Approved by OMB (Office of Management and Budget) 3060-1178

Federal Communications Commission

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility ID: **41458** | Service: **DTV** | Call Sign: **WHIO-TV** | Channel: **33 (UHF)**

File Number: **0000027862**

FRN: **0001842509** | Date Submitted: **12/19/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
MIAMI VALLEY BROADCASTING CORPORATION Doing Business As: MIAMI VALLEY BROADCASTING CORPORATION	Sr. Director of Technology & Plant Operations 1611 SOUTH MAIN STREET DAYTON, OH 45409 United States	+1 (937) 743-6703	dave.thomas@coxinc.com	Corporation

Reimbursement Contact Information

Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
Dave Thomas *Senior Director Technology and Plant Operation* *Miami Valley Broadcasting Corporation*	Dave Thomas 1611 South Main St Dayton, OH 45409 United States	+1 (937) 743-6703	dave.thomas@coxinc.com

Broadcaster Information and Transition Plan

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	No
Briefly describe transition plan	There is space in the transmitter building for the new Main and Aux transmitters after building modification is complete. WHIO TV will run the current main transmitter to the Aux Antenna during the installation of the New Main Transmitter.

Transmitters

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

Auxiliary Transmitter

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Back-Up Tranmsitter
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	Diamond
	Year	2008
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	14 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?	Yes
	Manufacturer	
	Model	ULXTE-24
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	16 kW
	Justification for New Transmitter	Current Diamond CD transmitter cannot be retuned to new channel 33.

Auxiliary Transmitter

Other Transmitter Costs

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

	Other Electrical Service	Yes
	Description	Install (1) 400A distribution panel and (1) 150 KVA Transformer
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	No
	Size	N/A
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

Auxiliary Transmitter

Other Transmitter Cost Not Listed

Information not provided.

Primary Transmitter

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	Sigma CD
	Year	2001
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	40.2 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-90
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	56.4 kW
	Justification for New Transmitter	Current Sigma CD transmitter cannot be retuned to new channel 33.

Primary Transmitter

Other Transmitter Costs

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

	Description	Install (1) 1200A Distribution panel and (1) 300KVA transformer
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	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	2270.0 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

Information not provided.

Antennas

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

Auxiliary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Back-up Antenna
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels	N/A
	Design power capacity in use	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	1000.0 kW

Manufacturer	
Model	TFU-28DSC-RCT3
Year	2004

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Back-up Antenna
	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
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	854.0 kW
	Manufacturer	

	Model	ATW26HS3-HSO-33H
	Year	2017
	Justification for New Antenna	Current antenna cannot be retuned to new channel 33.

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	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 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

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Aux Antenna Sweep 2	Aux Antenna Sweep 2- will reuse line made repairs from sweep 1 - verify line at full power
Aux Antenna Sweep 1	Aux Antenna Sweep 1- will reuse line check to make sure can handle full power transmitter.
Rigging Aux Antenna	Rigging Aux Antenna - remove old and install new antenna

Primary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	No
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels	N/A
	Design power capacity in use	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	1000.0 kW

Manufacturer	
Model	TFU-30GTH-R4C130
Year	2008

Primary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	854.0 kW
	Manufacturer	

Model	ATW24HS3-HTO-33H
Year	2017
Justification for New Antenna	Current antenna cannot be retuned to new channel 33.

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	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 a high power antenna?	No
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Name	Description
Additional Main Ant sweep	Additional Main Ant sweep - will reuse line during repack. This is the initial sweep for line prior to removing current antenna.

Transmission Line

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

Primary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Dielectric
	Type	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	1200 feet per run

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

Auxiliary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Auxiliary (Backup)
	Description of Use	Feeds Aux Antenna
	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	Dielectric
	Type	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	960 feet per run

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
New gaskets, seals, watchbands, for full power operation	New gaskets, seals, watchbands - needed to make Aux line usable during new main antenna install - sweep showed that line could not take full power at time of sweep

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

Add 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	No
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1016460
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	39° 44' 02.0" N-
	Longitude (NAD83)	084° 44' 53.0" W-
	Overall Structure Height	1098.80 feet
	Support Structure Height	1018.69 feet
	Ground Elevation Above Mean Sea Level (AMSL)	950.12 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	IWG Towers Assets II, LLC
Date Constructed	01/01/1953

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
14245	WHKO	FM

Primary Tower

Tower Modification Costs

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

Primary Tower

Tower Rigging Costs

Section	Question	Response
Tower Rigging Costs	Complex Tower	N/A
Helicopter Services Required	Are helicopter services required?	Yes

Primary Tower

Other Tower Expenses Not Listed

Name	Description
STRUCTURAL ANALYSIS DESIGN	STRUCTURAL ANALYSIS DESIGN

Outside Professional Services Costs

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	No
	Number of Hours	N/A
	Explanation	N/A
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 Services	Prepare and file Form FCC Construction Permit Application	Yes
	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	No
	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	No
	Address transition timing and coordination issues w/ other stations and wireless providers	No
RF Field Engineering Services	Comprehensive coverage verification via field study	Yes
	RF exposure measurements	No
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
RF Consultant Pattern, Transmitter, Antenna	RF Consultant Pattern, Transmitter, Antenna

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

Information not provided.

