

Federal Communications Commission

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility	65919	Service: DTS	Call	WHKY-TV	Channel: 14 (UHF)
ID:			Sign:		
File	000002	9026			
Number:					
FRN: 000	01712819	Date	02/09		
		Submitted:	/2018		

Applicant Name, Type, and Contact Information

Information

Applicant	Address	Phone	Email	Applicant Type
LONG COMMUNICATIONS, LLC. Doing Business As: LONG COMMUNICATIONS, LLC.	Jeff Long 526 MAIN AVENUE SE HICKORY, NC 28602 United States	+1 (828) 322- 1290	JLONG@WHKY. COM	Limited Liability Company

Reimbursement Contact Name and Information Reimbursement Contact Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Name and Information Preparer Contact Applicant Address Phone Email Information +1 (828) 324-Thomas Edmund Long, Jr WHKY tlongjr@whky. 526 Main Ave SE 5265 com Hickory, NC Director of Engineering Long Communications, LLC 28602 United States

Broadcaster	Question	Response
Information and Transition Plan	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	WHKY-TV is a 2-site DTS system. The DTS1 facility will operate with an interim channel 40 antenna during its transition at it's studio tower. The DTS2 facility operate with the current antenna using a new transmission line during its transition.

Transmitters	Section		
	Transmitter Related Expenses	Do you have transmitter related expenses?	Yes

Primary	Existing Transmitter Information				
Fransmitter	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	2		
		Is this transmitter currently shared with another station?	No		
		Is this transmitter currently in operating condition?	Yes		
	Existing Transmitter	Manufacturer			
	Manufacturer and Type	Model	NE710		
		Year	1999		
		Туре	Solid State		
		Solid State Cooling	Air Cooled		
		Solid State Power Capacity	0.8 kW		

Existing Transmitter Information

Primary	New Transmitter Costs				
Transmitter	Section	Question	Response		
	New Transmitter	Use	Primary (Main)		
		Change Type	Purchase New		
		Is this a request for upgraded equipment?	No		
		Manufacturer			
		Model	TMU9		
		Transmitter Type	Solid State		
		Solid State Cooling	Liquid Cooled		
		Solid State Power capacity	1.2 kW		
		Justification for New Transmitter	Current 0.8 KW transmitter will not tune from ch 40 to ch 14		

Primary	Other Transmitter Costs				
Transmitter	Section	Question	Response		
	Electrical Service	Service Entrance (3 phases 800A 208V)	No		
		Switchgear (industrial 800 amp)	No		
		Transformer (480V)	Yes		
		Power	150 kVA		
		Rigid Conduit and Wiring	Yes		
		Size	2 inches		
		Length	75.0 feet		
		Other Electrical Service	Yes		

	Description	Support for cooling system and outside equipment
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	5

Primary Other Transmitter Cost Not Listed

Transmitter Information not provided.

Primary	Existing Transmitter Information				
Transmitter	Section	Question	Response		
	Existing Transmitter Description	Type of change	Purchase New		
		Use	Primary (Main)		
		Description of Use	N/A		
		Ownership	Owned		
		Owner	N/A		
		Site	1		
		Is this transmitter currently shared with another station?	No		
		Is this transmitter currently in operating condition?	Yes		
	Existing Transmitter Manufacturer and Type	Manufacturer			
		Model	Sigma Plus		
		Year	2006		
		Туре	Inductive Output Tube		
		IOT Power Type	Other		
		Other IOT Power Type	4		
		Power Capacity	70 kW		

Primary	New Transmitter Costs				
Transmitter	Section	Question	Response		
	New Transmitter	Use	Primary (Main)		
		Change Type	Purchase New		
		Is this a request for upgraded equipment?	Yes		
		Manufacturer			
		Model	SCx9000		
		Transmitter Type	Solid State		
		Solid State Cooling	Liquid Cooled		
		Solid State Power capacity	70 kW		
		Justification for New Transmitter	Current transmitter is a Harris IOT running 4 IOT's that can make up to 70 kW DTV. Transmitter can make full power running only 2 of the 4 tubes. Transmitter is set up to run 2 or 4 tubes only.		

