will attempt to rent if renting is available at time of acquisition.

Interim Antenna

Other Antenna Costs

Section	Question	Response
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	S
	Feed Line Size	4 1/16 inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an 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

Interim Antenna

Other Antenna Cost Not Listed

Name	Description
Freight	Freight

Transmission Line

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

Primary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	ERI
	Type	Flexible Air
	Diameter	4 inches
	Other Diameter	N/A
	Segment Length	N/A
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	430 feet per run

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Sweep Tests	Sweep tests to demonstrate performance on assigned channel

Interim Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	3 1/8 inches
	Segment Length	20'
	Other Segment Length	
	Number of parallel runs	1
	Length	460 feet per run

Justification for New Transmission Line	An interim transmission line is necessary for the interim antenna to keep station on the air during primary antenna replacement and for the duration of the assigned phase. Station will attempt to rent if renting is available at time of acquisition.

Interim 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?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	Yes
	Is tower documented for structural analysis?	No
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1034698
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	44° 21' 10.9" N-
	Longitude (NAD83)	071° 44' 14.9" W-
	Overall Structure Height	446.84 feet
	Support Structure Height	399.93 feet
	Ground Elevation Above Mean Sea Level (AMSL)	1988.82 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	New Hampshire Public Broadcasting
Date Constructed	11/14/2016

FM, AM or TV radio broadcasters. Facility ID's, Call Signs and Services of other broadcast stations with whom the tower is shared

Facility ID	Call Sign	Service
165997	WNYN-FM	FM
72212	WMTK	FM
173546	WEVQ	FM

Other Types of Users

Users
WNYN microwave
WENH microwave
WLED microwave

Primary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for undocumented /poorly documented tower

Tower Reinforcements	Please select whether tower reinforcements are needed:	Major Reinforcements needed

Primary Tower

Tower Rigging Costs

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

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	40
	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	No
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes

	Quantity	1
	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	No
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	Yes
	FAA Consultation (including preparation of FAA Form 7460)	Yes
	Negotiation of Lease and other Matter for Shared Locations	No
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
RF Field Engineering Services	Comprehensive coverage verification via field study	Yes
	RF exposure measurements	No
	Additional Field Engineering Service	Yes

Number of Days	6
Justification	It will be necessary to survey the site, plan the equipment, develop specifications for purchasing, and oversee multiple vendor RF projects. Station does not have available personnel or personnel trained in such services.

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Other Legal Services	Legal services not specifically listed under Outside Professional Services
Other Engineering Services	Engineering services not specifically listed under Outside Professional Services

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	No
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	No
	FCC Special Temporary Authority Application	No
Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
	Does this relocation require Equipment Storage?	No
	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 MPTV-PRLX-U3	**$507,450.00**	**$456,650.00**		**$105,888.57**	
UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW	$273,500.00	$226,150.00	N/A	$104,550.00	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
3" Rigid Conduit and Wiring (Cost per foot)	$5,200.00	$4,900.00	N/A	$1,338.57	N/A
Additional Interior RF System	***$140,000.00***	$140,000.00	N/A	N/A	N/A
Standby Exciter and Switch	***$25,000.00***	$25,000.00	N/A	N/A	N/A
Auxiliary Transmitter MPTV-PRLX-U3	**$273,500.00**	**$225,615.00**		**$214,334.25**	

UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW	$273,500.00	$225,615.00	N/A	$214,334.25	N/A
Sub-total	$780,950.00	$682,265.00	N/A	$320,222.82	N/A
Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Actual Information Description	File Name	
UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW	**Component Description:** **Amount:**	New primary transmitter Comark MPTV-PRLX-U3 Liquid Cooled $104,550.00
Switchgear - industrial 800 amp	Information not provided.	
Transformer 3 phase/480v - 150 KVA	Information not provided.	
3" Rigid Conduit and Wiring (Cost per foot)	**Component Description:** **Amount:** **Component Description:** **Amount:**	HD 8539 00002 73490 v190624pmv1 $79.96 Needham S5070398.002 v190620jgv1 $126.54

