



(REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility **66185** | Service: **DTV** | Call **WOSU-TV** | Channel: **16 (UHF)** |  
ID:  
File **0000028867**  
Number:  
FRN: **0006031983** | Date **02/27**  
Submitted: **/2019**

## Applicant Information

### Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
<b>THE OHIO STATE UNIVERSITY</b> Doing Business As: THE OHIO STATE UNIVERSITY	2400 OLENTANGY RIVER ROAD COLUMBUS, OH 43210 United States	+1 (614) 292-9678	Tom. Rieland@wosu.org	Government Entity

## 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
The Preparer is same as the reimbursement contact.			

## 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	Purchase new transmitter, antenna and transmission line. Lease interim side-mount ch 38 antenna, use existing line to maintain service while top-mount is removed and new antenna, transmitter and line installed. See attached Transition Plan.

## Transmitters

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

**Primary  
Transmitter**

**Existing Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	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
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	CD3200P2
	Year	2003
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	42 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-50
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	31.7 kW
	Justification for New Transmitter	Current Sigma CD not frequency agile. Gates advises with re-tuning components likely not available, major-frequency change should not be considered given age, age or cost of IOTs, need for new mask filter and other RF equipment.

**Primary  
Transmitter**

**Other Transmitter Costs**

Section	Question	Response
<b>Electrical Service</b>	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes
	Power	300 kVA
	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	40.0 feet
	Other Electrical Service	Yes
	Description	Reworking of existing electrical system to rewire main fused disconnect box to protect new transmitter by on-site generator. New distribution panel to feed power cooling transformer.
<b>HVAC Service</b>	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
<b>Transmitter Building Addition/Modification or Leasehold Improvement</b>	Does the Transmitter Building require an addition, modification, other leasehold improvement?	Yes

	Size	120.0 square feet
<b>Channel 14 Costs</b>	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
<b>Liquid Cooling System Items</b>		These Items not included in transmitter quote. Includes indoor pump modules for multiple PUs, outdoor heat exchangers and coolant. Placed as additional cost because HVAC question was oriented to air-cooled systems.
<b>Exciters</b>		2 Gates XTT Multi-Standard Exciter. WOSU currently has two exciters that will not work with new transmitter.

**Antennas**

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

**Primary  
Antenna**

**Existing Antenna Information**

Section	Question	Response
<b>Existing Antenna Description</b>	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
<b>Existing Antenna Manufacturer and Type</b>	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) .....	511.0 kW



Manufacturer	
Model	TFU- 20GTH- RO4
Year	2003

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) .....	311.0 kW
	Manufacturer	

Model	ATW15H3- HTO-16H
Year	2017
Justification for New Antenna	Existing top-mount channel 38 antenna is not frequency agile and cannot be re-tuned to new ch 16 assignment.

## Primary Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	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
<b>Elbow Complex</b>	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
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for a high power antenna?	No

<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes

**Primary  
Antenna**

**Other Antenna Cost Not Listed**

Name	Description
<b>Custom Top Plate</b>	Interface for attachment of new antenna to non-standard tower. Existing antenna also required custom plate.

**Interim  
Antenna**

**New Antenna Costs**

Section	Question	Response
<b>New Antenna Description</b>	Use	Interim
	Description of Use	N/A
	Change Type	Rent Temporary
	Ownership	Leased
	Owner	ERI
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
<b>New Antenna Manufacturer and Type</b>	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) .....	25.0 kW
	Manufacturer	
	Model	ATW-2G
	Year	2017

	Justification for New Antenna	Rental of temporary ch 38 antenna for up to three months to maintain service while existing top-mount antenna and top plate are removed, new top plate and ch 16 antenna installed.
--	-------------------------------	---

## Interim Antenna

### Other Antenna Costs

Section	Question	Response
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for an antenna?	Yes
<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	No

## Interim Antenna

### Other Antenna Cost Not Listed

Information not provided.

