

(REFERENCE COPY - Not for submission)

## FCC Form 399: Reimbursement Request

**69397** | Service: **DTV** Call **WUNP-TV** Channel: 27 (UHF) Facility Sign:

ID:

File 0000026701

Number:

FRN: 0001910066 Date 09/09

> 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 14900 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  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) 549-7000	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	Aux
	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

#### 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-20
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	11.75 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

#### Auxiliary Transmitter

#### **Other Transmitter Costs**

Section	Question	Response
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

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	DCX-2
	Year	2001
	Туре	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	40 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-60
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	34 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	Aux
	Ownership	No Yes
	Owner	N/A
	Site	N/A
	Is this antenna currently shared with any other stations?	No
	Is this antenna directional?	No
	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	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)	205.7 kW

Manufacturer	
Model	ATW24HS3- HSO-36S
Year	2008

#### **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?	No
	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)	Not in Stack  Elliptical  Slotted Coaxial  N/A  N/A  N/A  N/A  N/A

Manufacturer	
Model	SAA22-O3- G200-ES4R- 27
Year	2019
Justification for New Antenna	The antenna can only operate on channel 36. 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

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?	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?	nna directional?  No  ting condition?  Yes  on or in close proximity  No
	Is the existing antenna directional?	
	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)	125.0 kW

Manufacturer	
Model	TFU-15JTH /VP-R O4
Year	2010

#### **New Antenna Costs**

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Primary (Main)
	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 Full Power
New Antenna	Class	Full Power
Manufacturer and Types	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Туре	
	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)	248.0 kW
	Manufacturer	
		1

Model	SAA14- O4A-G300- ET5R-27
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 36. 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 <sup>Seffien</sup>	Question	Response
Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

Existing Transmission
-----------------------

Auxiliary	Add Transmission Line		
Transmission	on Line Settion	Question	Response
Existing Transmission Line Description		Type of change	Purchase New
		Use	Auxiliary (Backup)
		Description of Use	Interim and Eventual 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	Manufacturer	
	Line Manufacturer and Type	Туре	Rigid
		Diameter	3 1/8 inches
		Other Diameter	N/A
		Segment Length	20 inches
		Other Segment Length	N/A
		Number of parallel runs	1
		Length	800 feet per run

#### **New Transmission Line**

# Auxiliary Transmission Line

New Transmission Line
Costs

Question	Response
Use	Auxiliary (Backup)
Description of Use	Interim and Eventual Auxiliary
Change Type	Purchase New
Is this a request for upgraded equipment?	No
Туре	Rigid
Diameter	4 1/16 inches
Other Diameter	N/A
Segment Length	20 inches
Other Segment Length	N/A
Number of parallel runs	1
Length	800 feet per run

Justification for New Transmission Line	Constructing a viable interim facility with meaningful coverage area requires a system with increased power handling capability. This is best addressed by replacing the transmission line with higher power handling capability. See transition plan
	plan
	narrative

Other Transmission Line Expenses Not Listed Auxiliary Other Transmission Transmission Linetion 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	Do you have a tower registration number?	Yes
Registration	ASR Number	1014576
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	36° 17' 29.2' N-
	Longitude (NAD83)	077° 50' 09.4" W-
	Overall Structure Height	1143.03 feet
	Support Structure Height	1112.19 feet
	Ground Elevation Above Mean Sea Level (AMSL)	284.12 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	UNIVERSITY OF NORTH CAROLINA
Date Constructed	05/13/2011

#### 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	Because the transmission site is owned by the State of North Carolina, it is subject to various state construction project rules. One rule is the hiring of a designer to create submittals for project review and approval by the state.
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

	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	١.
-------------------	----

#### Outside Professional

### Other Professional Services Expenses Not Listed

I Services 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?	No
	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
General Construction	General construction and administrative costs necessary for the installation of transmitters in the existing building.
Electrical Construction	Construction and modifications to the electrical infrastructure of the existing building as required to support the new transmitters
Mechanical Construction	Construction and modifications to the HVAC infrastructure of the existing building as required to support the new transmitters

## **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 Co Justificati
Primary Transmitter ULXTE-60	\$1,025,550.00	\$1,002,912.41		\$455,197.56	
UHF - Liquid Cooled Solid State Transmitter 34 kW	\$1,000,000.00	\$1,000,000.00	A quote from Comark for a replacement IOT transmitter is attached. That quote is substantially higher than the catalog pricing amount for the proposed solid state transmitter. The proposed transmitter should be eligible for full reimbursement.	\$452,285.15	N/A
Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$2,912.41	***System Notice: Estimate adjusted and locked because line has been superseded.  ***	\$2,912.41	N/A
Auxiliary Transmitter ULXTE-20	\$520,050.00	\$471,958.60		\$237,104.94	