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

	Transformer (480V)	Yes
	Power	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	4 inches
	Length	100.0 feet
	Other Electrical Service	Yes
	Description	Cooling system and control wiring.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Туре	Cooling Only
	Size	20 tons
	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	10

Primary Other Transmitter Cost Not Listed

Transmitter Information not provided.

Interim	New Transmitter Costs				
Transmitter	Section	Question	Response		
	New Transmitter	Use	Interim		
		Description of Use	N/A		
		Change Type	Purchase		
		Manufacturer			
		Model	SCx9000		
		Transmitter Type	Solid State		
		Solid State Cooling	Liquid Cooled		
		Solid State Power capacity	15 kW		
		Justification for New Transmitter	Need transmitter to operate during the transfer time from channel 40 to 14 at the main studio into a current channel 40 antenna that is on the studio tower. See problems with transfer to channel 14.		

Interim	Other	Transmitter	Costs
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Transmitter	Section	Question	Response
	Electrical Service	Service Entrance (3 phases 800A 208V)	Yes
		Switchgear (industrial 800 amp)	Yes

		1
	Transformer (480V)	Yes
	Power	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	4 inches
	Length	175.0 feet
	Other Electrical Service	Yes
	Description	Replacement of the current 208 volt feed to the studio. The 480 feed was removed at the end of analog transmission We will have to feed the 208 volt feed from the 48 feed.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Туре	Cooling Or
	Size	20 tons
	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	30

Interim Other Transmitter Cost Not Listed

Transmitter Information not provided.

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

Primary	Existing Antenna Information				
Antenna	Section	Question	Response		
	Existing Antenna Description	Type of change	Purchase New		
		Antenna Use	Primary (Main)		
		Description of Use	N/A		
		Ownership	Owned		
		Owner	N/A		
		Site	2		
		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	Side Mount		
		Antenna position in stack	Not in Stack		
		Polarization	Circular		
		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)	18.0 kW		

	Manufacturer	
	Model	ALP12L4- CSBR-40
-	Year	2011

Primary	New Antenna Costs				
Antenna Section New Antenna D	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 Manufacturer and Types	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/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)	10.2 kW		
		Manufacturer			
			1		

Model	ALP8L4- HSBR-14
Year	2018
Justification for New Antenna	Existing antenna wil not function on new channel and cannot be retuned.

Primary Other Antenna Costs

Antenna

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
	Туре	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	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
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Primary Other Antenna Cost Not Listed

Antenna Information not provided.

Primary Antenna	Existing Antenna Information			
	Section	Question	Response	
	Existing Antenna Description	Type of change	Purchase New	
		Antenna Use	Primary (Main)	
		Description of Use	N/A	
		Ownership	Owned	
		Owner	N/A	
		Site	1	
		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	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)	950.0 kW	

Manufacturer	
Model	ATW25HS3- HSWC-40H
Year	2009

Primary	New Antenna Costs			
Antenna	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 Manufacturer and Types	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/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)	537.0 kW	
		Manufacturer		

Model	ATW18HS3 HTWC-14H
Year	2018
Justification for New Antenna	Existing antenna will not function on new channel and cannot be retuned.

Primary Other Antenna Costs

Antenna

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
	Туре	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	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
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Primary Other Antenna Cost Not Listed

Antenna Information not provided.

Interim	New Antenna Costs				
Antenna	Section	Question	Response		
	New Antenna Description	Use	Interim		
		Description of Use	N/A		
		Change Type	Rent Temporary		
		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 Manufacturer and Type	Class	Full Power		
		Mounting	Top Mount		
		Antenna position in stack	Not in Stack		
		Polarization	Horizontal		
		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)	600.0 kW		
		Manufacturer			
		Model	ATW16H3- HSP5-14		
		Year	2004		
			2007		

Justification for New Antenna

Other Antenna Costs Interim

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A	n	te	n	na

Section	Question	Response
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an 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 Interim

Antenna Information not provided.

