



(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility **16817** | Service: **DTV** | Call **WTVS** | Channel: **20 (UHF)** |
ID: | Sign:
File **0000027891**
Number:
FRN: **0002770360** | Date **12/31**
Submitted: **/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
DETROIT EDUCATIONAL TELEVISION FOUNDATION Doing Business As: WTVS	John Mark RILEY BROADCASTCAST CENTER 1 CLOVER COURT WIXOM, MI 48393 United States	+1 (248) 305- 3788	jmark@dptv. org	Not-for-Profit

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
John Mark <i>VP Engineering</i> <i>Detroit Educational Television Foundation</i>	John Mark 1 Clover Court Wixom, MI 48393 United States	+1 (248) 305- 3760	jmark@dptv. org

**Broadcaster
Information
and
Transition
Plan**

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	Yes
Briefly describe transition plan	3 stations Install and operate from a new side mount Broadband Antenna installed before implementation of Phase 3 due to WMYD early transition. Install new transmitter filters coax and antenna to operate on post transition assigned frequency of channel 20

Transmitters

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

**Primary
Transmitter**

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	Visionary DT Dual HP25SDW
	Year	1999
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	60 kW

**Primary
Transmitter**

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Manufacturer	
	Model	ULXTE-60
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	38 kW
	Justification for New Transmitter	Current Transmitter Manufacture no longer in business Parts unavailable SS transmitter lower cost than IOT See Attached

**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	Yes

	Size	2 inches
	Length	200.0 feet
	Other Electrical Service	Yes
	Description	Generator replacement Electrical installation for Transmitter
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	10 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leasehold improvement?	Yes
	Size	1500.0 square feet
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

Primary Transmitter

Other Transmitter Cost Not Listed

Name	Description
10 ton Heating and cooling unit	antenna combiner room heating and cooling
HVAC ice shield	protection for external portion of HVAC
electrical Sub panel	power distribution for new combiner room

Antennas

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

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	Bottom
	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)	600.0 kW

Manufacturer	
Model	TFU-18GBH-R04
Year	1999

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?	Yes
	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	Elliptical
	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)	345.0 kW
	Manufacturer	

Model	TFU-24GTH-VP-R 06
Year	2019
Justification for New Antenna	Current antenna does not support new channel Vertical upgrade will be a separate line item on invoice

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?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No

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

**Primary
Antenna**

Other Antenna Cost Not Listed

Information not provided.

**Interim
Antenna**

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Leased
	Owner	American Tower
	Is antenna shared?	Yes
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Broadband Slot
	Number of Stations Supported	3
	Number of Panels/Bays	24
	Lower Limit	470.00 MHz
	Upper Limit	698.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	60.0 kW
	Manufacturer	
	Model	TFU-24WB /VP

Year	2018
Justification for New Antenna	Candelabra will need extensive upgrades for repack of 3 stations 1 in phase 3 two in phase 8

Interim Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	3
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	No
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	B
	Feed Line Size	7 3/16 inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an antenna?	Yes
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

Enter a list of RF channel numbers.

RF Channel Number
21
43
44

**Interim
Antenna**

Other Antenna Cost Not Listed

Name	Description
combiner installation	installation of combiner by manufacture

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	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Type	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	1200 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 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1200 feet per run
	Justification for New Transmission Line	Cannel reassignment is forbidden channel on current coax

Primary
Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

Interim
Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	7 3/16 inches
	Segment Length	Broadband
	Other Segment Length	
	Number of parallel runs	1
	Length	995 feet per run
	Justification for New Transmission Line	no current interim coax cost for coax, 3 elbows and nitrogen generator for pressurization of line

Interim
Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

**Tower
Equipment
And
Rigging
Costs**

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

**Primary
Tower**

Existing Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Leased
	Is this tower consider Complex?	Candelabra
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	Yes
	Is tower documented for structural analysis?	No
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1003429
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	42° 26' 52.5" N-
	Longitude (NAD83)	083° 10' 23.1" W-
	Overall Structure Height	1086.93 feet
	Support Structure Height	1012.13 feet
	Ground Elevation Above Mean Sea Level (AMSL)	662.07 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	American Tower, LLC
Date Constructed	06/11/1999

**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
74211	WMYD	DTV
6056	WRCJ-FM	FM
72123	WWJ-TV	DTV

Other Types of Users

Users
WHNE-LD
W292DK
W224CC
W268CN
W232CA
T-Mobil

**Primary
Tower**

Tower Modification Costs

Section	Question	Response
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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:	Minor Reinforcements needed

Primary Tower

Tower Rigging Costs

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

Primary Tower

Other Tower Expenses Not Listed

Information not provided.

