

(REFERENCE COPY - Not for submission)

#### FCC Form 399: Reimbursement Request

Service: DTV Call WRAL-TV Channel: 17 (UHF) Facility Sign:

ID:

File 0000027637

Number:

FRN: **0001961713** Date 01/14

> Submitted: /2020

#### **Applicant** Information

#### **Applicant Name, Type, and Contact Information**

Applicant	Address	Phone	Email	Applicant Type
Capitol Broadcasting Company, Inc.	Chrissy Cicuto 2619 Western Blvd Raleigh, NC 27606 United States	+1 (919) 821-8730	ccicuto@cbc- raleigh.com	Corporation

### 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
Peter Sockett  Director of Engineering and Operations  Capitol Broadcasting Company	Pete Sockett 2619 Western Blvd Raleigh, NC 27606 United States	+1 (919) 821- 8573	psockett@wral. com

#### Broadcaster Information and Transition Plan

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	Yes
Briefly describe transition plan	All 4 broadcasters will need to replace antennas on the candelabra. The transition plan for WRAL / WRAZ is to replace the existing Aux antenna with a single ch15 / 17 slot antenna at approx 1720ft (524m) to use as both the new AUX and interim facility.

#### **Transmitters**

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

#### 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	CD2400P4
	Year	1999
	Туре	Inductive Output Tube
	IOT Power Type	Other
	Other IOT Power Type	4 tube system
	Power Capacity	100 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	ULXTED-120
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	76.0 kW
	Justification for New Transmitter	1) Manufacturer (Gates Air) will not support channel changes to this model of transmitter. 2) Comark estimate for IOT transmitter is higher than a solid State transmitter from GatesAir

#### Primary Transmitter

#### **Other Transmitter Costs**

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes

	Power	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	4 inches
	Length	400.0 feet
	Other Electrical Service	No
	Description	N/A
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Туре	Cooling Only
	Size	15 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	Yes
	Size	1600.0 square feet
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

#### Primary Transmitter

#### Other Transmitter Cost Not Listed

Name	Description
Spare Modules and Power supplies	Currently we keep 1 spare IOT tube on hand in the event of a failure. This purchases spare parts for Solid State TX
RF System	Magic T / Mask filter / Dummy load and RF Line for Installation
System installation	Manufacturer to come to site to install and commission.

#### **Antennas**

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

#### **Existing Antenna Information**

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Auxilary (Backup)
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	Yes
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	Yes
Existing Antenna	Class	Full Power
Manufacturer and Type	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Туре	Broadband Panel
	Number of Stations Supported	2
	Number of Panels	36
	Design power capacity in use	100.0 %
	Lower Limit	674.00 MHz
	Upper Limit	710.00 MHz
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	1000.0 kW

Manufacturer	
Model	ETU- P3H12-(48- 53)
Year	2008

# Facility ID's and Call Signs of all stations with whom the antenna is shared.

Facility ID	Call Sign
64611	WRAZ

#### **New Antenna Costs**

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Interim Facility and Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	Yes
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	Yes
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Туре	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	805.0 kW

Manufacturer	
Model	ATW25H3- ESO-15 /17H
Year	2018
Justification for New Antenna	This antenna will serve as both an Interim facility while the candelabra is rebuilt and will replace the existing AUX antenna already in service for both WRAL and WRAZ

#### **Other Antenna Costs**

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Туре	New
	Number of channels supported	2
	Frequencies of channels supported	Upper and lower frequency
	Frequency	476.0 MHz - 494.0 MHz
	Do you need a combiner output splitter /switcher for dual feed lines?	No
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes

	Broadband or Single Channel?	Broadband
	Feed Line Size	8 3/16 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?	No
	Is the existing antenna directional?	No
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	Yes
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Тор
	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)	1000.0 kW

Manufacturer	
Model	ATW25H5- ETO-48H
Year	2008

#### **New Antenna Costs**

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4
3.0 kW
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Model	ATW25H4- ETO-17H
Year	2018
Justification for New Antenna	Required as old antenna is cut for channel 48

#### **Other Antenna Costs**

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	
	Туре	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	7 3/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	
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 Line**

#### Auxiliary Transmission

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Auxiliary (Backup)
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	Yes
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Туре	Rigid
	Diameter	7 3/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1738 feet per run

Facility ID's and Call Signs of all stations with whom the transmission line is shared.