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

Primary	Existing Transmission Line			
Transmissi	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	2	
		Is the existing transmission line shared with another station or stations?	No	
		Is Transmission Line in operating condition?	Yes	
	Existing Transmission	Manufacturer		
	Line Manufacturer and Type	Туре	Waveguide	
		Diameter	N/A	
		Other Diameter	N/A	
		Segment Length	N/A	
		Other Segment Length	N/A	
		Number of parallel runs	1	
		Length	750 feet per run	

Existing Transmission Line

Primary Fransmissio	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	Waveguide
		Diameter	N/A
		Other Diameter	N/A
		Segment Length	N/A
		Other Segment Length	N/A
		Number of parallel runs	1
		Length	750 feet per run
		Justification for New Transmission Line	The the frequency cutoff for the existing WR1500 waveguide is channel 18 and the waveguide is not usable at channel 14.

Primary Other Transmission Line Expenses Not Listed Transmission

Primary	Existing Transmission Line			
Transmissio	n Line Section	Question	Response	
	Existing Transmission Line Description	Type of change	Purchase New	
		Use	Primary (Main)	
		Description of Use	N/A	
		Ownership	Owned	
		Owner	N/A	
		Site	1	
		Is the existing transmission line shared with another station or stations?	No	
		Is Transmission Line in operating condition?	Yes	
	Existing Transmission	Manufacturer		
	Line Manufacturer and Type	Туре	Rigid	
		Diameter	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	

Primary	New Transmission Line			
Transmissio	Section	Question	Response	
	New Transmission Line Costs	Use	Primary (Main)	
		Description of Use	N/A	
		Change Type	Purchase New	
		Is this a request for upgraded equipment?	No	
		Туре	Rigid	
		Diameter	6 1/8 inches	
		Other Diameter	N/A	
		Segment Length	20 inches	
		Other Segment Length	N/A	
		Number of parallel runs	1	
		Length	250 feet per run	
		Justification for New Transmission Line	Length of line for channel 40 was wrong for channel 14 per ERI table. Need 20 foot sections for channel 14.	

Other Transmission Line Expenses Not Listed Transmission

Interim	New Transmission Line		
Transmissio	n Line Section	Question	Response
	New Transmission Line Costs	Use	Interim
		Description of Use	N/A
		Change Type	Lease New
		Туре	Rigid
		Diameter	7 3/16 inches
		Segment Length	20'
		Other Segment Length	
		Number of parallel runs	1
		Length	560 feet per run
		Justification for New Transmission Line	This is the existing transmission line at the WHKY-TV studio that will be utilized for the interim transmitting antenna mounted on the studio tower.

Interim Other Transmission Line Expenses Not Listed

Transmission hometion not provided.

Interim New Transmission Line

Transmission Section		Question	Response
	New Transmission	Use	Interim
	Line Costs		

Description of Use	N/A
Change Type	Purchase New
Туре	Flexible Air
Diameter	5 inches
Segment Length	N/A
Other Segment Length	
Number of parallel runs	1
Length	750 feet per ru
Justification for New Transmission Line	Interim antenna system is necessary to ensure uninterrupted service during transition to Channel 14. Implementation delays are anticipated due to land mobile protection issues.

Other Transmission Line Expenses Not Listed Transmission

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

marv	Existing	Tower
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Primary	Existing Tower			
Tower	Section	Question	Response	
	Existing Tower Description	Type of change	Modify Existing	
		Tower Use	Primary (Main)	
		Description of Use	N/A	
		Ownership	Leased	
		Is this tower consider Complex?	No	
		Is this tower currently shared with any other stations?	Yes	
		One or more FM, AM or TV radio broadcaster(s)	Yes	
		Others Types of Users	Yes	
		Is tower documented for structural analysis?	Yes	
		Is tower compliant with Rev G?	Yes	
	Existing Tower Structure Registration	Do you have a tower registration number?	Yes	
		ASR Number	1005065	
	Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	35° 17' 15.0" N-	
		Longitude (NAD83)	080° 41' 44.0" W-	
		Overall Structure Height	1246.70 feet	
		Support Structure Height	1197.49 feet	
		Ground Elevation Above Mean Sea Level (AMSL)	715.21 feet	

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	Central Piedmont Community College
Date Constructed	08/01/1992

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
69436	WFAE	FM
53970	WRFX	FM
10645	WTVI	DTV

Other Types of Users

Users

ENG Microwave

Primary Tower Modification Costs

Tower

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

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

Other Tower Expenses Not Listed

PrimaryOther Tower ExpenseTowerInformation not provided.

