

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility 69114 Service: DTV Call WUNE-TV Channel: 36 (UHF)

ID:

Sign:

File **0000027167**

Number:

FRN: **0001910066** Date **12/18**

Submitted: /2019

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
University of North Carolina Doing Business As: UNIVERSITY OF NORTH CAROLINA	PO Box 27709 RESEARCH TRIANGLE PARK, NC 27709 United States	+1 (919) 549- 7000	fcc_notice@unctv. org	Government Entity

Reimbursement Contact Name and Information Reimbursement Contact Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
Donald Smith , Smith . Director of New Technologies Compliance & Planning University of North Carolina Center for Public Television	Donald Smith 10 T.W. Alexander Drive Research Triangle Park, NC 27709 United States	+1 (919) 549-7025	dsmith@unctv. org

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	The transition plan is to construct an interim facility at the existing site. The interim facility would be used when operation on the new channel begins. After that the necessary changes would be made to the primary transmission system.

Transmitters

rs	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	Backup to Main
	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	LU2500ATD
	Year	2008
	Туре	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	2.5 kW

Auxiliary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	ULXTE-10
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	6 kW
	Justification for New Transmitter	The transmitter support company has indicated that they may be able to provide rechannelization proposals for some models. At this time they have failed to provide a proposal. See attachment for further details.

Auxiliary Transmitter

Other Transmitter Costs

Electrical Service		
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
	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 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	
Manufacturer and Type	Model	DHD45P2
	Year	2001
	Туре	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	10.5 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	ULXTE-72
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	44 kW
	Justification for New Transmitter	The transmitter manufacturer has indicated that components necessary to modify the transmitter for operation on its new channel are no longer available and it will not be able to provide rechannelization services for the transmitter. See attached letter

Primary 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
	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

Primary

Other Transmitter Cost Not Listed

Transmitter Information not provided.

Antennas

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

Add Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Backup to Main
	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?	No
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)	63.0 kW

Manufacturer	
Model	ATW8G4- HSS-17
Year	1986

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Interim Facility and Eventual Auxiliary
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna	Class	Full Power
Manufacturer and Types	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)	1000.0 kW

Manufacturer	
Model	SAA20- ATW_C2- G500-ES6R- 36
Year	2019
Justification for New Antenna	The antenna can only operate on channel 17. The replacement antenna will be initially used as part of the interim facility during the transition. Following the transition it will become a permanent auxiliary antenna.

Other Antenna Costs

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

		1
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Other Antenna Cost Not Listed

Information not provided.

Existing Antenna Information

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

Manufacturer	
Model	ATW19HS5- ETC2-1
Year	1994

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna	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)	1000.0 kW
	Manufacturer	

Model	SAA23- ATW_C2- E500-ET6R- 36
Year	2019
Justification for New Antenna	The antenna is a single channel slotted pylon style antenna. It cannot operate on a channel other than what it was designed, channel 17. The only viable option is to replace the antenna.

Other Antenna Costs

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	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Other Antenna Cost Not Listed

Information not provided.

Transmission ^{Seffien}	Question	Response
Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

Add Transmission Line

Auxiliary Transmission

n Line Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Backup to Main
	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	
	Туре	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	210 feet per run

Auxiliary

New Transmission Line Transmission Line Question Response **New Transmission Line** Use Auxiliary Costs (Backup) Description of Use Interim and backup to main Change Type Purchase New Is this a request for upgraded equipment? No Rigid Type Diameter 6 1/8 inches

Other Diameter

Segment Length

Length

Other Segment Length

Number of parallel runs

Justification for New Transmission Line

N/A

N/A

1

run

is

with

line.

20 inches

210 feet per

The existing transmission line has a stick length of 19-1/2 feet, a length that

inconsistent

operations on channel 36. The only option is to replace the transmission

Other Transmission Line Expenses Not Listed Auxiliary Other Transmission Transmission to inetion 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	Move Equipment
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Is this tower consider Complex?	No
	Is this tower currently shared with any other stations?	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?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1014575
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	36° 03' 50.0 N-
	Longitude (NAD83)	081° 50′ 32.0" W-
	Overall Structure Height	449.14 feet
	Support Structure Height	400.26 feet
	Ground Elevation Above Mean Sea Level (AMSL)	4606.24 fee

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	UNIVERSITY OF NORTH CAROLINA
Date Constructed	01/01/1990

Primary Tower

Tower Rigging Costs

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

Primary Tower

Other Tower Expenses Not Listed

Information not provided.