Facility ID	Call Sign
64611	WRAZ

#### **New Transmission Line**

Auxiliary Transmissio

on Line Section	Question	Response
New Transmission Line Costs	Use	Auxiliary (Backup)
	Description of Use	Auxiliary (Backup) and Interim Facility
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Туре	Rigid
	Diameter	8 3/16 inches
	Other Diameter	N/A
	Segment Length	Broadband
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	2013 feet per run
	Justification for New Transmission Line	Required to feed new Aux / Interim antenna. Cost will be split with WRAZ.

Auxiliary Other Transmission Line Expenses Not Listed Transmission Line tion not provided.

# Primary Transmission Line

#### **Existing Transmission Line**

on Line Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Туре	Waveguide
	Diameter	N/A
	Other Diameter	N/A
	Segment Length	N/A
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	2210 feet per run

#### Primary Transmission

#### **New Transmission Line**

n Line Section	Question	Response
New Transmission Line Costs	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Туре	Rigid
	Diameter	7 3/16 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	2210 feet per run
	Justification for New Transmission Line	Existing run is GLW 1500 Waveguide that is frequency specific for High Band UHF

#### Primary Transmis

#### Other Transmission Line Expenses Not Listed

Transmission	Naine	Description
	Gas Barrier	The transmission line Gas Barrier enables the transmission line to be pressurized.

2 W	all f	eed	throu	ıah	units
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The two listed wall feed thru units are for the transmission line as it goes through the wall to the outside of the transmitter building.

# Tower Equipment And Rigging Costs

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

#### Primary Tower

#### **Existing Tower**

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Is this tower consider Complex?	Candelabra
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	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	1027322
Coordinates (NAD83 ( North American Datum of	Latitude (NAD83)	35° 40' 29.0" N-
1983))	Longitude (NAD83)	078° 31' 39.0" W-
	Overall Structure Height	1988.82 fee
	Support Structure Height	1988.82 fee
	Ground Elevation Above Mean Sea Level (AMSL)	359.90 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	CBC REAL ESTATE COMPANY, INC.
Date Constructed	03/23/2000

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

Facility ID	Call Sign	Service
73936	WTKK	FM
50782	WNCN	DTV
73205	WLFL	DTV
64611	WRAZ	DTV

#### Primary Tower

#### **Tower Modification Costs**

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for tower with candelabra
Tower Reinforcements	Please select whether tower reinforcements are needed:	Minor Reinforcements needed

#### Primary Tower

#### **Tower Rigging Costs**

Section	Question	Response
Tower Rigging Costs	Complex Tower	Candelabra

Helicopter Services	Are helicopter services required?	Yes
Required		

#### Primary Tower

#### **Other Tower Expenses Not Listed**

Name	Description
Relocate ENG Dish	Relocate 2 ENG receive dishes to create room for Interim / Aux antennas - Split with WRAZ

Outside Professional

Section	Question	Response
Services Costs Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	220
	Explanation	WRAL /WRAZ has only one engineer currently available at the TX site. Additional project management is necessary. The estimate is an average of 20 hrs per month for Jan - November of 2019. Note: post Phase 5 the candelabra still needs to be rebuilt.
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	No

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

Number of Days	3
Justification	Independent verification and inspection of installed systems

#### Outside Professional

#### Other Professional Services Expenses Not Listed

l Services Costs	Description
Legal Guidance for repack	Consultation on repack items with Legal Council

## 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	Yes
	Non-zoning permits	Yes
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	Yes
	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
Facilty remote control and monitoing modifications	Modifications to existing system to add new telemetry and control.