**Outside
Professional Services Costs**

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	690
	Explanation	Project management fees charged by tower owner
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	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	2
	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	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	2
	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	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	No
	RF exposure measurements	Yes
	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
Site Coordination meeting	Coordination meeting of tenants tower owner and all contractors and vendors involved with the deliveries and construction. Travel and Logistical expenses incurred

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	No
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	FCC License to Cover Application	No
	FCC Special Temporary Authority Application	No
Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	No
	Does this relocation require Equipment Storage?	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**

Other Expenses Not Listed

Name	Description
tower owner permits	Permits for combiner room electrical and construction permits
Employee time	Employee's time spent working on paperwork accounting, transmitter work, and supervision
Interim antenna connection	Coax, switches, forward/reverse power meters to interconnect with interim antenna
Interim antenna tower lease	Tower rental space for interim antenna
Lift equipment rental	fork lift and/or crane for lifting heavy equipment
Site Security	Due to high value equipment stored outside additional security measures needed

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-60	\$1,710,219.00	\$1,127,152.93		\$796,253.17	
electrical Sub panel	<i>\$1,700.00</i>	\$1,700.00	American Tower Charge	\$833.34	X
10 ton Heating and cooling unit	<i>\$19,219.00</i>	\$19,219.00	see Justifying Quote WTVS Kropf Mechanical Service Company	\$19,219.00	N/A
Other -- Building Addition Size: 1500.0	<i>\$5,000.00</i>	\$5,000.00	American Tower Charge	\$3,750.00	N/A
10 Ton system	\$38,900.00	\$15,864.00	Replace 5 ton unit with 10 ton unit due to increased heat load of transmitter Available wall space will not support 2 5 ton units	\$0.00	N/A
Other Electrical Service: Generator replacement Electrical installation for Transmitter	<i>\$127,500.00</i>	\$127,500.00	Electrical costs for 230KW generator and installation replacement due to inadequate power for new transmitter also transmitter electrical installation and decommissioning cost	\$109,308.67	N/A

2" Rigid Conduit and Wiring (Cost per foot)	\$5,200.00	\$1,667.00	American tower charge	\$624.84	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$6,050.00	American tower charge	\$0.00	N/A
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	\$1,473,000.00	\$948,652.93	GatesAir Quote Q-80362	\$662,517.32	N/A
HVAC ice shield	\$1,500.00	\$1,500.00	American tower charge	N/A	N/A
Sub-total	\$1,710,219.00	\$1,127,152.93	N/A	\$796,253.17	N/A
Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A

Components

Actual Information	
Description	File Name
electrical Sub panel	<p>Component Description: WTVS-110-1st Primary Transmitter - Electrical Sub Panel</p> <p>Amount: \$833.34</p>
10 ton Heating and cooling unit	<p>Component Description: Completed the installation of one</p> <p>Amount: \$19,219.00</p>

Other -- Building Addition Size: 1500.0	<div> <div> Component Description: WTVS-110-1st Primary Transmitter - Building Addition, 1,500 sq. ft. </div> <div> Amount: \$2,500.00 </div> </div> <div> <div> Component Description: 25% downpayment on component </div> <div> Amount: \$1,250.00 </div> </div>
10 Ton system	Information not provided.
Other Electrical Service: Generator replacement Electrical installation for Transmitter	<div> <div> Component Description: Remove and replace (1) 150 KW generator </div> <div> Amount: \$27,223.00 </div> </div> <div> <div> Component Description: Remove and replace (1) 150kw generator </div> <div> Amount: \$81,669.00 </div> </div> <div> <div> Component Description: 25% deposit on component </div> <div> Amount: \$416.67 </div> </div>
2" Rigid Conduit and Wiring (Cost per foot)	<div> <div> Component Description: Broadcast Repack </div> <div> Amount: \$416.50 </div> </div> <div> <div> Component Description: 25% deposit for this component </div> <div> Amount: \$208.34 </div> </div>
Switchgear - industrial 800 amp	Information not provided.

UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	Component Description: Amount:	ULXTE-60 Transmitter \$316,217.64
	Component Description: Amount:	RIGID TRANSMISSION LINE - COPPER \$618.75
	Component Description: Amount:	A. Transmitter \$316,217.64
	Component Description: Amount:	CONTRACT AMOUNT \$14,350.71
	Component Description: Amount:	OTHER \$40.69
	Component Description: Amount:	BPME6-UH, BPME 6-1/8" Flanged \$7,679.10
	Component Description: Amount:	2nd PROGRESS INVOICE FOR THE TRANSMITTER REPLACEMENT PROJECT \$7,392.79
HVAC ice shield	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 TFU-24WB /VP	\$259,664.75	\$243,134.75		\$189,151.92	
combiner installation	<i>\$8,333.00</i>	\$8,333.00	Per American Tower Project cost estimation	\$6,249.83	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, broadband, at antenna input, per 7 3/16. feedline (if needed)	\$16,850.00	\$6,000.00	N/A	\$2,500.00	N/A
New combiner, cost per channel (without antenna)	\$84,200.00	\$80,000.00	N/A	\$57,500.17	N/A

UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, elliptically or circularly polarized	\$120,401.75	\$120,401.75	American Tower cost estimate and PO #13-1652	\$120,401.75	The actual amount reimbursed for invoice 460199507 is \$15,000 (not \$97,901.75)
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$2,500.17	X
Primary Antenna TFU-24GTH-VP-R 06	\$308,530.00	\$293,100.00		\$203,123.24	
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	\$12,300.00	\$11,700.00	N/A	\$10,773.00	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$5,760.00	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	\$289,500.00	\$275,000.00	N/A	\$186,590.24	N/A
Sub-total	\$568,194.75	\$536,234.75	N/A	\$392,275.16	N/A

Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A
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Components

Actual Information Description	File Name
combiner installation	<p>Component Description: 25% downpayment on component</p> <p>Amount: \$2,083.33</p> <p>Component Description: WTVS-280-Interim Antenna - Combiner Installation</p> <p>Amount: \$4,166.50</p>
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.
Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	<p>Component Description: WTVS-280-Interim Antenna - Elbow Complex, Broadband, 7 3/16"</p> <p>Amount: \$1,666.67</p> <p>Component Description: 25% downpayment for compenent</p> <p>Amount: \$833.33</p>

New combiner, cost per channel (without antenna)		
	Component Description:	PARTIAL
		PAYMENT FOR
		NEW COMBINER
	Amount:	N/A
	Component Description:	WTVS-280-Interim
		Antenna - New
		Combiner
	Amount:	\$38,333.50
	Component Description:	25% downpayment
		on component
	Amount:	\$19,166.67

UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, elliptically or circularly polarized	Component Description:	PARTIAL PAYMENT ON UHF HIGH POWER SIDE MOUNT ANTENNA
	Amount:	N/A
	Component Description:	WTVS-280-Interim Antenna - UHF High Power Side Mount, E-POL
	Amount:	\$22,500.00
	Component Description:	CAPITAL CONTRIBUTION - DETROIT - OAK PARK T1 MI / 282678 / ASSET#282678- BT1 / OAA711327 / FID 1003429 / WTVS Channel 20 Phase 8 / MILESTONE 1 / BROADCAST REPACK / TAX ID: 65-0723837
	Amount:	\$97,901.75
Sweep test of existing antenna	Component Description:	WTVS-280-Interim Antenna - Sweep Test
	Amount:	\$833.33
	Component Description:	WTVS-280-Interim Antenna - Sweep Test
	Amount:	\$1,666.84

Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	<div> Component Description: WTVS-210-Primary Antenna - Elbow Complex, 6 1/8" </div> <div> Amount: \$5,386.50 </div>
	<div> Component Description: WTVS-210-Primary Antenna - Elbow Complex, 6 1/8" </div> <div> Amount: \$5,386.50 </div>
Sweep test of existing antenna	<div> Component Description: WTVS-210-Primary Antenna - Sweep Test </div> <div> Amount: \$2,046.67 </div>
	<div> Component Description: WTVS-210-Primary Antenna - Sweep Test </div> <div> Amount: \$2,880.00 </div>
	<div> Component Description: 25% downpayment on component </div> <div> Amount: \$833.33 </div>
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	<div> Component Description: UHF - High Power Top Mount </div> <div> Amount: \$93,295.12 </div>
	<div> Component Description: UHF - High Power Top Mount </div> <div> Amount: \$93,295.12 </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
Interim Transmission Line	\$331,335.00	\$105,200.00		\$78,755.25	
Rigid Transmission Line - copper, 7 3/16" broadband	\$331,335.00	\$105,200.00	N/A	\$78,755.25	N/A
Primary Transmission Line	\$242,400.00	\$230,400.00		\$176,171.62	
Rigid Transmission Line - copper, 6 1/8"	\$242,400.00	\$230,400.00	N/A	\$176,171.62	N/A
Sub-total	\$573,735.00	\$335,600.00	N/A	\$254,926.87	N/A
Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A