Outside Professional

Section	Question	Response
Services Costs Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	120
	Explanation	The transmission site is owned by the State of North Carolina. The state requires a project designer to submit plans for the project for review and approval. this is very similar to the local permitting process but done on the state level
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	1
	Quantity	
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting	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	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	No
	RF exposure measurements	No
	Additional Field Engineering Service	No
		'

Number of Days	N/A
Justification	N/A

Outside Professional

Other Professional Services Expenses Not Listed

l Şervices Costs	Description
Additional Legal Expenses	Legal expenses for non-catalog advice and review, including transition status reports and other miscellaneous legal needs.
Tower Structural Analysis	Required by State Building Code

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

Name	Description
Electrical Construction	Construction and modifications to the electrical infrastructure of the existing building as required to support the new transmitters
General Construction	General construction and administrative costs necessary for the installation of transmitters in an existing building.
Mechanical Construction	Construction and modifications to the HVAC infrastructure of the existing building as required to support the new transmitters
Network Switch	Cisco 52-port Gigabit Switch connects devices together on computer network by using packet switching to receive, process, and forward data to destination device

Cost Information

Transmitters

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

	Predetermined	Estimated	Estimated Cost		Actual Cos
Description	Cost Estimate	Cost	Justification	Actual Cost	Justificatio
Primary Transmitter ULXTE-72	\$1,498,550.00	\$471,958.60		\$141,245.19	
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	\$1,473,000.00	\$470,000.00	The estimated cost is for the approved GatesAir ULXTE-20 transmitter. The transmitter purchase has been upgraded to a ULXTE-72. It is understood that the station is responsible for the upgrade portion of the purchase price.	\$139,286.59	N/A
Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$1,958.60	***System Notice: Estimate adjusted and locked because line has been superseded. ***	\$1,958.60	N/A

Auxiliary Transmitter ULXTE-10	\$273,500.00	\$260,000.00		\$141,990.54	
UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW	\$273,500.00	\$260,000.00	N/A	\$141,990.54	N/A
Sub-total	\$1,772,050.00	\$731,958.60	N/A	\$283,235.73	N/A
Total for all systems	\$3,142,587.40	\$2,232,467.33	N/A	\$1,187,769.72	N/A

Components

Actual Information	
Description	File Name

UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW

Component Description: 50% FCC Portion

Transmitter & Installation.
Installation included w /Transmitter on Form 399.
Transformer separate 399 line item. Purchase Order for all 11 eleven sites.

Amount: \$139,286.59

Component Description: Primary

Transmitter See attachment pg. 2 for payment details. Please note funding column.

Immediate Due
Date on invoice
adjusted to vendor
terms of 60 days.
PO for multiple

sites.

Amount: \$103,459.37

Transformer 3 phase/480v - 150 KVA

Component Description: FCC Portion 50%

Transformer, see Quote Line 17. Purchase Order for all 11 sites.

Amount: \$1,958.60

UHF - Liquid Cooled Solid State Transmitter 4.9 . 6.5 kW

Component Description: Auxilliary

Transmitter See attachment pg. 2 for payment

details. Immediate

Due Date on

invoice adjusted to vendor terms of 60 days. PO for multiple sites.

Amount: \$56,442.56

Component Description: 50% Aux

Transmitter & Installation. Installation included w /Transmitter on Form 399.

Purchase Order for all 11 sites.