## **Cost Information**

#### **Transmitters**

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

<b>Description Primary</b>	Predetermined Cost Estimate \$3,247,975.00	Estimated Cost \$3,114,978.00	Estimated Cost Justification	Actual Cost \$2,966,024.82	Actual Cost Justification
Transmitter ULXTED-120	\$3,24 <i>1</i> ,973.00	\$5,114,976.00		\$2, <del>900</del> ,024.62	
Spare Modules and Power supplies	\$35,000.00	\$35,000.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 76.0 kW	\$2,212,334.00	\$2,212,334.00	Includes all TX cost - RF System, installation and electrical (transformer). Freight Charges Also	\$2,212,333.65	N/A
Transformer 3 phase /480v - 300 KVA	\$36,800.00	\$1.00	Included in overall TX price	N/A	N/A
4" Rigid Conduit and Wiring (Cost per foot)	\$40,400.00	\$1.00	Included in overall building estimate	N/A	N/A
15 Ton system	\$55,800.00	\$1.00	Included in overall building estimate	N/A	N/A

Other	\$867,639.00	\$867,639.00	Our facility is	\$753,691.17	New
Building			full with no		estimate
Addition			room to		was
Size: 1600.0			install new		uploaded
			equipment		April 18th
			before old		for
			equipment is		approval
			removed.		
			This facility		
			will be		
			shared with		
			WRAZ. This		
			is 1/2 the		
			cost, other		
			half will be		
			represented		
			on WRAZ.		
			Please see		
			"building cost		
			narrative"		
			recently		
			uploaded.		
System	\$1.00	\$1.00	Included in	N/A	N/A
installation	·	·	overall TX		
			price		
			'		
RF System	\$1.00	\$1.00	Included in	N/A	N/A
			overall TX		
			price		
Sub-total	\$3,247,975.00	\$3,114,978.00	N/A	\$2,966,024.82	N/A
Total for all systems	\$6,480,202.65	\$5,770,048.65	N/A	\$4,537,170.61	N/A

#### Components

Actual Information Description	File Name
Spare Modules and Power supplies	Information not provided.

UHF - Liquid Cooled Solid		
State Transmitter 76.0 kW	Component Description:	Gates second
		invoice - includes
		RF system and
		electrical
		(transformer)
	Amount:	\$1,052,564.98
		. , ,
	Component Description:	Final payment for
	Component Description.	transmitter,
		installation and
		freight charges for WRAL main
	Amount:	transmitter.
	Amount:	\$106,461.97
	Component Description:	50% down for
	Component Description:	
	Amount:	transmitter
	Amount.	\$1,053,306.70
Transformer 3 phase/480v - 300 KVA	Information not provided.	
4" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	
15 Ton system	Information not provided.	
Other Building Addition		
Size: 1600.0	Component Descriptions	MDAL portion of
	Component Description:	WRAL portion of ITS invoice WRAL-
		WRAZ-008
	Amount:	
	Amount:	\$48,892.50
	Component Description	12-09-19 Osborn
	Component Description:	
		invoice 32586 for
		printing related to
		the WRAL new
	Amount:	building addition. \$40.30

Component Description: WRAL Portion of

Osborn Invoice

29157

**Amount:** \$933.70

Component Description: WRAL portion of

ITS Invoice WRAL-

WRAZ-007

**Amount:** \$48,375.00

Component Description: WRAL portion of

ITS Invoice WRAL-

WRAZ-006

**Amount:** \$38,250.00

Component Description: WRAL Portion of

Osborn Invoice

27973

**Amount:** \$5,111.98

Component Description: REVISED WRAL

portion of the BeckTV invoice 10351 for new

building

infrastructure equipment.

**Amount:** \$17,076.83

Component Description: WRAL Portion of

Osborn Invoice 27175 revised with

invoices.

**Amount:** \$7,563.72

Component Description: WRAL Portion of

Osborn Invoice 27327 Revised with receipts now

attached.