Components

Actual Information	
Description	File Name

Rigid Transmission Line - copper, 7 3/16" broadband	<div> Component Description: PARTIAL PAYMENT FOR RIGID TRANSMISSION LINE </div> <div> Amount: \$26,251.75 </div>
	<div> Component Description: WTVS-380-Interim Transmission Line - Rigid, Copper, 7 3 /16" </div> <div> Amount: \$52,503.50 </div>
Rigid Transmission Line - copper, 6 1/8"	<div> Component Description: WTVS-310-Primary Transmission Line - Rigid, Copper, 6 1 /8" </div> <div> Amount: \$88,085.81 </div>
	<div> Component Description: WTVS-310-Primary Transmission Line - Rigid, Copper, 6 1 /8" </div> <div> Amount: \$88,085.81 </div>

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	\$605,300.00	\$575,000.00		\$280,976.24	
GTOWER					
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$400,000.00	N/A	\$263,376.24	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$150,000.00	N/A	\$3,000.00	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	\$14,600.00	Please remove \$14,600 entry for Tower Mapping & Structural Engineering as FCC did not like two invoices attached in one request.
Sub-total	\$605,300.00	\$575,000.00	N/A	\$280,976.24	N/A
Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A

Components

Actual Information

Description	File Name
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Complex Tower (includes, for example, those with candelabras and/or stacked antennas)

Component Description:

WTVS-410-
Existing Primary
Tower - Tower
Rigging, Complex
Tower

Amount:

\$106,363.12

Component Description:

Tower Permit
Drawing Package

Amount:

\$9,400.00

Component Description:

WTVS-410-
Existing Primary
Tower - Tower
Rigging, Complex
Tower

Amount:

\$106,363.12

Component Description:

WTVS-410-
Existing Primary
Tower - Tower
Rigging, Complex
Tower

Amount:

\$27,500.00

Component Description:

25% downpayment
on component

Amount:

\$13,750.00

Minor tower reinforcement /modifications	<div> Component Description: WTVS-410-Existing Primary Tower - Minor Tower Reinforcement /Modifications </div> <div> Amount: \$2,000.00 </div>
	<div> Component Description: 25% downpayment on component </div> <div> Amount: \$1,000.00 </div>
Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	<div> Component Description: Broadcast Tower Mapping Detroit OakPark Broadcast Repack Line 2 </div> <div> Amount: \$8,267.00 </div> <div> Component Description: TOWER MAPPING & STRUCTURAL ENGINEERING </div> <div> Amount: N/A </div> <div> Component Description: Broadcast structural </div> <div> Amount: \$6,333.00 </div>

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	\$177,430.00	\$173,425.00		\$80,279.70	
Site Coordination meeting	<i>\$2,500.00</i>	\$2,500.00	N/A	\$1,875.00	N/A
RF Exposure Measurements	\$21,050.00	\$20,000.00	N/A	\$2,500.00	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	\$300.00	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	\$7,360.00	\$7,000.00	N/A	N/A	N/A
Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$4,000.00	N/A	\$407.50	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	\$90.00	N/A
Prepare request for Special Temporary Authorization	\$4,100.00	\$3,000.00	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	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

Project management of the transition	\$109,020.00	\$109,175.00	Quote Widelity Project Management and ATC PO 13-1647 permit filing services	\$73,099.45	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	\$300.00	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	\$1,707.75	N/A
Sub-total	\$177,430.00	\$173,425.00	N/A	\$80,279.70	N/A
Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A

Components

Actual Information	
Description	File Name
Site Coordination meeting	<p>Component Description: 25% downpaymaent for this component</p> <p>Amount: \$625.00</p> <p>Component Description: WTVS-590-Site Coordination Meeting</p> <p>Amount: \$1,250.00</p>