**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
<b>Existing Transmission Line Description</b>	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
<b>Existing Transmission Line Manufacturer and Type</b>	Manufacturer	
	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	1190 feet per run



Primary  
Transmission Line

New Transmission 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
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	19 3/4 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1240 feet per run

	<p>Justification for New Transmission Line</p>	<p>Existing line will be used for interim antenna to maintain service on ch38. Existing line dates to 2003, has been repaired and segments replaced. After interim antenna removed, line will be capped for use with a future backup ch16 ant. (not in proposal)</p>
--	--	--

Primary  
Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Transmission Line System Design	Initial system design, plus on-site tech visit for final deliverable
Ice Bridge	Replacement/additional 150' ice bridge to support and protect new transmission line. Existing bridge is overloaded, in questionable shape and not well-supported. See Site Survey attachment and ERI Transmission Bridge Quote
Line Dehydrator	Andrew Dryline low-pressure dehydrator for transmission line.
Sweep and Tune	System sweep, tune and test after installation.

**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?	No
	Is this tower currently shared with any other stations?	No
	One or more FM, AM or TV radio broadcaster(s)	N/A
	Others Types of Users	N/A
	Is tower documented for structural analysis?	No
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1054358
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	40° 09' 33.0" N-
	Longitude (NAD83)	082° 55' 23.0" W-
	Overall Structure Height	1106.94 feet
	Support Structure Height	1067.90 feet
	Ground Elevation Above Mean Sea Level (AMSL)	920.92 feet

	Structure Type	TOWER - Free Standing or Guyed Structure
	Tower Owner	OHIO STATE UNIVERSITY DBA = WOSU STATIONS
	Date Constructed	01/01/1973

### Primary Tower

#### Tower Modification Costs

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:	Major 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

### Primary Tower

#### Other Tower Expenses Not Listed

Name	Description
Tower Mapping	Confirmation mapping to provide current status in preparation of rigorous tower analysis.

**Outside  
Professional Services Costs**

Section	Question	Response
<b>Outside Project Management Services</b>	Do you require outside project management services?	Yes
	Number of Hours	150
	Explanation	WOSU only maintains a three-person engineering staff to deal with three television transmitters and six radio stations, as well as all other technology issues in our aging building. We are very tight on staff time, especially for large projects,
<b>Outside RF consulting Engineering Services</b>	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes

	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
<b>Attorney and Other Outside Consulting Services</b>	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	Yes
	FAA Consultation (including preparation of FAA Form 7460)	Yes
	Negotiation of Lease and other Matter for Shared Locations	No
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	No
<b>RF Field Engineering Services</b>	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

Other Professional Services Expenses Not Listed

Services Costs

Name	Description
Additional Legal Expenses	Additional expenses for advice and counsel on repack for University-owned public TV station operating "sole service" PBS station in Columbus market.
Quarterly Progress Reports	Prepare and file FCC-required Quarterly Progress Reports on Schedule 387 during station repack process.
Transmitter Site Site Survey	Comprehensive transmitter site survey and report by Gates Air specifying needs and providing recommendations (see as attachment)

## Other Expenses

Section	Question	Response
<b>AM Pattern Disturbance</b>	Is an Impact Study needed?	No
	Is Remediation needed?	No
<b>Facility Expenses</b>	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?	No
<b>Permit and Filing Costs</b>	Local Zoning	Yes
	Non-zoning permits	Yes
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	No
	FCC Special Temporary Authority Application	No
<b>Other Miscellaneous Expenses</b>	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



<b>Other Expenses</b>	<b>Other Expenses Not Listed</b> 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-50	\$1,047,531.44	\$1,045,611.44		\$0.00	
Exciters	<i>\$30,000.00</i>	\$30,000.00	WOSU currently maintains a two-exciter system with automatic switchover. Current exciters will not work with new transmitter. This request is for a new primary and backup.	N/A	N/A
Liquid Cooling System Items	<i>\$28,651.44</i>	\$28,651.44	Items include pump modules, outdoor heat exchangers, plumbing and coolant. These items not included in transmitter estimate. See Gates Air Quote-Form 399 Documentation	N/A	N/A