Primary Tower	Existing Tower			
	Section	Question	Response	
	Existing Tower	Type of change	Modify Existing	
	Description	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?	Yes	
		One or more FM, AM or TV radio broadcaster(s)	No	
		Others Types of Users	Yes	
		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?	No	
		ASR Number		
	Coordinates (NAD83 (Latitude (NAD83)	35° 39' 28.5" N-	
	North American Datum of 1983))	Longitude (NAD83)	081° 24' 23.3" W	
		Overall Structure Height	190.00 feet	
		Support Structure Height	190.00 feet	
		Ground Elevation Above Mean Sea Level (AMSL)	1742.00 feet	
		Structure Type	LTOWER - Lattice Tower	
		Tower Owner	Long Communications, LLC	
		Date Constructed	01/01/2005	

Users

Duke Energy

FM Trans W272DU

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Tower

	,
ower	

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for documented tower
Tower Reinforcements	Please select whether tower reinforcements are needed:	No reinforcements needed

Tower Rigging Costs Primary

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

Other Tower Expenses Not Listed Primary

Tower Information not provided.

Interim	Tower Construction Co	osts	
Tower	Section	Question	Response
	Construct New Tower	Use	Interim
		Description of Use	N/A
		Height	487.00 feet
		Justification for New Tower	This is the current studio tower. No new tower construction or modifications are expected.

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

Interim Other Tower Expenses Not Listed

Tower Information not provided.

Outside	Section	Question	Response
Professional	I Services Costs Outside Project Management Services	Do you require outside project management services?	Yes
		Number of Hours	250
		Explanation	Station does not have internal resources to make changes needed for the channel moves at three sites. Will rely on outside services for this project.
	Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
		Prepare engineering section of Form FCC Construction Permit Application	Yes
		For Auxiliary Facility	Yes
		For Main Facility	Yes
		Prepare engineering section of Form FCC License to Cover Application	Yes
		For Auxiliary Facility	Yes
		For Main Facility	Yes
		Prepare request for Special Temporary Authority	Yes
		Quantity	2
		Do you have Distributed Transmission System engineering services?	Yes
		Critical Facility	1
		Terrain-Shielded Facility	0

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	2
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	No
	FAA Consultation (including preparation of FAA Form 7460)	No
	Negotiation of Lease and other Matter for Shared Locations	Yes
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
RF Field Engineering Services	Comprehensive coverage verification via field study	Yes
	RF exposure measurements	No
	Additional Field Engineering Service	Yes
	Number of Days	60
	Justification	Channel 14 DTS with land mobile

Professional	Services Costs	Description	
	399 Outside work services	Work on Form 399 for reimbursement expenses	

Other	Section	Question	Response
Expenses	AM Pattern Disturbance	Is an Impact Study needed?	No
		Is Remediation needed?	No
	Facility Expenses	Name	N/A
		Other Distributed Transmission System Expenses Not listed	Yes
		Name	DTS Field measurements
		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	Yes
		FCC License to Cover Application	Yes
		FCC Special Temporary Authority Application	Yes
	Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
		Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
		Does this relocation require Equipment Storage?	Yes
		Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	Yes
		Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses Not Listed

Expenses Information not provided.

Transmitters

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Transmitter SCx9000	\$1,291,435.00	\$1,231,800.00		\$0.00	
UHF inside RF system including switching	\$147,500.00	\$140,000.00	N/A	N/A	N/A
Additional field engineering time, 10-30 days	\$63,100.00	\$60,000.00	N/A	N/A	N/A
Channel 14 Mask Filter	\$189,500.00	\$180,000.00	N/A	N/A	N/A
RF Consulting Engineer	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Other HVAC Service Type: C Size: 20 (Other)	\$55,000.00	\$55,000.00	Add additional 20 ton system to building for cooling of solid state transmitter	N/A	N/A

3 phase /480v - 300 KVA
Transformer
Switchgear - industrial 800 amp
4" Rigid Conduit and Wiring (Cost per foot)
Service entrance 3 phase/800 amp/208 volt
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW
Electrical Service: Replacement of the current 208 volt feed to the studio. The 480 feed was removed at the end of analog transmission. We will have to feed the 208 volt feed from the 480 feed.