Amount: \$85,547.98

Cost Information

Antennas

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Antenna SAA23- ATW_C2- E500-ET6R- 36	\$308,530.00	\$190,918.00		\$86,409.00	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	\$12,300.00	\$11,700.00	N/A	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
UHF - High Power Top Mount (200- 1000 kW), One station antenna, elliptically or circularly polarized	\$289,500.00	\$172,818.00	See RFS Antenna Change Narrative with Quotes	\$86,409.00	N/A
Auxiliary Antenna SAA20- ATW_C2- G500-ES6R- 36	\$170,639.50	\$168,299.50		\$61,599.75	

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 6 1/8. feedline (if needed)	\$12,300.00	\$11,700.00	N/A	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
UHF - High Power, Side Mount, basic slot antenna, 1000 kW input, directional,, elliptically or circularly	\$123,199.50	\$123,199.50	See attached RFS Antenna Change Narrative with Quotes	\$61,599.75	N/A
polarized					

Total for all	\$3,142,587.40	\$2,232,467.33	N/A	\$1,187,769.72	N/A
systems					

Components

Actual Information Description	File Name	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	Information not provided.	
Sweep test of existing antenna	Information not provided.	
UHF - High Power Top Mount (200-1000 kW), One station antenna, elliptically or circularly polarized	Component Description: Amount:	50% Primary Antenna included in Inv & PO Line 5. Invoice & Purchase Order are for 10 sites. \$86,409.00
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.	
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	Information not provided.	
Sweep test of existing antenna	Information not provided.	

UHF - High Power, Side Mount, basic slot antenna, 1000 kW input, directional,, elliptically or circularly polarized

Component Description: 50% Auxilliary

Antenna included in Inv & PO Line

5. Invoice & Purchase Order

are for 10 sites.

Amount: \$61,599.75

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
Auxiliary Transmission Line	\$42,420.00	\$41,261.59		\$20,630.80	
Rigid Transmission Line - copper, 6 1/8"	\$42,420.00	\$41,261.59	See attached RFS Antenna Change Narrative with Pricing	\$20,630.80	N/A
Sub-total	\$42,420.00	\$41,261.59	N/A	\$20,630.80	N/A
Total for all systems	\$3,142,587.40	\$2,232,467.33	N/A	\$1,187,769.72	N/A

Components

Actual Information Description	File Name	
Rigid Transmission Line - copper, 6 1/8"	Component Description:	50% Auxilliary Transmission Line included in Inv & PO Line 5. Invoice & Purchase Order are for 10 sites.
	Amount:	\$20,630.80

Cost Information

Tower Equipment and Rigging Costs

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower TOWER	\$84,200.00	\$233,467.10		\$116,733.55	
Short Tower (less than 500')	\$84,200.00	\$233,467.10	See attached RFS Antenna Change Narrative with Pricing	\$116,733.55	N/A
Sub-total	\$84,200.00	\$233,467.10	N/A	\$116,733.55	N/A
Total for all systems	\$3,142,587.40	\$2,232,467.33	N/A	\$1,187,769.72	N/A

Components

Actual Information	
Description	File Name

Short Tower (less than 500') **Component Description:** 50% Primary /Short Tower Installation for Primary Antenna included in Inv & PO Line 6. Invoice & Purchase Order are for 10 sites. Amount: \$75,169.93 **Component Description:** 50% Primary /Short Tower Installation for Auxilliary Antenna included in Inv & PO Line 6. Invoice & Purchase Order

Amount:

are for 10 sites.

\$41,563.62

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cos
Outside Professional Services	\$93,275.00	\$201,139.64		\$127,902.05	
Additional Legal Expenses	\$24,500.00	\$24,500.00	Preliminary estimate for legal expenses for non-catalog advice and review including transition status reports and other miscellaneous legal needs.	\$4,011.41	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 - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	\$4,210.00	\$4,000.00	N/A	\$0.00	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	N/A	N/A	N/A
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A

Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	\$2,105.00	\$2,000.00	N/A	\$725.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	\$1,687.50	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$662.50	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A

Project	\$18,960.00	\$129,389.64	See	\$119,315.64	N/A
management			attachment		
of the transition			"WUNE		
			Program		
			Designer -		
			Manager		
			Narrative" for		
			details on		
			estimated		
			cost		
			Amendment		
			#3 attached		
			to Invoice		
			to Invoice 157570		
			157570		
Tower	\$7,000.00	\$7,000.00		\$1,500.00	N/A
Tower Structural	\$7,000.00	\$7,000.00	157570	\$1,500.00	N/A
	\$7,000.00	\$7,000.00	157570	\$1,500.00	N/A
Structural Analysis			157570 N/A		
Structural	\$7,000.00 \$93,275.00	\$7,000.00 \$201,139.64	157570	\$1,500.00 \$127,902.05	N/A
Structural Analysis			157570 N/A		