**Amount:** \$7,741.53

Component Description: Fifth invoice (Pay

app) in

construction project

**Amount:** \$50,216.16

Component Description: Fourth invoice

(Pay app) in

construction project

**Amount:** \$70,326.24

Component Description: WRAL portion of

Osborn invoice

27628

**Amount:** \$1,267.64

Component Description: Third invoice (Pay

app) in

construction project

**Amount:** \$111,204.90

Component Description: Second invoice

(Pay app) in

construction project

**Amount:** \$70,087.95

Component Description: WRAL Portion of

Osborn Invoice

28690

**Amount:** \$20,320.01

**Component Description:** First invoice (Pay app) in construction project Amount: \$254,945.60 **Component Description:** Ross Video Limited invoice for new building infrastructure equipment. Amount: \$3,668.80 **Component Description:** WRAL Portion of Osborn Invoice 28274 **Amount:** \$14,745.14 System installation Information not provided.

Information not provided.

RF System

#### **Antennas**

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Antenna ATW25H4- ETO-17H	\$310,130.00	\$294,600.00		\$236,125.00	
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,250.00	N/A
Elbow complex, single channel, at antenna input, per 7 3/16. feedline (if needed)	\$13,900.00	\$13,200.00	N/A	\$0.00	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna, elliptically or circularly polarized	\$289,500.00	\$275,000.00	N/A	\$229,875.00	N/A
Auxiliary Antenna ATW25H3- ESO-15/17H	\$275,790.00	\$267,000.00		\$147,245.17	

Pattern scatter analysis for side mount high/med	\$5,260.00	\$2,500.00	1/2 split with WRAZ	N/A	N/A
power antennas (if not included in antenna base cost)					
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$11,000.00	1/2 split with WRAZ	\$6,311.25	This Covers both WRAL and WRAZ combined AUX system
Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)	\$18,950.00	\$17,800.00	This antenna is a "combined antenna" the other 1 /2 of the cost is shared with WRAZ	\$17,737.04	N/A
Sweep test of existing antenna	\$6,730.00	\$3,200.00	1/2 split with WRAZ	N/A	N/A
UHF - High Power, Side Mount, basic slot antenna, 805 kW input, elliptically or	\$137,500.00	\$137,500.00	This antenna is a "combined antenna" the other 1 /2 of the cost is shared with WRAZ	\$105,134.38	This covers cost for both WRAL and WRAZ AUX combined antenna ststem

New	\$84,200.00	\$95,000.00	Interim	\$18,062.50	This is for
combiner,			(AUX)		Both
cost per			antenna		WRAL and
channel			will support		WRAZ
(without			full power		interim /
antenna)			from each		aux
			station		antenna
			(WRAL		system
			and		
			WRAZ)		
			requiring		
			larger		
			sized		
			combiner.		
Sub-total	\$585,920.00	\$561,600.00	N/A	\$383,370.17	N/A
Total for	\$6,480,202.65	\$5,770,048.65	N/A	\$4,537,170.61	N/A
all					

Actual Information Description	File Name	
Sweep test of existing antenna	Component Description: Amount:	Final payment (15%) for System Sweep \$937.50
	Component Description:	85% initial payment - System Sweep
	Amount:	\$5,312.50
Elbow complex, single channel, at antenna input, per 7 3/16. feedline (if needed)	Information not provided.	

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	Component Description:	Final payment (15%) for Primary Antenna - ATW25H4-ETO-
	Amount:	17H \$34,481.25
	Component Description:	85% initial Payment WRAL Main Antenna
	Amount:	\$195,393.75
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)	Component Description:	1/2 of 85% Initial Payment - Leg mount bracket set WRAL and WRAZ Combined AUX
	Amount:	\$6,311.25
Elbow complex, broadband, at antenna input, per 8 3/16.	Component Description:	Corrected Amount
feedline (if needed)		<ul> <li>50% split</li> <li>between WRAL</li> <li>and WRAZ for</li> <li>ERI Invoice 53331</li> </ul>
	Amount:	\$17,737.04
Sweep test of existing antenna	Information not provided.	