Channel 14 Additional field engineering time, 5 days	\$10,000.00	\$10,000.00	Provide engineering for channel 14, land mobile problems.	N/A	N/A
Channel 14 Mask Filter	\$189,500.00	\$180,000.00	N/A	N/A	N/A
RF Consulting Engineer	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Other Electrical Service: Support for cooling system and outside equipment	\$5,000.00	\$5,000.00	Cooling system wiring for control and pumps systems	N/A	N/A
2" Rigid Conduit and Wiring (Cost per foot)	\$1,950.00	\$1,875.00	N/A	N/A	N/A
Transformer 3 phase /480v - 150 KVA	\$25,550.00	\$24,300.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 1.2 kW	\$105,000.00	\$105,000.00	N/A	N/A	N/A
Primary Transmitter SCx9000	\$2,421,960.00	\$2,305,900.00		\$0.00	
Additional field engineering time, 10-30 days	\$63,100.00	\$60,000.00	N/A	N/A	N/A

Sub-total Total for all systems	\$4,055,655.00 \$6,324,870.00	\$3,868,875.00 \$5,828,310.00	N/A N/A	\$0.00 \$22,769.00	N/A N/A
RF Consulting Engineer	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Transformer 3 phase /480v - 300 KVA	\$36,800.00	\$35,000.00	N/A	N/A	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 68.5 - 75 kW	\$1,999,000.00	\$1,900,000.00	N/A	N/A	N/A
4" Rigid Conduit and Wiring (Cost per foot)	\$10,100.00	\$9,600.00	N/A	N/A	N/A
Other Electrical Service: Cooling system and control wiring.	\$25,000.00	\$25,000.00	Provide control and cooling system wiring for new transmitter.	N/A	N/A
HVAC Service Type: C Size: 20 (Other)			ton air conditioning system fro cooling of solid state transmitter		

Antennas

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Antenna ATW16H3- HSP5-14	\$369,230.00	\$351,400.00		\$0.00	
Interim antenna rental and installation - Cost will depend on antenna size and height and /or complexity of tower.	\$115,500.00	\$110,000.00	N/A	N/A	N/A
UHF - High Power Top Mount (200- 1000 kW), One station antenna, horizontally polarized	\$247,000.00	\$235,000.00	N/A	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
Primary Antenna ALP8L4- HSBR-14	\$132,440.00	\$130,100.00		\$0.00	

Primary Antenna ATW18HS3- HTWC-14H	\$282,440.00	\$280,100.00		\$0.00	
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, 10 kW input, directional,, horizontally polarized	\$85,000.00	\$85,000.00	The Form 399 did not populate this field. This is the estimated cost of the main antenna for WHKY-TV DTS2.	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
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
scatter analysis for side mount high/med power antennas (if not included in antenna base cost)					
Pattern	\$5,260.00	\$5,000.00	N/A	N/A	N/A

Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$22,000.00	N/A	N/A	N/A
Elbow complex, single channel, at antenna input, per 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, 537 kW input, directional,, horizontally polarized	\$235,000.00	\$235,000.00	The Form 399 catalog did not populate this field. This is the estimated cost of the new antenna for WHKY-TV DTS1.	N/A	N/A
Sub-total	\$784,110.00	\$761,600.00	N/A	\$0.00	N/A
	\$6,324,870.00	\$5,828,310.00	N/A	\$22,769.00	N/A