Other -- Building Addition Size: 120.0	<b>\$25,000.00</b>	\$25,000.00	Approximately 120' sqft space outside building to protect heat exchangers /pumps for new cooling system. Project includes design, pad and ice- protective building overhang. Had estimated \$100k, unable to obtain actual quote from university in 5 day window.	N/A	N/A
Other Electrical Service: Reworking of existing electrical system to rewire main fused disconnect box to protect new transmitter by on-site generator. New distribution panel to feed power cooling transformer.	<b>\$25,000.00</b>	\$25,000.00	Panel, parts and installations. Unable to provide actual estimates to support higher figure because needs will not be finalized until actual installation.	N/A	N/A

3" Rigid Conduit and Wiring (Cost per foot)	\$2,080.00	\$1,960.00	N/A	N/A	N/A
Transformer 3 phase /480v - 300 KVA	\$36,800.00	\$35,000.00	480T0208- 150KVA- 480vv, three phase transformer Delta primary, parallel surge suppressor for Delta, various installation items	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 31.7 kW	<b>\$900,000.00</b>	\$900,000.00	Will include transmitter control, PA power blocks, mask filter system and hardware, plus proof. Does not include exciters.	N/A	N/A
<b>Sub-total</b>	\$1,047,531.44	\$1,045,611.44	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44	N/A	\$30,312.45	N/A

## Components

Information not provided.

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
Interim Antenna ATW-2G	\$138,650.00	\$32,500.00		\$0.00	
UHF - High Power, Side Mount, basic slot antenna, 25 kW input, directional,, horizontally polarized	<i>\$0.00</i>	\$0.00	This is a correct description, however costs reflected in lease numbers listed on this page.	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$7,500.00	Lease for use with interim antenna	N/A	N/A

Interim antenna rental and installation - Cost will depend on antenna size and height and /or complexity of tower.	\$115,500.00	\$25,000.00	Three-month lease of 25kW side-mount antenna to maintain channel 38 service during installation of new ch 16 antenna and feed line. Cost includes installation, overnight-connection to existing line and removal at end of project.	N/A	N/A
<b>Primary Antenna ATW15H3-HTO-16H</b>	<b>\$286,030.00</b>	<b>\$273,100.00</b>		<b>\$6,400.00</b>	
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
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

Custom Top Plate	\$20,000.00	\$20,000.00	To attach new antenna to non-standard tower top. Current antenna also required custom plate.	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	Sweep of the full RF system was included in Gates Air Site Survey (included in attachments). Has already been completed.	\$6,400.00	N/A
<b>Sub-total</b>	\$424,680.00	\$305,600.00	N/A	\$6,400.00	N/A
<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44	N/A	\$30,312.45	N/A

## Components

Actual Information	
Description	File Name
UHF - High Power, Side Mount, basic slot antenna, 25 kW input, directional,, horizontally polarized	Information not provided.
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.
Interim antenna rental and installation - Cost will depend on antenna size and height and/or complexity of tower.	Information not provided.

UHF - High Power Top Mount (200-1000 kW), One station antenna, horizontally polarized	Information not provided.
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	Information not provided.
Custom Top Plate	Information not provided.
Sweep test of existing antenna	<div> <div> <b>Component Description:</b> </div> <div> Existing line sweep included as part of site survey invoice without breakdown (site survey was 12,002.45) </div> </div> <div> <b>Amount:</b> </div> <div> \$6,400.00 </div>



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	\$355,645.00	\$335,165.00		\$0.00	
Rigid Transmission Line - copper, 6 1/8"	\$250,480.00	\$230,000.00	Full system including hangers, etc.	N/A	N/A
Transmission Line System Design	<i>\$8,750.00</i>	\$8,750.00	includes preliminary layout, then site visit for definitive line layout	N/A	N/A