Liquid Cooled Solid State Transmitter 8.2 - 13 kW  Transformer \$25,550.00 \$1,958.60 ***System \$1,958.60 N/A 3 phase /480v - 150 KVA  Sub-total \$1,545,600.00 \$1,474,871.01 N/A \$692,302.50 N/A						
3 phase	Liquid Cooled Solid State Transmitter	\$494,500.00	\$470,000.00	N/A	\$235,146.34	N/A
<b>Total for all</b> \$2,982,737.70 \$2,769,717.01 N/A \$1,216,397.10 N/A	3 phase /480v - 150	\$25,550.00	\$1,958.60	Notice: Estimate adjusted and locked because line has been superseded.	\$1,958.60	N/A
	Sub-total	\$1,545,600.00	\$1,474,871.01	N/A	\$692,302.50	N/A
		\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A

#### Components

Actual Information Description	File Name	
UHF - Liquid Cooled Solid State Transmitter 34 kW	Component Description:  Amount:	50% Transmitter & Installation, Installation included w /Transmitter on Form 399. Purchase Order includes all 11 sites. Transformer on line 16 of Quote is separate Form 399 Line Item. \$452,285.15

Transformer 3 phase/480v - 150 KVA	Component Description:  Amount:	50% Transformer included with Transmitter Cost on Invoice. See Quote line item 16. Purchase Order is for all 11 Sites. \$2,912.41
UHF - Liquid Cooled Solid State Transmitter 8.2 - 13	Component Description:	Aux. Transmitter.
kW		Credit for
		transformer applied with
		transmitter per
		FCC Hotline
		(Paige 7/8/2019)
		due to system
		error. Invoice due
		date corrected to
		vendor terms (net 60). See
		attachment pgs. 2-
		4 for summary.
	Amount:	\$96,392.55
	Component Description:	50% Aux
		Transmitter &
		Installation
		(Installation
		included w
		/Transmitter on Form 399).
		Transformer on
		line 17 of quote
		separate Form
		399 Line Item.
		Purchase Order
		for all 11 sites.
	Amount:	\$138,753.79

Transformer 3 phase/480v -	
150 KVA	Com

Component Description: 50% of

Transformer on Line 17 of quote is

included with Transmitter Cost

on Invoice.

Purchase Order is for all 11 sites.

**Amount:** \$1,958.60

## **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 SAA14- O4A-G300- ET5R-27	\$308,530.00	\$160,536.03		\$71,218.01	
UHF - High Power Top Mount (200-1000 kW), One station antenna, elliptically or circularly polarized	\$289,500.00	\$142,436.03	See RFS Antenna Narrative and quotes	\$71,218.01	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	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
Auxiliary Antenna SAA22-O3- G200- ES4R-27	\$271,710.00	\$187,076.00		\$72,288.00	

UHF - Lower Power Side Mount, One station antenna 200-500 kW, elliptically or circularly polarized	\$227,000.00	\$144,576.00	See RFS Narrative with quotes	\$72,288.00	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	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
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

Pattern scatter	\$5,260.00	\$5,000.00	N/A	N/A	N/A
analysis					
for side					
mount high					
/med					
power					
antennas					
(if not					
included					
in antenna					
base cost)					
Sub-total	\$580,240.00	\$347,612.03	N/A	\$143,506.01	N/A
Total for	\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A
الم					
all					

Actual Information Description	File Name	
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	Component Description:  Amount:	50% Primary Antenna (See Bid Page 58 Attachment A Pricing Form Item 59) included in Inv & PO Line 19. Invoice & Purchase Order are for all 10 sites. \$71,218.01
Sweep test of existing antenna	Information not provided.	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	Information not provided.	