Transmission Line

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Transmission Line	\$162,400.00	\$0.00		\$0.00	
Rigid Transmission Line - copper, 7 3 /16"	\$162,400.00	\$0.00	Using Old line on tower that was used for channel 14 analog.	N/A	N/A
Interim Transmission Line	\$78,750.00	\$75,000.00		\$0.00	
Flexible Air Transmission Line - dielectric, 5"	\$78,750.00	\$75,000.00	N/A	N/A	N/A
Primary Transmission Line	\$324,375.00	\$324,375.00		\$0.00	
Waveguide Transmission Line - " 1 parallel runs 750 feet	\$324,375.00	\$324,375.00	Replacement of WR1500 waveguide with EWG- 1800 elliptical waveguide for channel 14. See attached quote.	N/A	N/A
Primary Transmission Line	\$50,500.00	\$48,000.00		\$0.00	

Rigid Transmission Line - copper, 6 1/8"	\$50,500.00	\$48,000.00	N/A	N/A	N/A
Sub-total	\$616,025.00	\$447,375.00	N/A	\$0.00	N/A
Total for all systems	\$6,324,870.00	\$5,828,310.00	N/A	\$22,769.00	N/A

Tower Equipment and Rigging Costs

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Tower	\$84,200.00	\$0.00		\$0.00	
New tower	\$0.00	\$0.00	Existing tower will be employed with no modifications expected to be required.	N/A	N/A
Short Tower (less than 500')	\$84,200.00	\$0.00	No new rigging work is expected for existing studio tower and antenna to be used for interim facility.	N/A	N/A
Primary Tower TOWER	\$381,100.00	\$362,000.00		\$0.00	
Tall Tower (greater than 500')	\$210,500.00	\$200,000.00	N/A	N/A	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$150,000.00	N/A	N/A	N/A
Structural engineering tower load study for well documented tower	\$12,600.00	\$12,000.00	N/A	N/A	N/A

Primary Tower LTOWER	\$96,800.00	\$92,000.00		\$0.00	
Short Tower (less than 500')	\$84,200.00	\$80,000.00	N/A	N/A	N/A
Structural engineering tower load study for well documented tower	\$12,600.00	\$12,000.00	N/A	N/A	N/A
Sub-total	\$562,100.00	\$454,000.00	N/A	\$0.00	N/A
Total for all systems	\$6,324,870.00	\$5,828,310.00	N/A	\$22,769.00	N/A

Outside Professional Services

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	\$268,790.00	\$258,875.00		\$22,769.00	
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	\$0.00	N/A
399 Outside work services	\$28,125.00	\$28,125.00	Outside Engineering Services not included in original 399.	\$19,269.00	Outside Engineering Services not included in original 399.
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Additional Field Engineering Service, 60 Days	\$60,000.00	\$60,000.00	Additional field engineering required due to land mobile interference issues and DTS requirements.	N/A	N/A

Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$4,000.00	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
DTS Site RF Consulting Engineer - Terrain- shielded Facility	\$0.00	\$0.00	This a critical non-terrain shielded DTS facility.	N/A	N/A
DTS Site RF Consulting Engineer - Critical Facility	\$8,420.00	\$8,000.00	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	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$3,500.00	N/A
Project management of the transition	\$39,500.00	\$37,500.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$80,000.00	In order for the DTS system to operate with minimal mutual interference, it is necessary to verify coverage via field study	N/A	N/A

Prepare request for Special Temporary Authorization	\$4,100.00	\$3,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$7,360.00	\$7,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Sub-total	\$268,790.00	\$258,875.00	N/A	\$22,769.00	N/A
Total for all systems	\$6,324,870.00	\$5,828,310.00	N/A	\$22,769.00	N/A

Actual Information Description	File Name	
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	Component Description: Amount:	Attorney planning, advising, loading minor mod application \$208.00
	Component Description:	Schedule 2100 attorney work
	Amount:	\$806.00
399 Outside work services		

Component Description:	Work on Form 399 for reimbursement expenses. FCC filing issues accepting a DTS Form. \$4,000.00
Component Description:	Reimbursement expenses WHKY. RF Interference DTS-2 analysis for Ch 14 to determine correct mask filter to avoid interference to land mobile services in 460-470 MHz band. Additional work. \$2,500.00
Component Description:	Search for alternate UHF channel
Amount:	assignment \$1,625.00
Component Description:	Attorney FCC 399 work
Amount:	\$156.00
Component Description:	Attorney Form 399 work, problems with submission
Amount:	because of DTS \$988.00