Component Description:	HD 8539 00002 61636 v190624pmv1
Amount:	$28.25
Component Description:	Candia 5 v190625pmv1
Amount:	$34.95
Component Description:	Needham S5119902.002 v190620jgv1
Amount:	$91.80
Component Description:	HD 8539 00057 06940 v190624pmv1
Amount:	$32.15
Component Description:	Amazon 114-2755163-1500267 v190625pmv1
Amount:	$8.39
Component Description:	HD 8539 00056 07692 v190624pmv1
Amount:	$16.29
Component Description:	Needham S5081017.002 v190620jgv1
Amount:	$145.49
Component Description:	Needham S5116592.002 v190620jgv1
Amount:	$28.30

Component Description:	Needham S5117024.002 v190620jgv1
Amount:	$81.36
Component Description:	HD 8539 00002 76667 v190624pmv1
Amount:	$11.81
Component Description:	Needham S5115697.002 v190620jgv1
Amount:	$72.85
Component Description:	HD 8539 00002 80040 v190624pmv1
Amount:	$6.23
Component Description:	HD 8539 00002 90437 v190624pmv1
Amount:	$23.58
Component Description:	HD 8539 00002 67435 v190624pmv1
Amount:	$72.70
Component Description:	HD 8539 00002 26316 v190624pmv1
Amount:	$41.68

	Component Description: **Amount:**	HD 8539 00002 59291 v190624pmv1 $165.96
	Component Description: **Amount:**	HD 8539 00057 98061 v190624pmv1 $51.45
	Component Description: **Amount:**	Needham S5062957.002 v190620jgv1 $77.92
	Component Description: **Amount:**	HD 3403 00057 27367 v190624pmv1 $47.97
	Component Description: **Amount:**	HD 8539 00002 12647 v190624pmv1 $92.94
Additional Interior RF System	Information not provided.	
Standby Exciter and Switch	Information not provided.	
UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW	**Component Description:** **Amount:**	Comark S10359-2 v190624jgv1 $101,526.75
	Component Description: **Amount:**	WLED, AUX SYSTEM (transmitter MPTV-PRLX-) U3 D23 $112,807.50

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
Interim Antenna i230ECW-16-23/48	**$152,493.53**	**$209,004.53**		**$172,754.53**	
Freight	***$4,683.53***	$4,683.53	N/A	$4,683.53	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	$5,260.00	$5,000.00	N/A	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$22,000.00	N/A	N/A	N/A
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	$9,570.00	$9,100.00	N/A	N/A	N/A

Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$6,250.00	N/A
UHF - Lower Power Side Mount, One Station antenna . medium power (50-200 kW), elliptically or circularly polarized	$103,100.00	$161,821.00	See uploaded ERI Proposal 20190125-436 Rev B	$161,821.00	N/A
Primary Antenna ATW20H4-HTO10-23L	**$263,300.00**	**$250,500.00**		**$57,300.00**	
UHF - High Power Top Mount (200-1000 kW), One station antenna, horizontally polarized	$247,000.00	$235,000.00	N/A	$57,300.00	N/A
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	$9,570.00	$9,100.00	N/A	N/A	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	N/A	N/A
Sub-total	$415,793.53	$459,504.53	N/A	$230,054.53	N/A

Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Actual Information Description	File Name	
Freight	**Component Description:** **Amount:**	ERI WLED-5000 v190709jgv1 $4,683.53
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.	
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	Information not provided.	
Sweep test of existing antenna	**Component Description:** **Amount:** **Component Description:** **Amount:**	ERI WLED-5000 v190709jgv1 $3,125.00 ERI inv #WLED-500 Interim antenna sweep pmt 1 UL20190425jgv1 $3,125.00

UHF - Lower Power Side Mount, One Station antenna . medium power (50-200 kW), elliptically or circularly polarized	**Component Description:** **Amount:**	ERI WLED-600 v190701jgv1 $76,010.50
	Component Description: **Amount:**	ERI WLED-5000 v190709jgv1 $4,900.00
	Component Description: **Amount:**	ERI inv #WLED-500 Interim antenna pmt 1 UL20190425jgv1 $80,910.50
UHF - High Power Top Mount (200-1000 kW), One station antenna, horizontally polarized	**Component Description:** **Amount:**	ERI WLED-500B v190711jgv1 $28,650.00
	Component Description: **Amount:**	ERI inv #WLED-500A Primary Ant pmt 1 UL20190425jgv1 $28,650.00
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	Information not provided.	
Sweep test of existing antenna	Information not provided.	