UHF - High Power, Side		
Mount, basic slot antenna,	<b>Component Description:</b>	1/2 of 85% Initial
805 kW input, elliptically or		Payment -
circularly polarized		Combined WRAL
		/WRAZ Side
		mount AUX
		Antenna
	Amount:	\$105,134.38
New combiner, cost per		
channel (without antenna)	<b>Component Description:</b>	1/2 of 85% Initial
		Payment -
		Combiner for
		WRAL and WRAZ
	Amount:	\$18,062.50

#### **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
Primary Transmission Line	\$641,995.65	\$610,095.65		\$581,709.49	
Rigid Transmission Line - copper, 7 3 /16"	\$640,900.00	\$609,000.00	N/A	\$580,613.84	N/A
Gas Barrier	\$391.85	\$391.85	No Predetermined cost estimate	\$391.85	N/A
2 Wall feed through units	\$703.80	\$703.80	No Predetermined Cost Estimate	\$703.80	N/A
Auxiliary Transmission Line	\$803,187.00	\$381,000.00		\$210,359.12	
Rigid Transmission Line - copper, 8 3 /16" broadband	\$803,187.00	\$381,000.00	This represents 1 /2. WRAZ will cover the other 1/2	\$210,359.12	This covers both WRAL main and the WRAL /WRAZ combined AUX antenna systems
Sub-total	\$1,445,182.65	\$991,095.65	N/A	\$792,068.61	N/A
Total for all systems	\$6,480,202.65	\$5,770,048.65	N/A	\$4,537,170.61	N/A

<b>Actual Information</b>		
Description	File Name	

Rigid Transmission Line - copper, 7 3/16"

Component Description: Final payment

(15%) for

Transmission Line

system

**Amount:** \$84,062.14

Component Description: Final payment

(15%) for Sahara

Dehydrator

**Amount:** \$1,398.68

Component Description: Final payment

(15%) for TX line system design and

drawings

**Amount:** \$1,631.25

**Component Description:** 85% initial

payment - Sahara

TX Line Dehydrator -WRAL Main line

**Amount:** \$7,925.82

**Component Description:** 85% initial

payment -

Transmission Line

for WRAL

**Amount:** \$476,352.20

**Component Description:** 85% initial

payment - TX Line System design and drawings

**Amount:** \$9,243.75

	0	Evillana (1
	Component Description:	Full payment for
		gas Barrier 7-3/16" 75 Ohm
	Amount	75 Onm \$391.85
	Amount:	<b>७</b> ७४।.७७
2 Wall feed through units		
	Component Description:	Full payment for
		Wall Feed Thru
	Amount:	\$703.80
Rigid Transmission Line - copper, 8 3/16" broadband	Component Description:	1/2 of 85% initial
		payment - Sahara
		TX line dehydrator
		- AUX combined
		system WRAL and
	Amount:	WRAZ \$3,962.91
	Amount.	\$3,962.91
	Component Description:	1/2 of 85% initial
		payment - TX Line
		for Combined
		WRAL WRAZ
		AUX Antenna
		system
	Amount:	\$206,396.21

#### **Tower Equipment and Rigging Costs**

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower TOWER	\$960,050.00	\$959,050.00		\$354,375.64	
Structural engineering tower load study for a documented tower with candelabra	\$20,000.00	\$19,000.00	N/A	\$4,750.00	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$421,000.00	N/A	\$349,625.64	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$158,000.00	N/A	N/A	N/A
Tower Helicopter Lift	\$336,050.00	\$336,050.00	No predetermined cost available.	N/A	N/A
Relocate ENG Dish	\$25,000.00	\$25,000.00	This is 1/2 of the cost - other half will be covered by WRAZ	N/A	N/A
Sub-total	\$960,050.00	\$959,050.00	N/A	\$354,375.64	N/A
Total for all systems	\$6,480,202.65	\$5,770,048.65	N/A	\$4,537,170.61	N/A