	Component Description:	Reimbursement expenses WHKY. RF Interference DTS-2 analysis for Ch 14 to determine correct mask filter to avoid interference to land mobile services in 460-470 MHz band \$5,000.00
	Component Description:	Reimbursement expenses WHKY. RF Interference DTS-1 analysis for Ch 14 to determine correct mask filter to avoid interference to land mobile services in 460-470 MHz band \$5,000.00
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
Additional Field Engineering Service, 60 Days	Information not provided.	
Attorney Fees - Negotiation of lease and other matters for shared locations	Information not provided.	
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	Information not provided.	
DTS Site RF Consulting Engineer - Terrain-shielded Facility	Information not provided.	

DTS Site RF Consulting Engineer - Critical Facility	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Information not provided.	
Perform engineering study for new channel assignment and antenna development	Component Description:	Engineering work for new Channel and Antenna. Prepare Engineering sectior of FCC Form 2100 \$3,500.00
Project management of the transition	Information not provided.	
Prepare and or review reimbursement form	Information not provided.	
Comprehensive coverage verification via field study, if needed	Information not provided.	
Prepare request for Special Temporary	Information not provided.	

Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Information not provided.

Other Expenses

Cost Information

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Other Expenses	\$38,190.00	\$37,585.00		\$0.00	
Disposal Costs (for equipment and other waste, net of any salvage value)	\$2,500.00	\$2,500.00	N/A	N/A	N/A
FCC Filing Fees - Special Temporary Authorization request	\$195.00	\$190.00	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
Equipment Storage	\$2,500.00	\$2,500.00	N/A	N/A	N/A
MVPD Notification of Channel Change	\$2,500.00	\$2,500.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	\$2,500.00	\$2,500.00	Development and airing of channel change announcements to ensure uninterrupted service to the public.	N/A	N/A
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	N/A	N/A

Other Distributed Transmission System Expenses Not listed, Name: DTS Field measurements	\$10,000.00	\$10,000.00	DTS Field measurements are included as part of comprehensive coverage verification costs. But will be required as part of this project. We will need to develop null points to protect reception of the station.	N/A	N/A
FCC Filing Fees - Form 2100 minor change CP application	\$1,110.00	\$1,070.00	N/A	\$0.00	N/A
Equipment Delivery and Handling Charges	\$5,000.00	\$5,000.00	N/A	N/A	N/A
Sub-total	\$38,190.00	\$37,585.00	N/A	\$0.00	N/A
Total for all systems	\$6,324,870.00	\$5,828,310.00	N/A	\$22,769.00	N/A

Actual Information Description	File Name
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
FCC Filing Fees - Special Temporary Authorization request	Information not provided.
FCC Filing Fees - Form 2100 license to cover application	Information not provided.

Grand Total				
	Predetermined Cost Estimate	Estimated Cost	Actual Cost	
Total for all systems	\$6,324,870.00	\$5,828,310.00	\$22,769.00	
		Predetermined Cost Estimate	Predetermined Cost Estimate Estimated Cost	

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

Certification	Section	Question	Response
	Submission of Estimated Expenses Statements	WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a) (1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.	
		 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).
- The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
- 6. The above-named entity certifies that it will maintain and provide to the Commission detailed records, including receipts, of all costs eligible for reimbursement actually incurred.
- 7. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.

8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.	
I declare, under penalty of perjury, that I am an authorized representative of the above- named applicant for the Authorization(s) specified above.	Jeffrey B Long Member- Manager 02/09/2018

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

- 4. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.
- 5. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster **Relocation Fund are** necessary to change channels (full power and Class A stations) and/or otherwise modify a television station's facility as a result of the spectrum repack (LPTV/TV Translator stations); or to minimize service disruption resulting from a repacked television station (FM stations); or to continue to carry the signal of a broadcaster that changes channels (MVPD).
- 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.

	The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.	
an aut name	are, under penalty of perjury, that I am chorized representative of the above- d applicant for the Authorization(s) ied above.	Jeffrey B Long Member- Manager
		02/09/2018

Attachments