RF Exposure Measurements	<table> <tr> <td data-bbox="707 174 1015 208">Component Description:</td><td data-bbox="1147 174 1342 365">WTVS-580-Field Engineering Service - Rf Exposure Measurements</td></tr> <tr> <td data-bbox="707 376 815 409">Amount:</td><td data-bbox="1147 376 1265 409">\$1,666.67</td></tr> <tr> <td data-bbox="707 517 1015 551">Component Description:</td><td data-bbox="1147 517 1289 622">25% down payment for component</td></tr> <tr> <td data-bbox="707 633 815 667">Amount:</td><td data-bbox="1147 633 1246 667">\$833.33</td></tr> </table>	Component Description:	WTVS-580-Field Engineering Service - Rf Exposure Measurements	Amount:	\$1,666.67	Component Description:	25% down payment for component	Amount:	\$833.33
Component Description:	WTVS-580-Field Engineering Service - Rf Exposure Measurements								
Amount:	\$1,666.67								
Component Description:	25% down payment for component								
Amount:	\$833.33								
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	<table> <tr> <td data-bbox="707 808 1015 842">Component Description:</td><td data-bbox="1147 808 1347 913">FCC repack Review of WTVS 399</td></tr> <tr> <td data-bbox="707 925 815 958">Amount:</td><td data-bbox="1147 925 1230 958">\$75.00</td></tr> <tr> <td data-bbox="707 1066 1015 1099">Component Description:</td><td data-bbox="1147 1066 1358 1171">FCC repack: Analysis of WTVS impact</td></tr> <tr> <td data-bbox="707 1182 815 1216">Amount:</td><td data-bbox="1147 1182 1246 1216">\$225.00</td></tr> </table>	Component Description:	FCC repack Review of WTVS 399	Amount:	\$75.00	Component Description:	FCC repack: Analysis of WTVS impact	Amount:	\$225.00
Component Description:	FCC repack Review of WTVS 399								
Amount:	\$75.00								
Component Description:	FCC repack: Analysis of WTVS impact								
Amount:	\$225.00								
ASR modification (prepare FCC Form 854)	Information not provided.								
Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.								

Attorney Fees - Negotiation of lease and other matters for shared locations	<div> <div> Component Description: Amount: </div> <div> Television Repacking Services-WTVS \$90.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> Invoice for legal services \$90.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> Television Repacking Services - WTVS \$90.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> Legal Services - Television Repacking Services - WTVS \$77.50 </div> </div> <div> <div> Component Description: Amount: </div> <div> Television Repacking Services - WTVS \$60.00 </div> </div>
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	<div> <div> Component Description: Amount: </div> <div> Television Repacking Services \$90.00 </div> </div>
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	Information not provided.																								
Perform engineering study for new channel assignment and antenna development	Information not provided.																								
Project management of the transition	<table> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$3,779.45</td></tr> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$2,590.10</td></tr> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$8,134.35</td></tr> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$2,802.70</td></tr> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$2,411.75</td></tr> <tr> <td>Component Description:</td><td>Project Management</td></tr> <tr> <td>Amount:</td><td>\$4,210.05</td></tr> </table>	Component Description:	Project Management	Amount:	\$3,779.45	Component Description:	Project Management	Amount:	\$2,590.10	Component Description:	Project Management	Amount:	\$8,134.35	Component Description:	Project Management	Amount:	\$2,802.70	Component Description:	Project Management	Amount:	\$2,411.75	Component Description:	Project Management	Amount:	\$4,210.05
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Component Description:	Project Management																								
Amount:	\$2,411.75																								
Component Description:	Project Management																								
Amount:	\$4,210.05																								

Component Description:	Project Management
Amount:	\$4,221.70

Component Description:	Project Management
Amount:	\$2,962.90

Component Description:	PO Line 1 - NTP Billable - Project Mgmt
Amount:	\$9,480.00

Component Description:	Project Management
Amount:	\$3,642.90

Component Description:	Project Management
Amount:	\$4,064.85

Component Description:	Project Management
Amount:	\$4,760.70

Component Description:	CONSULTING WORK WITH STAFF TO CREATE A REPACK FACT SHEET.
Amount:	\$450.00

Component Description:	WTVS-510-Project Management
Amount:	\$2,500.00

	Component Description:	Project Management
	Amount:	\$5,909.75
	Component Description:	Project Management
	Amount:	\$2,591.50
	Component Description:	Project Management
	Amount:	\$4,170.20
	Component Description:	Project Management
	Amount:	\$3,166.55
	Component Description:	Please deny this component
	Amount:	N/A
	Component Description:	25% downpayment for work being done by American Tower
	Amount:	\$1,250.00
Address transition timing and coordination issues w/ other stations and wireless	Component Description:	Legal Services
	Amount:	\$300.00

Prepare and or review reimbursement form		
	Component Description:	Legal services
	Amount:	\$90.00
	Component Description:	Legal services to prepare and review reimbursement form in addition to review & filing reports
	Amount:	\$1,617.75