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
Interim Transmission Line	**$47,840.00**	**$44,372.74**		**$44,372.74**	
Rigid Transmission Line - copper, 3 1/8"	$47,840.00	$44,372.74	N/A	$44,372.74	N/A
Primary 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	$54,240.00	$50,772.74	N/A	$44,372.74	N/A
Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Actual Information Description	File Name
Rigid Transmission Line - copper, 3 1/8"	**Component Description:** ERI WLED-5000 v190709jgv1 **Amount:** $22,186.37 **Component Description:** ERI inv #WLED-500 Interim line pmt 1 UL20190425jgv1 **Amount:** $22,186.37
Sweep Tests	Information not provided.

Cost Information

Tower Equipment and Rigging Costs

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower GTOWER	**$868,300.00**	**$825,000.00**		**$2,700.00**	
Major tower reinforcement /modifications	$421,000.00	$400,000.00	N/A	N/A	N/A
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$25,000.00	N/A	$2,700.00	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$400,000.00	N/A	N/A	N/A
Sub-total	$868,300.00	$825,000.00	N/A	$2,700.00	N/A
Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Actual Information Description	File Name

Major tower reinforcement /modifications	Information not provided.	
Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	**Component Description:** **Amount:** **Component Description:** **Amount:**	Structural Re-analysis of existing tower $1,200.00 Structural Analysis of existing tower $1,500.00
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.	

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	**$198,930.00**	**$199,900.00**		**$17,735.74**	
Other Engineering Services	***$46,490.00***	$46,490.00	N/A	$2,077.00	N/A
Additional Field Engineering Service, 6 Days	***$12,000.00***	$12,000.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	$84,200.00	$80,000.00	N/A	N/A	N/A
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	$2,105.00	$2,000.00	N/A	N/A	N/A
ASR modification (prepare FCC Form 854)	$2,105.00	$2,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	$3,680.00	$3,500.00	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 - Prepare and File FCC Form 2100 (main), Construction Permit Application	$5,260.00	$5,000.00	N/A	$119.25	N/A
Prepare request for Special Temporary Authorization	$2,050.00	$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
Other Legal Services	***$15,000.00***	$15,000.00	N/A	$720.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	$3,155.00	$3,000.00	N/A	$2,000.00	FCC CP application
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$3,250.00	FCC RF allocation study for new channel assignment and antenna development

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	$10,000.00	The Estimated Cost figure includes preparation and submission of Actual Cost invoices to date as well as an estimate of those anticipated over the remaining Repack.	$7,504.50	Prep of original FCC Form 399. The station requested specific help from their attorneys prior to having their engineers prepare the Form 399.
Project management of the transition	$6,320.00	$6,160.00	N/A	$2,064.99	Checks for the reimbursement bank account
Sub-total	$198,930.00	$199,900.00	N/A	$17,735.74	N/A
Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Actual Information Description	File Name

Other Engineering Services	**Component Description:** **Amount:**	Prep, amend and submit actual cost invoices $397.50
	Component Description: **Amount:**	Coverage comparisons for proposed antenna selection $265.00
	Component Description: **Amount:**	Primary Antenna Analysis $1,139.50
	Component Description: **Amount:**	Prep and submit actual cost invoices $275.00
	Component Description: **Amount:**	RF calculations for new equipment purchases $265.00
Additional Field Engineering Service, 6 Days	Information not provided.	
Comprehensive coverage verification via field study, if needed	Information not provided.	
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	Information not provided.	
ASR modification (prepare FCC Form 854)	Information not provided.	

Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Information not provided.
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	**Component Description:** Various Legal services related to Repack for WLED **Amount:** $119.25 **Component Description:** Legal services related to Quarterly report for WLED **Amount:** $30.00
Prepare request for Special Temporary Authorization	Information not provided.
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.
Other Legal Services	**Component Description:** GSB 712794 v190613jgv3 **Amount:** $510.00 **Component Description:** GSB 713173 v190624jgv1 **Amount:** $210.00

Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	FCC Construction Permit application for Main Facility - WLED $2,000.00
Perform engineering study for new channel assignment and antenna development	**Component Description:** **Amount:**	engineering study for new channel assignment and antenna development $3,250.00
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	

Prepare and or review reimbursement form	**Component Description:**	KGA inv #211-73 Actual Cost invoices by RG March 2019 UL20190424jgv1
	Amount:	$200.00
	Component Description:	KGA 211-75 v190624jgv1
	Amount:	$1,153.50
	Component Description:	KGA 211-80 v190711jgv1
	Amount:	$175.00
	Component Description:	KGA 211-82 v190711jgv1
	Amount:	$2,675.00
	Component Description:	Preparation of original Form 399 for reimbursement
	Amount:	$2,500.00
	Component Description:	Consultation regarding reimbursable items.
	Amount:	$801.00
Project management of the transition	**Component Description:**	One half the cost for checks associated with the reimbursement bank account.
	Amount:	$24.99

Component Description:	KGA inv #211-41 Actual Cost UL20190228jgv2
Amount:	$375.00
Component Description:	KGA inv #211-70 Form 387 2019 Q1 UL20190424jgv1
Amount:	$150.00
Component Description:	Prep and submit Form 387 3Q18
Amount:	$150.00
Component Description:	Proj Mgmt 3Q2017 report for WLED
Amount:	$300.00
Component Description:	KGA inv #211-46 Form 387 2018 Q1 UL20190228jgv2
Amount:	$225.00
Component Description:	Proj Mgmt 399 Actual Costs Invoice uploads for WLED
Amount:	$300.00
Component Description:	KGA inv #211-32 Form 387 2017 Q3 UL20190228jgv2
Amount:	$300.00
Component Description:	Prepare and submit Sched 387
Amount:	$225.00

Component Description:	Preliminary design of RF transmission facilities for planning
Amount:	$315.00
Component Description:	Prepare and submit Sched 399 actual charges
Amount:	$375.00
Component Description:	KGA inv #211-42 Other Eng Srvcs UL20190228jgv2
Amount:	$315.00
Component Description:	Prepare and submit Sched 387
Amount:	$225.00
Component Description:	KGA inv #211-34 Actual Cost UL20190228jgv2
Amount:	$300.00
Component Description:	KGA inv #211-39 Form 387 2017 Q4 UL20190228jgv2
Amount:	$225.00

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 Cost Justification
Other Expenses	**$73,550.00**	**$73,000.00**		**$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	***$0.00***	$0.00	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
Equipment Delivery and Handling Charges	***$50,000.00***	$50,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	N/A	N/A	N/A
Sub-total	$73,550.00	$73,000.00	N/A	$0.00	N/A
Total for all systems	$2,391,763.53	$2,290,442.27	N/A	$615,085.83	N/A

Components

Information not provided.

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$2,391,763.53	$2,290,442.27	$615,085.83

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* 07/11/2019

Certification

Section	Question	Response
Submission of Actual Cost Documentation Statements	WILLFUL FALSE, FRAUDULENT, OR FICTITIOUS STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISIONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).	
	1. The Authorized Person signing below certifies and represents that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct. 3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.	

4. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.
5. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (full power and Class A stations) and/or otherwise modify a television station’s facility as a result of the spectrum repack (LPTV/TV Translator stations); or to minimize service disruption resulting from a repacked television station (FM stations); or to continue to carry the signal of a broadcaster that changes channels (MVPD) .
6. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
7. The above-named entity certifies that the cost information /documents submitted reflect costs actually incurred.

	8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Jeffrey C Gehman** *Engineering Associate* 07/11/2019

Attachments