UHF - Lower Power Side Mount, One station antenna 200-500 kW, elliptically or circularly polarized	Component Description:	50% Auxilliary Antenna (See Bid Page 57 Attachment A Pricing Form Item 56) included in Inv & PO Line 19. Invoice & Purchase Order are for all 10 sites.
Sweep test of existing antenna	Amount:  Information not provided.	\$72,288.00
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	Information not provided.	
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	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
Auxiliary Transmission Line	\$113,600.00	\$76,078.71		\$38,039.36	
Rigid Transmission Line - copper, 4 1 /16"	\$113,600.00	\$76,078.71	See RFS Narrative with attached pricing	\$38,039.36	N/A
Sub-total	\$113,600.00	\$76,078.71	N/A	\$38,039.36	N/A
Total for all systems	\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A

Actual Information Description	File Name	
Rigid Transmission Line - copper, 4 1/16"	Component Description:  Amount:	50% Auxilliary Transmission Line (Bid Page 57 Attachment A Pricing Form Item 57) included in Inv & PO Line 19. Invoice & Purchase Order are for 10 sites. \$38,039.36

## **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	\$210,500.00	\$257,406.56		\$193,055.67	
Tall Tower (greater than 500')	\$210,500.00	\$257,406.56	See RFS Narrative with attached Pricing	\$193,055.67	N/A
Sub-total	\$210,500.00	\$257,406.56	N/A	\$193,055.67	N/A
Total for all systems	\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A

Actual Information	
Description	File Name

Tall Tower (greater than 500')		
	Component Description:	Auxiliary / interim antenna
		installation.
		Purchase Order is
		for 10 sites.
	Amount:	\$64,351.89
	Component Description:	50% Primary/Tall
		Tower Installation
		(See Bid Page 58
		Attachment A
		Pricing Form Item
		58) for Auxilliary
		Antenna included
		in Inv & PO Line
		20. Invoice &
		Purchase Order are for 10 sites.
	Amount:	\$64,351.89
	Amount.	φ04,331.09
	Component Description:	See Bid Page 57
		Attachment A
		Pricing Form Item
		60) for Primary Antenna included
		in Inv & PO Line
		20. Invoice &
		Purchase Order
		are for 10 sites.
	Amount:	\$64,351.89

## **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 Co
Outside Professional Services	\$93,275.00	\$179,776.00		\$111,618.57	
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	\$4,210.00	\$4,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A

Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$2,000.00	N/A	\$750.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	\$1,675.00	N/A
Project management of the transition	\$18,960.00	\$113,026.00	See attachment "WUNP Program Designer - Manager Narrative" for details on estimated cost	\$102,203.36	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	\$525.00	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, License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A
Tower Structural Analysis	\$7,000.00	\$7,000.00	N/A	\$2,500.00	N/A
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.	\$3,965.21	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
Sub-total	\$93,275.00	\$179,776.00	N/A	\$111,618.57	N/A
Total for all systems	\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A

Actual Information Description	File Name
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.
Prepare and or review reimbursement form	Information not provided.
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.

Perform engineering study for new channel assignment Outside **Component Description:** and antenna development Professional Services **Engineering Study New Channel** Assignment Antenna Development \$750.00 Amount: Prepare engineering section of FCC Form 2100 (main), **Component Description:** Outside Construction Permit Professional Application Services Engineering Section FCC Form 2100 Construction Permit Application Main/Primary Amount: \$1,675.00 Project management of the transition **Component Description:** Outside Professional Services Project Management of Transition See attachment pg 3-5 for Contract /Invoice Summary Amount: \$11,881.60 **Component Description:** Outside Professional Services Project Management See attachment pg. 3 & 4 for Project Summary Amount: \$6,703.50

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

ioi Contract

/Invoice Summary.

**Amount:** \$5,141.83

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:** \$10,283.66

Component Description: Outside

Professional Services Project Management of Transition See attachment pg 3-5

for Contract

/Invoice Summary. PO/Contract for all eleven transmitter

sites.

**Amount:** \$5,141.83

> Professional Services Project Management of Transition See attachment pg 3-5

for Contract

/Invoice Summary

Amount: \$4,352.64

**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

**Component Description:** Outside

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

/Invoice Summary

\$49,675.80

RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section

of FCC Form 2100, Construction Permit

Application

**Component Description:** 

Amount:

Outside Prof Svcs Consult Engineer

CP for Aux

\$525.00 Amount:

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, License to Cover Application	Information not provided.	
Tower Structural Analysis	Component Description:  Amount:	Outside Professional Services Tower Structural Analysis See attachment page 7 for schedule of services. \$2,500.00
Additional Legal Expenses	Component Description:  Amount:	Outside Professional Services Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 315.00/11 equal 28.63 as outlined on page 1 of invoice. \$28.63
	Component Description:	Outside Professional Services Additional Legal
	Amount:	Expenses \$105.00

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 Services

invoice.

Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 2059.90/11 equal 187.26 as outlined on page 1 of

invoice. \$187.26

**Amount:** \$187.26

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$67.40

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, 959.50/11 equal 87.23 as outlined on page 1 of invoice.

**Amount:** \$87.23

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 235.86 as outlined on page 1 of invoice.