Actual Information Description	File Name	
Structural engineering tower load study for a documented tower with candelabra	Component Description:  Amount:	WRAL portion of ERI Invoice 52341. Remainder of invoice charged to WRAZ \$4,750.00
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Component Description: Amount:	WRAL 50% of invoice for balance due. \$61,870.00
	Component Description:  Amount:	WRAL 50% deposit with order for tower installation services \$61,870.00
	Component Description:  Amount:	WRAL portion of invoice WRAL-5000 for 50% with order. Remainder of Invoice charged to WRAZ \$84,505.32
	Component Description:	WRAL Portion of ERI invoice WRAL-53700. Remainder of invoice charged to WRAZ.
	Amount:	\$33,625.00

Component Description:	WRAL portion of
------------------------	-----------------

ERI Invoice WRAL-53914. Remainder of invoice charged

to WRAZ

**Amount:** \$16,901.07

Component Description: Tower Plumb and

Tension cost.
Total amount of
\$46,500.00 is split
between WRAL
and WRAZ

**Amount:** \$23,250.00

Component Description: WRAL Portion of

ERI Invoice
WRAL-5000A.
Remaining
invoice amount
charged to WRAZ

**Amount:** \$67,604.25

Minor tower reinforcement /modifications	Information not provided.
Tower Helicopter Lift	Information not provided.
Relocate ENG Dish	Information not provided.

#### **Outside Professional Services**

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost
Outside Professional Services	\$181,490.00	\$91,550.00		\$33,239.28	
Legal Guidance for repack	N/A	N/A	N/A	N/A	N/A
Additional Field Engineering Service, 3 Days	\$6,500.00	\$6,500.00	Estimating \$2000 per day for an independent verification of the new transmission systems	\$6,500.00	N/A
RF Exposure Measurements	\$21,050.00	\$2,500.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$20,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A

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	\$625.00	N/A
Project management of the transition	\$34,760.00	\$30,800.00	Estimate consists of an average of 20hrs per month Jan - Nov 2019	\$23,864.28	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

2100 (main), Construction Permit Application Sub-total	\$5,260.00 \$181,490.00	\$5,000.00 \$91,550.00	N/A	N/A \$33,239.28	N/A
Construction Permit	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form					
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
ASR modification (prepare FCC Form 854)	\$2,105.00	\$500.00	N/A	\$500.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	\$1,750.00	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	N/A	N/A

Actual Information Description	File Name
Legal Guidance for repack	Information not provided.

Additional Field Engineering Service, 3 Days	Component Description:	Final payment (15%) for site
		survey by 2 ERI
		Climbers
	Amount:	\$975.00
	Component Description:	TX Layout Site
	Component Description.	Survey - 2
		Certified ERI
		Climbers
	Amount:	\$5,525.00
RF Exposure Measurements	Information not provided.	
Comprehensive coverage verification via field study, if needed	Information not provided.	
Attorney Fees -Prepare and File 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.	
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,	Component Description:	RF Engineering - application for
Construction Permit		license to cover
Application		Aux. construction
- PENOGUOII		permit.
	Amount:	\$625.00
Project management of the transition		

Component Description: Project

Management Services for September 2019

**Amount:** \$1,610.00

Component Description: Project

Management Services for

January 2019

**Amount:** \$1,540.00

Component Description: Project

Management Services for July

2019

**Amount:** \$3,424.28

Component Description: Project

Management Services for May

2019

**Amount:** \$4,585.00

**Component Description:** Project

Management Services for June

2019

**Amount:** \$4,480.00

Component Description: Project

Management Services for March

2019

**Amount:** \$980.00

	Component Description:  Amount:	Project Management Services for February 2019 \$1,890.00
	Component Description: Amount:	April invoice \$5,355.00
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 and antenna development	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Component Description:  Amount:	RF Consultant fees for application for license to cover construction permit for main antenna. \$250.00
	Component Description:  Amount:	RF Consultant fees for modification of construction permit to reduce ERP. \$1,500.00
ASR modification (prepare FCC Form 854)	Component Description:	RF Engineering - FAA filing to
	Amount:	update frequency \$500.00

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.