Cost Information

Transmitters

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Transmitter ULXTE-90	**$1,965,863.00**	**$1,766,203.44**		**$1,766,105.44**	
Other Electrical Service: Install (1) 1200A Distribution panel and (1) 300KVA transformer	***$34,436.00***	$34,436.00	Quote attached	$34,436.00	N/A
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	$1,788,000.00	$1,601,675.44	Current Sigma CD TX cannot be retuned - letter from Gates Air attached. Quote for both IOT TX and Solid State TX attached - will go with Solid State TX since its cheaper. Plus change orders: Q-82006, Q-79456, Q-84532.	$1,601,675.44	N/A

Other -- Building Addition Size: 2270.0	***$49,427.00***	$49,427.00	Building Renovation for new transmitter area - Quote attached	$49,329.00	N/A
15 Ton system	$55,800.00	$50,820.00	Additional cooling needed where new main & aux transmitters will be located - quote attached.	$50,820.00	N/A
Switchgear - industrial 800 amp	$38,200.00	$29,845.00	Quote attached	$29,845.00	N/A
Auxiliary Transmitter ULXTE-24	**$743,033.00**	**$621,165.39**		**$621,165.39**	
Switchgear - industrial 800 amp	$38,200.00	$23,197.00	Quote attached	$23,197.00	N/A
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	$684,000.00	$577,135.39	Original quote Q-75124 plus revised quotes: Q-82449 and Q-79460	$577,135.39	N/A
Other Electrical Service: Install (1) 400A distribution panel and (1) 150 KVA Transformer	***$20,833.00***	$20,833.00	Quote attached	$20,833.00	N/A
Sub-total	$2,708,896.00	$2,387,368.83	N/A	$2,387,270.83	N/A

Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name	
Other Electrical Service: Install (1) 1200A Distribution panel and (1) 300KVA transformer	**Component Description:** **Amount:**	2nd 50% payment $17,218.00
	Component Description: **Amount:**	New attachment includes cover letter requested by reviewer - 50% down payment $17,218.00

UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	**Component Description:** **Amount:**	1/3 payment prior to shipment. $473,073.67
	Component Description: **Amount:**	Original quote Q-75260 and (2) revised quotes Q-82006 & Q-79456 included in attachment $461,385.07
	Component Description: **Amount:**	Final Payment Main Transmitter with change order Q-84532 $194,143.03
	Component Description: **Amount:**	1/3 down payment for new main ULXTE 90 transmitter $473,073.67
Other -- Building Addition Size: 2270.0	**Component Description:** **Amount:**	New attachment includes cover letter requested - Transmitter building renovations $49,329.00

15 Ton system	**Component Description:** **Amount:**	Final invoice 2 of 2 $25,410.00
	Component Description: **Amount:**	50% down payment 15 ton HVAC unit for new transmitter room $25,410.00
Switchgear - industrial 800 amp	**Component Description:** **Amount:**	2nd 50% payment $14,923.00
	Component Description: **Amount:**	New attachment includes cover letter requested with electrical costs and billing detail. $14,922.00
Switchgear - industrial 800 amp	**Component Description:** **Amount:**	2nd 50% payment $11,598.50
	Component Description: **Amount:**	New attachment includes cover letter requested -50% down payment $11,598.50

UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	**Component Description:** **Amount:**	Final invoice aux transmitter attached quotes Q-75124, Q-82449, Q-79460 $68,647.51
	Component Description: **Amount:**	Original Quote Q-75124 plus revised quotes Q-82499 and Q-79460 $148,120.44
	Component Description: **Amount:**	1/3 payment prior to shipment $180,183.72
	Component Description: **Amount:**	1/3 down payment for new ULXTE 24 transmitter $180,183.72
Other Electrical Service: Install (1) 400A distribution panel and (1) 150 KVA Transformer	**Component Description:** **Amount:**	2nd 50% payment $10,416.50
	Component Description: **Amount:**	New attachment includes cover letter - 50% down payment $10,416.50