Components

Actual Information Description	File Name	
Additional Legal Expenses		
	Component Description:	Outside Professional Services Additional Legal Expenses Invoice applies to all 11 repack stations, amount requested reflects portion payable per Station: \$70.00/11 as indicated on page 1 of Invoice
	Amount:	\$6.37

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 3472.00/11 equal 315.63 as outlined on page 1 of

invoice.

Amount: \$315.63

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$67.40

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$70.00

Component Description: Outside

Professional

Services Additional

Legal

ExpensesLegal services benefit entire FCC Repack project across all 11 Call Signs

/Facility IDs, 959.50 /11 equal 87.22 as outlined on page 1

of invoice.

Amount: \$87.22

Professional

Services Additional

Legal Expenses

Amount: \$182.50

Component Description: Outside Prof Svcs.

Additional Legal

Expenses

Amount: \$109.50

Component Description: Outside Prof Svcs

Additional Legal

Expenses

Amount: \$73.00

Component Description: Outside

Professional

Services Additional Legal Expenses 6 /05 thru 6/24 1.60 times 365.00

Amount: \$584.00

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 168.50/11 equal 15.31 as outlined

invoice.

on page 1 of

Amount: \$15.31

Professional

Services Additional

Legal Expenses

Amount: \$69.55

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$70.00

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call

across all 11 Call Signs/Facility IDs, 175.00/11 equal 15.90 as outlined

on page 1 of invoice.

Amount: \$15.90

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs,

2594.40/11 equal 235.85 as outlined

on page 1 of invoice.

Amount: \$235.85

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 350.00/11 equal 31.82 as outlined on page 1 of

invoice. **Amount:** \$31.82

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 402.00/11 equal 36.55 as outlined on page 1 of

Amount: \$36.55

Component Description: Outside

Professional

invoice.

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 315.00/11 equal 28.64 as outlined on page 1 of invoice.

Amount: \$28.64

Professional

Services Additional

Legal Expenses

Amount: \$70.00

Component Description: Outside

Professional

Services Additional Legal Expense Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 67.40/11 equal

6.13 as outlined on

page 1 of invoice. \$6.13

Amount: \$6.13

Component Description: Outside

Professional

Services Additional Legal Expenses Invoice applies to all 11 repack stations, amount requested reflects portion payable per Station: \$245.00/11 as indicated on page 1 of Invoice

Amount: \$22.27

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 1617.10/11 equal 147.01 as outlined on page 1 of

invoice. **Amount:** \$147.01

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 572.90/11 equal 52.08 as outlined on page 1 of

Amount: \$52.08

Component Description: Outside

Professional

invoice.

Services Additional

Legal Expenses

Amount: \$109.50

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$35.00

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 323.00/11 equal 29.36 as outlined

on page 1 of invoice.

\$29.36

Component Description: Outside

Amount:

Professional

Services Additional

Legal Expenses

Amount: \$35.00

Component Description: Outside

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 2059.90/11 equal 187.27 as outlined on page 1 of

Amount: \$187.27

Component Description: Outside

Professional

invoice.

Services Additional

Legal Expenses

Amount: \$245.40

Professional

Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs,

368.00/11 equal 33.46 as outlined on page 1 of

invoice.

Amount: \$33.46

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$33.70

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$35.00

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$505.50

Component Description: Outside

Professional

Services Additional

Legal Expenses

Amount: \$105.00

Component Description: Outside Professional Services Additional Legal Expenses \$67.40 Amount: **Component Description:** Outside Professional Services Additional Legal Expenses **Amount:** \$539.20 **Component Description:** Outside Professional Services Additional Legal Expenses Amount: \$35.00 **Component Description:** Outside Professional Services Additional Legal Expenses Legal services benefit entire FCC Repack project across 10 of 11 Call Signs/Facility IDs, 3378.88/10 equal 337.89 as outlined on page 1 of invoice. **Amount:** \$337.89 Information not provided.

FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase

ASR modification (prepare FCC Form 854)

Information not provided.

Information not provided.	
Information not provided.	
Component Description: Amount:	Outside Professional Services Attorney Fees CP Aux Antenna 6/28 .30 times 365.00 \$109.50
Information not provided.	
Component Description: Amount:	Outside Prof Svc RF Consult Engineer Construct Permit Aux \$725.00
	Information not provided. Component Description: Information not provided. Information not provided. Information not provided. Component Description:

Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Component Description: Amount:	Outside Professional Services Engineering Section FCC Form 2100 Construction Permit Application Main/Primary \$1,687.50
Perform engineering study for new channel assignment and antenna development	Component Description: Amount:	Outside Professional Services Engineering Study New Channel Assignment Antenna Development \$662.50
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
Prepare and or review reimbursement form	Information not provided.	
Project management of the transition	Component Description:	Outside Professional Services Project Management of Transition See attachment pg 3-5 for Contract/Invoice Summary.
	Amount:	\$53,069.40

> Professional Services Project Management of **Transition See** attachment pg. 3-6 for Contract/Invoice Summary. PO /Contract for all

eleven transmitter

sites.

\$3,987.42 Amount:

Component Description: Outside

> Professional Services Project Management of **Transition See** attachment pg 3-6 for Contract/Invoice Summary. PO /Contract for all

eleven transmitter

sites.

Amount: \$10,607.88

Component Description: Outside Prof Svcs

> Proj Mgmt of Transition See attach pg. 2-5 for Contract/Invoice Summary.

Amendment #3 on pg. 6. 12,800

divided by 11 equal 1,164.64 for 7 sites, 1,164.63 for 4 sites. PO

/Contract for all eleven transmitter

sites.

Amount: \$4,529.64

Professional
Services Project
Management of
Transition See
attachment pg 3-5
for Contract/Invoice
Summary. PO
/Contract for all

eleven transmitter

sites.

Amount: \$5,303.94

Component Description: Outside Proj Svcs

Proj Mgmt of Transition PO for eleven multiple sites See attach pg 5-8 for Contract /Invoice summary

Amount: \$1,552.80

Component Description: Outside

Professional
Services Project
Management See
attachment pg. 3 &

4 for Project Summary

Amount: \$6,703.50

Component Description: Outside

Professional
Services Project
Management of
Transition See
attachment pg 3-5
for Contract/Invoice

Summary.

Amount: \$5,303.94

Professional
Services Project
Management of
Transition See
attachment pg 3-5
for Contract/Invoice

Summary.

Amount: \$4,438.02

Component Description: Outside

Professional
Services Project
Management of
Transition See
attachment pg 3-5
for Contract/Invoice

Summary.

Amount: \$12,358.80

Component Description: Outside

Professional
Services Project
Management of
Transition See
attachment pg. 3-6
for Contract/Invoice
Summary. PO
/Contract for all

eleven transmitter

sites.

Amount: \$2,437.80

Component Description: Outside

Professional Services Project Management See attachment pg. 3 & 4 for Project

Summary

Amount: \$9,022.50

	Component Description:	Outside
		Professional
		Services Project
		Management
	Amount:	\$9,022.50
Tower Structural Analysis		
	Component Description:	Outside
		Professional
		Services Tower
		Structural Analysis
		See attachment
		page 7 for
		schedule of
		services.

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	\$671,472.90	\$665,422.90		\$491,258.84	
Electrical Construction	\$176,681.63	\$176,681.63	See WUNE GC Budget attachment for details	\$124,636.80	N/A
Mechanical Construction	\$241,520.00	\$241,520.00	See WUNE GC Budget attachment for details	\$229,444.00	N/A
General Construction	\$161,155.27	\$161,155.27	See WUNE GC Budget attachment	\$118,133.83	N/A
Network Switch	\$1,048.00	\$1,048.00	See attachment - WUNE Network Switch Justification	\$1,047.97	N/A
MVPD Notification of Channel Change	\$5,500.00	\$5,500.00	Preliminary estimate of services	\$463.64	N/A
Develop and air announcement of upcoming channel change	\$2,000.00	\$2,000.00	Preliminary estimate	N/A	N/A
Equipment Delivery and Handling Charges	\$10,000.00	\$10,000.00	Preliminary estimate	N/A	N/A