#### **Other Expenses**

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Co
Other Expenses	\$59,585.00	\$51,775.00		\$8,092.09	
Develop and air announcement of upcoming channel change	\$10,000.00	\$10,000.00	N/A	N/A	N/A
MVPD Notification of Channel Change	\$1,250.00	\$1,250.00	N/A	N/A	N/A
Facilty remote control and monitoing modifications	\$15,000.00	\$15,000.00	Facility remote control and monitoring modifications	N/A	N/A
Local Zoning	\$5,850.00	\$5,850.00	Wake County NC Commercial Building Permit for New Building Addition.	\$5,841.15	N/A
Non-zoning permits	\$1,000.00	\$1,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	\$11,550.00	\$3,750.00	N/A	N/A	N/A
FCC Filing Fees - Form 2100 license to cover application	\$335.00	\$325.00	N/A	N/A	N/A

Disposal Costs (for equipment and other waste, net of any salvage value)	\$10,000.00	\$10,000.00	N/A	\$1,991.10	N/A
Equipment Delivery and Handling Charges	\$4,600.00	\$4,600.00	No Predetermined Cost Estimate	\$259.84	N/A
Sub-total	\$59,585.00	\$51,775.00	N/A	\$8,092.09	N/A
Total for all systems	\$6,480,202.65	\$5,770,048.65	N/A	\$4,537,170.61	N/A

Actual Information Description	File Name	
Develop and air announcement of upcoming channel change	Information not provided.	
MVPD Notification of Channel Change	Information not provided.	
Facilty remote control and monitoing modifications	Information not provided.	
Local Zoning	Component Description:  Amount:	WRAL Portion of the Building Permit expenses for the new transmitter building addition. \$5,841.15
Non-zoning permits	Information not provided.	
DTV Medical Facility Notification	Information not provided.	
FCC Filing Fees - Form 2100 license to cover application	Information not provided.	

Disposal Costs (for equipment and other waste, **Component Description:** 12-9-19 - James net of any salvage value) River Invoice 1930 for waste dumpster removal and return. Amount: \$1,126.00 **Component Description:** 12-9-19 - James River Invoice 1945 for waste dumpster removal and return. Amount: \$865.10 **Equipment Delivery and Handling Charges Component Description:** Freight expense from BeckTV. Invoice 10404 Amount: \$259.84

#### **Grand Total**

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$6,480,202.65	\$5,770,048.65	\$4,537,170.61

Reimburseme	entestiatus	Response
	The facility has ceased operating on its pre- auction channel.	Yes
	Construction of final facilities or all necessary modifications are complete.	No
	All receipts for reimbursement have been submitted no further costs are expected to be incurred. Note this will lock the Form 399 from further editing and begin close-out procedures with the Fund Administrator.	No

Section Question Response

### Submission of Estimated Expenses Statements

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a) (1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.

- 1. The Authorized
  Person signing
  below certifies that he
  /she is authorized to
  submit this TV
  Broadcaster
  Relocation Fund
  Reimbursement
  Form on behalf of
  the above-named
  entity.
- 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.
- 3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.

- 4. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (broadcasters) or to continue to carry the signal of a broadcaster that changes channels (MVPD).
- 5. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
- 6. The above-named entity certifies that it will maintain and provide to the Commission detailed records, including receipts, of all costs eligible for reimbursement actually incurred.
- 7. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.

8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.

I declare, under penalty of perjury, that I am an authorized representative of the abovenamed applicant for the Authorization(s) specified above. Craig Stephen Turner Project Engineer

01/14/2020

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. Craig Stephen Turner Project Engineer

01/14/2020

#### **Attachments**