Ice Bridge	<b>\$77,245.00</b>	\$77,245.00	Materials and installation costs for 150-foot ice /t bridge from transmitter building to tower. Current bridge will not support both new and existing lines. Quote higher than original estimate because estimator used wrong size line. See ERI Bridge Quote.	N/A	N/A
Line Dehydrator	<b>\$10,970.00</b>	\$10,970.00	Line protection alternative to nitrogen pressure system.	N/A	N/A
Sweep and Tune	<b>\$8,200.00</b>	\$8,200.00	Sweep, tune and test, two days mobilization, use of test equipment.	N/A	N/A
<b>Sub-total</b>	<b>\$355,645.00</b>	<b>\$335,165.00</b>	N/A	\$0.00	N/A
<b>Total for all systems</b>	<b>\$2,706,762.44</b>	<b>\$2,481,742.44</b>	N/A	<b>\$30,312.45</b>	N/A

## Components

Information not provided.

## 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
<b>Primary Tower TOWER</b>	<b>\$647,850.00</b>	<b>\$611,750.00</b>		<b>\$8,250.00</b>	
Structural engineering tower load study for well documented tower	\$12,600.00	\$8,000.00	N/A	\$4,500.00	N/A
Tower Mapping	<i>\$3,750.00</i>	\$3,750.00	Tower mapping to confirm status in preparation for structural study. Was completed by George Fitz Antenna Service.	\$3,750.00	For purpose of reimbursement, total only included on invoice component, not with quote or purchase order
Tall Tower (greater than 500')	\$210,500.00	\$200,000.00	Mobilization, rigging, removal of current antenna, installation of new antenna and transmission line. Does not include costs for installation and removal of interim antenna.	N/A	N/A

Major tower reinforcement /modifications	\$421,000.00	\$400,000.00	Tower structural analysis indicates that reinforcement will be required in at least 12 bays, plus tower base must be reinforced with additional concrete to meet G standards. Does not create additional capacity beyond line and antenna needs for project.	N/A	N/A
<b>Sub-total</b>	\$647,850.00	\$611,750.00	N/A	\$8,250.00	N/A
<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44	N/A	\$30,312.45	N/A

## Components

Actual Information	
Description	File Name

Structural engineering tower load study for well documented tower		
	<b>Component Description:</b>	Second half of payment for Structural Analysis
	<b>Amount:</b>	\$2,250.00
	<b>Component Description:</b>	Initial downpayment for WOSU-TV tower analysis
	<b>Amount:</b>	\$2,250.00
	<b>Component Description:</b>	Package included initial proposal, purchase order and revised invoice (and explanation of name discrepancy). No dollar amount included here to prevent duplication in total.
	<b>Amount:</b>	N/A

Tower Mapping	<div data-bbox="708 174 1374 524"> <p><b>Component Description:</b> Original quote from Antenna Service Company for tower mapping-PO and invoice on file. Total for reimbursement on invoice.</p> <p><b>Amount:</b> N/A</p> </div> <div data-bbox="708 631 1374 945"> <p><b>Component Description:</b> Purchase order for tower mapping. Invoice already on file. Only entering dollar total with invoice so total not duplicated.</p> <p><b>Amount:</b> N/A</p> </div> <div data-bbox="708 1052 1347 1169"> <p><b>Component Description:</b> Full cost of initial tower mapping</p> <p><b>Amount:</b> \$3,750.00</p> </div>
Tall Tower (greater than 500')	Information not provided.
Major tower reinforcement /modifications	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
<b>Outside Professional Services</b>	<b>\$167,193.00</b>	<b>\$119,753.00</b>		<b>\$15,662.45</b>	
Transmitter Site Site Survey	<i>\$12,003.00</i>	\$12,003.00	Survey was conducted by Gates Air to inform planning. Total survey cost was \$18,403, however \$6400 RF sweep was broken out for inclusion in antenna section.	\$12,002.45	N/A
Quarterly Progress Reports	<i>\$5,000.00</i>	\$5,000.00	Prepare and file FCC-required Quarterly Progress Reports on Schedule 387 during station repack process.	N/A	N/A