Cost Information

Antennas

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Antenna ATW24HS3-HTO-33H	**$260,130.00**	**$277,213.67**		**$264,413.67**	
UHF - High Power Top Mount (200-1000 kW), One station antenna, horizontally polarized	$247,000.00	$264,413.67	Price from ERI for antenna model# ATW24HS3-HTO-33H - see attached quote includes mount.	$264,413.67	The original quote 253,525 add tax including 1 bury mount and 1 tune and test sweep. There was also 1 day weather delay, and some additional parts were needed after the tower crew arrived. Also the sales tax rate increased from an estimated 7.25 to 7.5
Sweep test of existing antenna	$6,730.00	$6,400.00	Sweep line prior to repack	N/A	N/A

Additional Main Ant sweep	***$6,400.00***	$6,400.00	Widelity cost - sweep line after new antenna installed.	N/A	N/A
Auxiliary Antenna ATW26HS3-HSO-33H	**$477,513.67**	**$471,523.55**		**$304,718.14**	
Rigging Aux Antenna	***$194,264.33***	$194,264.33	Quote attached FYI -No place to add in rigging cost section	$194,264.33	N/A
Aux Antenna Sweep 1	***$7,525.00***	$7,525.00	1 work day +2.5 days travel @ $2,150.00 / day	$0.00	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
UHF - High Power, Side Mount, basic slot antenna, 854 kW input, directional,, horizontally polarized	***$234,184.34***	$234,184.34	see attached quote plus tax and additional parts	$110,453.81	N/A

Sweep test of existing antenna	$6,730.00	$6,400.00	Sweep Aux check for full power use during repack	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$17,749.88	N/A	N/A	N/A
Aux Antenna Sweep 2	***$6,400.00***	$6,400.00	Widelity cost - made repairs from aux sweep 1 tested full power for repack.	N/A	N/A
Sub-total	$737,643.67	$748,737.22	N/A	$569,131.81	N/A
Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name

UHF - High Power Top Mount (200-1000 kW), One station antenna, horizontally polarized	**Component Description:** **Amount:**	Additional Parts needed for antenna install - quote attached $1,187.88
	Component Description: **Amount:**	(1) day weather delay for tower crew installing main antenna No quote - see invoice for hourly detail - $3,750.00
	Component Description: **Amount:**	2nd payment - Antenna with installation and mount $140,463.29
	Component Description: **Amount:**	New frequency Main Antenna 50% down payment $119,012.50
Sweep test of existing antenna	Information not provided.	
Additional Main Ant sweep	Information not provided.	

Rigging Aux Antenna	**Component Description:** **Amount:**	10 percent payment upon completion plus sales tax for install $31,624.43
	Component Description: **Amount:**	40% down on aux antenna upon delivery $72,284.40
	Component Description: **Amount:**	50% down payment of $180,711.00 $90,355.50
Aux Antenna Sweep 1	**Component Description:** **Amount:**	Sweep Aux transmission line for full power operation after replacement seals, springs, rubbing shoe, etc. $7,525.00
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.	

UHF - High Power, Side Mount, basic slot antenna, 854 kW input, directional,, horizontally polarized	**Component Description:** **Amount:** **Component Description:** **Amount:**	Additional parts needed to install aux antenna quote attached $6,273.81 New Frequency Aux antenna 50% down payment, $104,180.00
Sweep test of existing antenna	Information not provided.	
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	
Aux Antenna Sweep 2	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
Primary Transmission Line	**$0.00**	**$0.00**		**$0.00**	
Auxiliary Transmission Line	**$31,422.58**	**$31,422.58**		**$0.00**	
New gaskets, seals, watchbands, for full power operation	***$31,422.58***	$31,422.58	Repairs from Aux RF sweep 1 - actual costs came in under estimate - parts = $2,422.58 +installation $29,000	$0.00	N/A
Sub-total	$31,422.58	$31,422.58	N/A	$0.00	N/A
Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name

New gaskets, seals, watchbands, for full power operation	**Component Description:** **Amount:**	Shoulder screws for Aux transmission line $101.25
	Component Description: **Amount:**	Misc parts for Aux line to run at full power during TV Repack $2,321.33

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	**$1,647,497.26**	**$1,833,805.26**		**$610,521.17**	
Tower Helicopter Lift	***$325,432.60***	$325,432.60	See quotes	$261,592.60	N/A
Serious tower reinforcement /modifications	$1,052,000.00	$1,300,216.00	This is from a quote received from ERI on 5/23/17 totaling $1,450,108 - quote is uploaded	$348,928.57	N/A
STRUCTURAL ANALYSIS DESIGN	***$33,264.66***	$33,264.66	Structural analysis quote 1- $23,612 (attached) Structural analysis quote 2 - $9,652 (attached)	N/A	N/A
Tall Tower (greater than 500')	$210,500.00	$149,892.00	Tower modification estimate attached	N/A	N/A

Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$25,000.00	N/A	N/A	N/A
Sub-total	$1,647,497.26	$1,833,805.26	N/A	$610,521.17	N/A
Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name