**Amount:** \$235.86

Professional Services

Additional Legal

Expenses

**Amount:** \$146.00

Component Description: Outside

Professional Svcs.

Additional Legal

Expenses

**Amount:** \$109.50

Component Description: Outside

Professional Services

Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 765.00/11 equal

69.54 as outlined

on page 1 of invoice.

**Amount:** \$69.54

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$35.00

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$35.00

Professional Services

Additional Legal

Expenses

**Amount:** \$73.00

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:** \$6.36

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. \$337.89

Amount:

Professional Services

Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 368.00/11 equal 33.45 as outlined on page 1 of

**Amount:** \$33.45

Component Description: Outside

Professional Services

invoice.

Additional Legal

Expenses

**Amount:** \$70.00

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, 323.00/11 equal 29.37 as outlined on page 1 of invoice.

**Amount:** \$29.37

Component Description: Outside

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

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, 168.50/11 equal 15.32 as outlined on page 1 of

invoice.

**Amount:** \$15.32

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$70.00

Professional Services

Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 402.00/11 equal 36.54 as outlined on page 1 of

**Amount:** \$36.54

Component Description: Outside

Professional Services

invoice.

Additional Legal

Expenses

**Amount:** \$33.70

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$885.70

Component Description: Outside

Professional Services

Additional Legal

Expenses

**Amount:** \$67.40

Professional Services

Additional Legal Expenses Legal services benefit entire FCC Repack project across all 11 Call Signs/Facility IDs, 3472.00/11 equal 315.64 as outlined on page 1 of invoice.

**Amount:** \$315.64

Component Description: Outside

Professional Services

Additional Legal Expenses 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.

**Amount:** \$6.13

	Component Description:	Outside
		Professional Services
		Additional Legal
		Expenses Legal
		services benefit
		entire FCC
		Repack project
		across all 11 Call
		Signs/Facility IDs,
		175.00/11 equal
		15.91 as outlined
		on page 1 of
		invoice.
	Amount:	\$15.91
	Component Description:	Outside
		Professional
		Services
		Additional Legal
		Expenses
	Amount:	\$539.20
	Component Description:	Outside
		Professional
		Services
		Additional Legal
		Expenses
	Amount:	\$35.00
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.	

Information not provided.

Attorney Fees - Prepare

and File request for Special Temporary Authorization

## **Cost Information**

#### **Other Expenses**

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

Description Other	Predetermined Cost Estimate \$439,522.70	Estimated Cost \$433,972.70	Estimated Cost Justification	Actual Cost \$37,874.99	Actual Cost Justification
Mechanical Construction	\$140,365.00	\$140,365.00	See attached document WUNP GC Budget for justification and additional information	N/A	N/A
Electrical Construction	\$147,306.46	\$147,306.46	See the attached document, WUNP GC Budget for justification and additional information	N/A	N/A
General Construction	\$65,071.24	\$65,071.24	See attached document WUNP GC Budget for justification and additional information	N/A	N/A
MVPD Notification of Channel Change	\$5,500.00	\$5,500.00	Preliminary estimate of service	\$463.64	N/A

air announcement of upcoming			estimate		
channel change					
Disposal Costs (for equipment and other waste, net of any salvage value)	\$67,730.00	\$67,730.00	Quotes for disposal of both transmitters are attached	\$33,661.35	N/A
DTV Medical Facility Notification	\$11,550.00	\$6,000.00	Preliminary estimate of service	\$3,750.00	N/A
Sub-total	\$439,522.70	\$433,972.70	N/A	\$37,874.99	N/A
Total for all systems	\$2,982,737.70	\$2,769,717.01	N/A	\$1,216,397.10	N/A

Actual Information Description	File Name	
Mechanical Construction	Information not provided.	
Electrical Construction	Information not provided.	
General Construction	Information not provided.	
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.	

Disposal Costs (for equipment and other waste, **Component Description:** 50% Primary net of any salvage value) Transmitter Disposal. Purchase Order is for all 11 sites. \$19,878.75 **Amount: Component Description:** 50% Aux Transmitter Disposal. Purchase Order is for all 11 sites. Amount: \$13,782.60 **DTV Medical Facility** Notification **Component Description:** Other Expenses DTV Med Notify **Amount:** \$3,750.00

## Cost Information

#### **Grand Total**

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$2,982,737.70	\$2,769,717.01	\$1,216,397.10

Reimbursem	entestiatus	Response
The facility has cease auction channel.	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

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

09/09/2019

& 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

09/09/2019

#### **Attachments**