Additional Legal Expenses	<b>\$10,000.00</b>	\$10,000.00	Additional legal expenses for advice and counsel on repack transition for University-owned public broadcasting operation providing "sole service" PBS station in Columbus, OH market	N/A	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$40,000.00	N/A	N/A	N/A
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	\$2,105.00	\$2,000.00	N/A	N/A	N/A
ASR modification (prepare FCC Form 854)	\$2,105.00	\$2,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$3,680.00	\$3,500.00	N/A	N/A	N/A



Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	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	\$1,575.00	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$2,085.00	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A

Project management of the transition	\$23,700.00	\$22,500.00	Estimating 150 hours at \$150 per hour	N/A	N/A
<b>Sub-total</b>	\$167,193.00	\$119,753.00	N/A	\$15,662.45	N/A
<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44	N/A	\$30,312.45	N/A

## Components

Actual Information	
Description	File Name
Transmitter Site Site Survey	<p><b>Component Description:</b> Additional \$6400 in invoice, PO and estimate totals is for existing line sweep</p> <p><b>Amount:</b> \$12,002.45</p>
Quarterly Progress Reports	Information not provided.
Additional Legal Expenses	Information not provided.
Comprehensive coverage verification via field study, if needed	Information not provided.
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	Information not provided.
ASR modification (prepare FCC Form 854)	Information not provided.
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.

Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	Information not provided.
Prepare request for Special Temporary Authorization	Information not provided.
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	<p><b>Component Description:</b> Preparation of initial engineering section of FCC Form 2100: (3) Principal Engineering Hours @ \$285/hr (3) Sr. Engineering Hours @ \$240/hr</p> <p><b>Amount:</b> \$1,575.00</p>
Perform engineering study for new channel assignment and antenna development	<p><b>Component Description:</b> Initial engineering study for new channel assignment: (3) Principal Engineering Hrs @ \$285/hr (4.25) Sr. Engineering Hrs @ \$240/hr (1) Engineering Hours @ \$210/hr</p> <p><b>Amount:</b> \$2,085.00</p>
Prepare and or review reimbursement form	Information not provided.
Project management of the transition	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
<b>Other Expenses</b>	<b>\$63,863.00</b>	<b>\$63,863.00</b>		<b>\$0.00</b>	
Equipment Delivery and Handling Charges	<i>\$20,000.00</i>	\$20,000.00	Shipping, handling and placement.	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$31,213.00</i>	\$31,213.00	Includes decommission and removal of old transmitter from building, removal of transmitter and old antenna from the site. See Gates Air Form 399 Documentation quote.	N/A	N/A
Develop and air announcement of upcoming channel change	<i>\$8,000.00</i>	\$8,000.00	Including production and broadcast	N/A	N/A
Local Zoning	<i>\$400.00</i>	\$400.00	Genoa township zoning (construction) permits and inspections.	N/A	N/A
Non-zoning permits	<i>\$1,750.00</i>	\$1,750.00	County and State permits and inspections	N/A	N/A

MVPD Notification of Channel Change	<b>\$2,500.00</b>	\$2,500.00	N/A	N/A	N/A
<b>Sub-total</b>	\$63,863.00	\$63,863.00	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44	N/A	\$30,312.45	N/A

## Components

Information not provided.

<b>Cost Information</b>	<b>Grand Total</b>		
		<b>Predetermined Cost Estimate</b>	<b>Estimated Cost</b>
			<b>Actual Cost</b>
	<b>Total for all systems</b>	\$2,706,762.44	\$2,481,742.44
			\$30,312.45

<b>Reimbursement Status</b>	<b>Question</b>	<b>Response</b>
	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	<p>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.</p>	
		<ol style="list-style-type: none"> <li>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.</li> <li>2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> <li>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.</li> </ol>	

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.



	<p>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.</p>	
	<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p><b>David Carwile</b>  <i>WOSU - submitting administrative corrections only</i></p> <p>02/27/2019</p>

## Attachments