Tower Helicopter Lift	**Component Description:**	Structural Installation for helicopter service (down payment)
	Amount:	$178,035.00
	Component Description:	10 percent payment plus sales tax
	Amount:	$13,602.40
	Component Description:	40% down of the installation of primary antenna - see attached for details.
	Amount:	$31,091.20
	Component Description:	50% down payment for rigging & Installation of $77,728.00
	Amount:	$38,864.00
Serious tower reinforcement /modifications	**Component Description:**	Tower Foundation testing and inspections
	Amount:	$3,116.91
	Component Description:	Change order for foundations see attached quote for details.
	Amount:	$60,241.79

	Component Description: 30% down payment of quote in attached file **Amount:** $47,978.00 **Component Description:** 20% down payment on 1098' tower modifications. **Amount:** $110,043.20 **Component Description:** Revised invoice and original quote submitted for Geo technical survey foundation reinforcement design **Amount:** $9,000.00 **Component Description:** Structural Reanalysis and report for tower 5,000 **Amount:** $5,000.00 **Component Description:** 70% Final Payment for tower foundations. **Amount:** $111,948.67 **Component Description:** Tower modification construction layout field survey **Amount:** $1,600.00
STRUCTURAL ANALYSIS DESIGN	Information not provided.
Tall Tower (greater than 500')	Information not provided.

Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	Information not provided.

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	**$154,937.20**	**$149,372.20**		**$35,960.90**	
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	$5,260.00	$5,000.00	N/A	$1,707.90	N/A
RF Consultant Pattern, Transmitter, Antenna	***$43,122.20***	$43,122.20	Merrill Weiss RF Consultant Costs - estimated $30,000 - uploaded quote dated 7/28 /17. Cooley LLP - Prepare form 399 - $13,122.20	$34,197.20	Did not include legal fees (Cooley LLP) for reviewing the development of WHIO-TV form 399.
Comprehensive coverage verification via field study, if needed	$84,200.00	$80,000.00	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

Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	$4,210.00	$4,000.00	N/A	$55.80	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	N/A	N/A
Sub-total	$154,937.20	$149,372.20	N/A	$35,960.90	N/A
Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name	
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	Discuss construction permit application issues $149.60
	Component Description: **Amount:**	Develop Construction Permit $1,446.70
	Component Description: **Amount:**	See detail - only charges for Construction Permit $111.60
RF Consultant Pattern, Transmitter, Antenna	**Component Description:** **Amount:**	TV Repack Quarterly Progress report process. $74.80

Component Description:	See detail - Legal review/ submissions/ revsions to form 399 development.
Amount:	$2,445.80
Component Description:	Research TV Repack Allocation
Amount:	$55.80
Component Description:	Legal Repack reimbursement issues
Amount:	$448.80
Component Description:	See detail only charges for preparing form 399 are for professional services
Amount:	$8,200.30
Component Description:	See detail - only charges for form 399 are professional services.
Amount:	$485.60
Component Description:	Legal Form 399 Preparation
Amount:	$1,411.10
Component Description:	295.75 hour for TV repack transmitter & antenna analysis for new channel assignment.
Amount:	$21,075.00

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.
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	**Component Description:** Research repack aux antenna license. **Amount:** $55.80
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	Information not provided.

Cost Information

Other Expenses

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Other Expenses	**$97,385.00**	**$96,825.00**		**$1,850.00**	
MVPD Notification of Channel Change	***$500.00***	$500.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	***$15,000.00***	$15,000.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	***$5,000.00***	$5,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$5,000.00***	$5,000.00	N/A	N/A	N/A
Non-zoning permits	***$5,000.00***	$5,000.00	N/A	N/A	N/A
Local Zoning	***$55,000.00***	$55,000.00	N/A	$1,850.00	N/A
FCC Filing Fees - Form 2100 license to cover application	$335.00	$325.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	N/A	N/A	N/A

Sub-total	$97,385.00	$96,825.00	N/A	$1,850.00	N/A
Total for all systems	$5,377,781.71	$5,247,531.09	N/A	$3,604,734.71	N/A

Components

Actual Information Description	File Name
MVPD Notification of Channel Change	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.
Equipment Delivery and Handling Charges	Information not provided.
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
Non-zoning permits	Information not provided.
Local Zoning	**Component Description:** Permit document fee **Amount:** $1,850.00
FCC Filing Fees - Form 2100 license to cover application	Information not provided.
DTV Medical Facility Notification	Information not provided.

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$5,377,781.71	$5,247,531.09	$3,604,734.71

Reimbursement Status

Question	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

Certification

Section	Question	Response
Submission of Estimated Expenses Statements	WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.	
	1. The Authorized Person signing below certifies that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.	

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

	8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Dave Thomas** *Senior Director Operations* 12/19/2019

Certification

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

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

	8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Dave Thomas** *Senior Director Operations* 12/19/2019

Attachments