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	\$247,328.80	\$246,778.80		\$87,084.82	
Site Security	<i>\$5,000.00</i>	\$5,000.00	N/A	N/A	N/A
Lift equipment rental	<i>\$10,000.00</i>	\$10,000.00	N/A	N/A	N/A
Interim antenna tower lease	<i>\$65,148.39</i>	\$65,148.39	American Tower cost estimate; DPTV WTVS-610-Interim Antenna Tower Lease Budget Increase Justification	\$43,200.00	N/A
Interim antenna connection	<i>\$29,799.31</i>	\$29,799.31	Please see Estimated Cost Justification WTVS-610-Interim Antenna Connection v0	\$29,799.31	N/A
Employee time	<i>\$75,081.10</i>	\$75,081.10	See Attachment	\$10,455.51	Please remove this component. It was resubmitted under outside professional services for repack

tower owner permits	\$750.00	\$750.00	N/A	\$750.00	N/A
MVPD Notification of Channel Change	\$2,000.00	\$2,000.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	\$5,000.00	\$5,000.00	N/A	N/A	N/A
Equipment Storage	\$8,000.00	\$8,000.00	Outdoor covered storage for equipment and parts	\$2,880.00	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	\$25,000.00	\$25,000.00	N/A	N/A	N/A
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	N/A	N/A
Local Zoning	\$10,000.00	\$10,000.00	Permits and inspections	N/A	N/A
Sub-total	\$247,328.80	\$246,778.80	N/A	\$87,084.82	N/A
Total for all systems	\$3,882,207.55	\$2,994,191.48	N/A	\$1,891,795.96	N/A

Components

Actual Information	
Description	File Name
Site Security	Information not provided.
Lift equipment rental	Information not provided.

Interim antenna tower lease	Component Description:	WTVS-610-Interim Antenna Tower Lease
	Amount:	\$28,800.00
	Component Description:	25% downpayment on this component
	Amount:	\$14,400.00
Interim antenna connection	Component Description:	50 Ohm 2 Way N Power Divider from 500 MHz to 1,000 MHz rated at 10 watts
	Amount:	\$151.66
	Component Description:	#2 Acid brush 1/2" x 6"
	Amount:	\$105.00
	Component Description:	50 Ohm 2 Way N Power Divider From 500 MHz to 1,000 MHz Rated at 10 watts
	Amount:	\$583.04
	Component Description:	Hoist block and tackle
	Amount:	\$58.29
	Component Description:	18-8 stainless steel hex head screw
	Amount:	\$66.89

Component Description:	N Male Right Angle to N Male Right Angle Cable Using LMR-400 Coax and Times Connectors
Amount:	\$875.12

Component Description:	Interim antenna connection
Amount:	\$315.53

Component Description:	BPME4M-UH BPME 4-1/16" Flanged
Amount:	\$7,032.75

Component Description:	Hot-water hose, medium-pressure
Amount:	\$111.66

Component Description:	Clevis Hanger 1 1 /4 IN. 215LB Max Load
Amount:	\$66.73

Component Description:	Switch WR1500 H Plane 115 VAC 60000 SER
Amount:	\$20,095.80

Component Description:	Insulator Conductor Adapter 4 1/16" Thin-Stand
Amount:	\$336.84

Employee time	Component Description: Project Management	
	Amount: \$5,558.54	
	Component Description: this component should be removed	
	Amount: \$450.00	
	Component Description: Project Management	
	Amount: \$4,896.97	
tower owner permits	Component Description: Building permit	
	Amount: \$750.00	
MVPD Notification of Channel Change	Information not provided.	
Develop and air announcement of upcoming channel change	Information not provided.	
Equipment Storage	Component Description: WTVS-610-Equipment Storage	
	Amount: \$1,440.00	
	Component Description: WTVS-610-Equipment Storage	
	Amount: \$1,440.00	
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.	
DTV Medical Facility Notification	Information not provided.	

Local Zoning	Information not provided.
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Cost Information	Grand Total			
		Predetermined Cost Estimate	Estimated Cost	Actual Cost
	Total for all systems	\$3,882,207.55	\$2,994,191.48	\$1,891,795.96

Reimbursement Status	Question	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	<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"> 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.

<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>William Detroit Public Television Carignan Controller</p> <p>12/31/2019</p>

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 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 AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).	
		<ol style="list-style-type: none"> 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.

<p>8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.</p> <p>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.</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>William Detroit Public Television Carignan Controller</p> <p>12/31/2019</p>

Attachments