Disposal Costs (for equipment and other waste, net of any salvage value)	\$62,018.00	\$62,018.00	See attached quotes for disposal of both transmitters	\$13,782.60	N/A
DTV Medical Facility Notification	\$11,550.00	\$5,500.00	Preliminary estimate of service	\$3,750.00	N/A
Sub-total	\$671,472.90	\$665,422.90	N/A	\$491,258.84	N/A
Total for all systems	\$3,142,587.40	\$2,232,467.33	N/A	\$1,187,769.72	N/A

Components

Actual Information	
Description	File Name

Electrical Construction

Component Description: Other Expenses

Electrical Contract Payment details

begin on

attachment pg 16. PO for multiple

sites.

Amount: \$14,012.69

Component Description: Other Expenses

Electrical Contract See attach pg. 1 for payment details including payment responsibility, PO summary for 5 sites on attach last

page.

Amount: \$73,479.11

Component Description: Electrical Contract

FCC Portion of Invoice PO for Multiple Sites Refer to attach pg.

1 for outline of

costs

Amount: \$37,145.00

Mechanical Construction Component Description: Other Expenses Mechanical Contract See attach pg. 1 for payment details including payment responsibility, PO summary for 5 sites on attach last page. Amount: \$541.50 **Component Description:** Other Expenses Mechanical Contract See attach pg. 1 for payment details including payment responsibility, PO summary for 5 sites on attach last page. Amount: \$226,159.85 **Component Description:** Other Expenses Mechanical **Contract Payment** details begin on attachment pg 17. PO for multiple sites. Amount: \$2,742.65 **General Construction Component Description:** Other Expenses **General Contract** See attach pg. 1

General Contract See attach pg. 1 for payment details including payment responsibility, PO

summary for 5

sites on attach last

page.

Amount: \$4,275.00

Component Description: Other Expenses

General Contract Payment details

begin on

attachment pg 16. PO for multiple

sites.

Amount: \$6,896.88

Component Description: Other Expenses

General Contract See attach pg. 1 for payment details including payment responsibility. PO summary for 5 sites on attach last

page.

Amount: \$28,035.95

Component Description: General Contract

FCC Portion of Invoice PO for multiple sites Refer to attach pg. 1 for outline of

costs.

Amount: \$22,135.00

Component Description: General Contract

FCC Portion of Invoice PO for Multiple Sites Refer to attach pg. 1 for outline of

costs.

Amount: \$39,216.00

	Component Description: Amount:	Other Expenses General Contract Payment details begin on attachment pg 17. PO for multiple sites. \$17,575.00
Network Switch	Component Description: Amount:	Other Expenses Network Switch 11 Switches for total of 11,527.67 equals 1,047.97 per transmitter site. \$1,047.97
MVPD Notification of Channel Change	Component Description: Amount:	MVPD Notify See attach pg. 12-13 \$5,100 for 11 sites equal 463.64 each \$463.64
Develop and air announcement of upcoming channel change	Information not provided.	
Equipment Delivery and Handling Charges	Information not provided.	
Disposal Costs (for equipment and other waste, net of any salvage value)	Component Description:	50% Remove Exist Main Transmitter. Purchase Order for all 11 sites.
	Amount:	\$13,782.60

DTV Medical Facility Notification

Component Description: Medical

Notification, PO /Quote for multiple

Call/Locations.

Amount: \$3,750.00

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$3,142,587.40	\$2,232,467.33	\$1,187,769.72

Reimbursem	enrestiatus	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

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.

- 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 abovenamed applicant for the Authorization(s) specified above.

Donald Smith Director of New Technologies Compliance

12/18/2019

& Planning

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.
- The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct.
- 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 abovenamed applicant for the Authorization(s) specified above. Robert
Levin
Director of
Finance and
Administration

12/18/2019

Attachments